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Michael D. Becker

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“WE MAKE MARINES:”
ORGANIZATIONAL SOCIALIZATION AND THE EFFECTS OF
“THE CRUCIBLE” ON THE VALUES ORIENTATION OF
RECRUITS DURING U. S. MARINE CORPS TRAINING

A Dissertation

Submitted to the School of Graduate Studies and Research

in Partial Fulfillment of the

Requirements for the Degree

Doctor of Philosophy

Michael D. Becker

Indiana University of Pennsylvania

May 2013

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Title: “We Make Marines:” Organizational Socialization and the Effects of “The Crucible” on the Values Orientation of Recruits During U. S. Marine Corps Training

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This study measured the effects of The Crucible culminating event of U. S. Marine Corps recruit training on recruits’ values of Honor, Courage, Critical Thinking, and Identity as Marines as part of the broader socialization process that occurs through the organizational context of U. S. Marine Corps boot camp.

This study involved a sample of 248 U. S. Marine Corps recruits. The research design used in this study produced cross-sectional time series data. From a 47-question survey tool with Likert scale response choices, descriptive statistics and a Multi-Level Mixed Effects Linear Regression analyses were used to evaluate responses. Results from three open-ended questions were also analyzed for emerging themes.

Results showed measurable increases in values of Honor, Courage, Critical Thinking, and Marine Identity for recruits and are significantly higher after the effects of the socialization process of boot camp and after The Crucible compared to prior to The Crucible. This pattern of results provides empirical support for the theoretical model of The Crucible put forth by the 31st Commandant of the Marine Corps General Charles C. Krulak (1995).

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CHAPTER ONE

INTRODUCTION

Military organizations have a unique role in society (Janowitz & Little, 1974). The military enjoys the exclusive right to use socially sanctioned force in the form of organized, controlled violence in the arena of social power for the purpose of regulating the external relations of the state when peaceful means alone cannot (Ouellett, 2005). To ameliorate the risk for abuses of this power, the military mobilizes extensive training resources to foster practical judgment, ethical behavior, and compliance within accepted rules of engagement and laws of war to develop an essential foundation for combat effectiveness. According to the military historian John Keegan, honor is a medium for enforcing decency on the battlefield (1993).

Yet despite intensive training and indoctrination, multiple high profile incidents of problematic behavior committed by members of the military over the last 20 years have had national security implications. Questions raised as a result of misuses of power by members of the military include: How does a military organization prepare young men and women not only to wield but also to control force and organized violence? What training programs are in place to reduce the potential for abuse of power and violence among military members? Is there any evidence of the effectiveness of such training? An attempt to address these questions by one military organization, the United States Marine Corps, resulted in the creation of “The Crucible,” a culminating event designed to reinforce the organization’s core values inculcated during the intensive, crucial socialization period of recruit training. The socialization effects of The Crucible experience were a focus of this study.

The military is a social institution with rules, principles, and values deriving from the social, industrial, political, and educational structure of society (Burk, 2001; Holsti, 2001). A conventionally accepted belief is that military organizations influence their members by essentially “transforming” individuals from civilians into parts of an effective fighting machine. Recruiting slogans such as “The Marine Corps Builds Men” and “The Few, The Proud” suggest that a transformational experience or substantial growth should occur through service in this branch of the armed forces (Arkin & Dobrofsky, 1990; Trainor, 2004). However, the process by which that occurs and the relative outcomes are not fully understood (Arkin & Dobrofsky, 1990; Bachman, Sigelman, & Diamond, 1987; Faris, 1976).

Historically, military organizations have been studied as a social context and workplace, and organizational socialization theory is applied to explain the “transformative” experience of entering the military and the interactions of newcomers within the groups and larger military organizations (Caforio, 1998; Segal & Segal, 1993). These experiences and interactions are also studied to examine the values, attitudes, and normative expectations for behavior of military personnel (Segal & Segal, 1993), more generally termed “military orientations.”

Among the socialization experiences associated with institutionalized military training, U. S. Marine Corps recruit training (boot camp) is a status passage, allowing individuals completing the journey to gain acceptance as members of an organization and to acquire role-specific knowledge. The primary means of socializing new members of the organization is Marine Corps “boot camp.” In boot camp, the trainees acquire not only knowledge about the Corps, but they are instilled with the values, attitudes, and

social traditions of the Corps. This socialization experience is intended to develop a compatible community of individuals who are like-minded, and share purpose and behavior.

Marines themselves often say that something “magic” happens at boot camp (Smith, 2006). Lieutenant General Victor H. Krulak (1984) in his book *First to Fight* has attempted to capture this transformative process:

In the Marines, recruit training is the genesis of the enduring sense of brotherhood that characterizes the Corps. In that period . . . an almost mystical alchemy occurs. Young adults from diverse areas of the country and backgrounds are immersed in an environment wherein they are able to perceive, understand, and finally accept as dogma the essential Marine Corps virtues Recruit training consists of preparing . . . mentally, morally, and physically . . . youths to meet the experience of violence . . . which is war Most of all it involves developing in the recruit a sense of commitment The entire Marine recruit training process is dedicated to developing a sense of brotherhood, interdependence, and determination to triumph. (Krulak, 1984, p. 159)

The idea that the Marine Corps can develop a sense of brotherhood, interdependence, and an indomitable will to prevail can also be found in Thomas Ricks' (1997) insightful book *Making the Corps*, which follows a recruit platoon, composed of individuals from all walks of life during their recruit training:

In a society that seems to have trouble transmitting values, the Marines stand out as a successful and healthy institution that unabashedly teaches values to the Beavises and Buttheads of America. It does an especially good job of dealing with the bottom half of American Society, the side that isn't surfing into the Twenty First Century on the breaking wave of Microsoft products. The Corps takes kids with weak high school educations and nurtures them so that many can assume positions of honor and respect. (Ricks, 1997, p. 20)

While there is considerable anecdotal evidence to support Ricks' (1997) contention, the resocialization effects of Marine recruit training, and more specifically the link between values inculcation and Marine conduct has remained largely unexplored in the empirical literature. Despite the intense training and indoctrination in the knowledge, skills, and disciplined moral code of the Marine Corps, over the last 20 years, several incidents of problematic behavior committed by Marines acting outside the expected code of conduct have captured the attention of both the public and the leadership of the Corps. The resulting negative publicity served as a catalyst for a new culminating event in Marine Corps boot camp, "The Crucible." This event was designed with the intention of solidifying recruits' identification with and adherence to the values and standards of the Corps (Appendices A, B, C, D, E, F, G, H, and I).

The Crucible is a three-day training exercise which takes places during the last week of recruit training. During its 54-hours, recruits experience food and sleep deprivation, over 40 miles of forced marches, and 32 stations that test physical toughness and mental agility. The eight major events emphasize teamwork and the Corps' core

values. They consist of 12 warrior stations, a day movement course, a reaction course, a bayonet assault course, a confidence course, an obstacle course, pugil stick fighting, team shooting, a night movement course, a night hike, core value classes, and the Marine Corps Emblem ceremony. These events are designed to serve as a culminating experience in recruit training and to reinforce core values, teamwork, esprit de corps, and camaraderie. The objective of The Crucible is to provide the drill instructor one more opportunity to reinforce in the recruit the Corps' core values of honor, courage, and commitment. A more detailed description of the socialization process that occurs during each event in boot camp can be found in Appendix D, and a more in-depth explanation of The Crucible can be found in Appendix E.

This study examined how the organizational context of U. S. Marine Corps recruit training—boot camp resocializes military values in U. S. Marine recruits. Specifically, this research investigated the effects of completing The Crucible on recruits' values of Honor (to know right from wrong, the forbearance and self-discipline to do right), Courage (mental and moral strength to do what is right in the face of fear, intimidation, or uncertainty, not physical courage), Critical Thinking (the ability to openly reflect on information available, to manage contradiction and ambiguity, flexibly adjust assumptions, decisions, and behaviors to the demands of the particular contexts involved), and Identity with the organization, the U. S. Marine Corps (congruency between the individual Marine and the organizational value system of the Marine Corps).

The issue of how an individual recruit views himself or herself after participation in the socialization process of The Crucible lies at the heart of this study. Especially relevant here is the contention that The Crucible affects how a recruit appraises himself

or herself and the importance he or she ascribes to the Marine Corps ideals of Honor, Courage, Critical Thinking, and Identity.

Statement of the Problem

The problem that this study addresses is whether “The Crucible” further strengthens, beyond the basic (recruit) training experience, Marine Corps recruits’ values as Marines. The United States Marine Corps added The Crucible to recruit training after a series of high profile problematic behaviors by Marines. The underlying assumptions of the design were that: (1) The Crucible, as a culminating event, would reinforce organizational values and strengthen recruits’ self-identification as members of the organization; and (2) Values and identity are related to future behavior, and by strengthening members’ organizational values and identification with the organization problem behaviors would be less likely to occur. Such notions are consistent with socialization theories prominent in scholarly literature.

Considerable theory and research on socialization links identity, values, and behavior. For example, research beginning with Kohn (1959) and Rokeach (1970) to the present claims a link between values, attitudes, and behavior (Azjen, 1991; Azjen & Fishbein, 1980). In some cases, however, the empirical evidence of such a link has been less than satisfying (Charng, Piliavin, & Callero, 1988; Hitlin, 2003). For instance, Rokeach (1973) and Schermerhorn (1997) contend that values are cross-situational beliefs that are hierarchically organized according to their relevance and that they guide people’s decisions and social behavior. Burke and Reitzes (1981) conducted a study of identity and role behaviors and hypothesized that individuals are motivated to act in ways

that reinforce existing identities and suggested that a mutual link between identities and role behaviors exists through common underlying frames of reference.

Theory and research suggest that (re)socialization to a new identity and values provides salient guides for behavior (Charng et al., 1988; Hitlin, 2003; Spates, 1983). Thus, resocialization of civilian recruits to a Marine identity and Marine Corps organizational values of honor, courage, and commitment should lead to new behaviors consistent with the new identity and values. According to Collins and Porras (1996) organizational values are essential and enduring tenets that are intrinsic to the organization's mission. Yet there is a paucity of research supporting the assumption that service members who accept military values are better behaving or better performing than those who do not. For example, a study conducted by the U. S. Army found that the Army values of selfless service, integrity, and respect were unrelated to a number of performance criteria measured by Campbell's (1990, 1999) multidimensional model of performance (task specific, discipline, demonstrating effort). Although the Corps' values provide an ethical framework for the professional conduct of Marine Corps operations, individual Marines may find themselves in volatile, complex, ambiguous, and unstable situations and may be uncertain or unclear as to how organizational values apply or serve as guides for behavior.

Purpose of the Study

This study examines two aspects of a social world: the military (the U. S. Marine Corps) as an organizational or work context and the new members (recruits) of that organization. Parsons (1964) has argued that "the value pattern of the organization guides and influences the activities of the organization and its members" (p. 34). Following that

perspective, this research examines The Crucible, which was designed as the culminating training event during the intensive resocialization process of Marine Corps recruit training and intended to solidify identification with and adherence to the values and standards of the Corps.

In recent years, much of the research on socialization indicates that organizations influence the values, attitudes, and behaviors of members through processes of indoctrination and socialization (Caplow, 1964; Fogarty & Dirsmith, 2001; Trainor, 2004). Organizational culture provides an organization's members with a sense of identity and increases their commitment to the organization; it helps members interpret the meaning of organizational events; it reinforces values held in the organization; and, finally, it serves as a control mechanism with norms that guide and shape behavior (Nelson & Quick, 1999).

It was hoped that this study would inform and deepen our understanding of this socialization process involving a small segment of the military, Marine Corps recruits. More specifically, the purpose was to shed light on the nature, process, and effectiveness of values inculcation and identification occurring during the culminating event of Marine Corps boot camp, The Crucible.

A compulsory Cooperative Research and Development Agreement (CRADA) between Indiana University of Pennsylvania (IUP) and the Naval Medical Center Portsmouth (NMCP) was executed for the cooperative work required by this research. The collaborators agreed to confer and consult prior to any publication or public disclosure of the data (Appendix J). The researcher was responsible for providing a report to the Marine Corps Recruit Depot (MCRD) Parris Island at the conclusion of the

dissertation defense with the understanding that clearance must be obtained from MCRD Parris Island prior to publication/presentation of the findings. The entire package of data, composed of, but not limited to survey responses and dissertation was turned over to MCRD Parris Island and NMCP for review, approval, and use for any purpose.

Research Questions

Using a symbolic interaction framework, this study measured the effects of The Crucible on Marine Corps recruits' values and identity as part of the broader organizational socialization process that occurs in boot camp. Symbolic interactionism (Blumer, 1969; Mead, 1967) is the process of verbal and social interaction through which meaning and identity arise. This general theoretical framework explains the specifics of newcomer socialization in an organization. This interactionist approach is beneficial to understanding the daily activities within Marine Corps boot camp; the interaction between drill instructors and recruits; the influence the group has over individual Marines; and, the performance or misconduct of Marines.

The primary research question addressed in this study was: What effect, if any, does The Crucible have on individual identification with the U. S. Marine Corps values of Honor, Courage, Critical Thinking, and Identity as a U. S. Marine?

Significance of the Study

This study has immediate implications for those directly involved in the grave and serious profession of arms. Military socialization:

has a social significance that should not be underestimated . . . War and combat are anything but orderly . . . [Marines] are routinely thrust into volatile, uncertain, complex, ambiguous situations filled with uncertainties, half-truths,

bad information, changing directives from seemingly incompetent higher headquarters and unexplained explosions that demand intellect, initiative, self-sacrifice, self-discipline, and self-confidence to handle challenges of adapting to the chaos of combat. (Oulett, 2005, p. 17-38)

Military organizations have a unique role in society (Janowitz & Little, 1974) and military doctrine has long asserted that values are critical to success, although few empirical studies address this assertion (Mathews, Eid, Kelly, Bailey, & Peterson, 2006). The military enjoys the exclusive right to use socially sanctioned force in the form of organized, controlled violence in the arena of social power for the purpose of regulating the external relations of the state when peaceful means alone cannot (Ouellett, 2005). To ameliorate the risk for abuses of this power, the military mobilizes extensive training resources to foster practical judgment, ethical behavior, and compliance within accepted rules of engagement and laws of war to develop an essential foundation for combat effectiveness.

Modern basic (recruit) training is presumed by some social psychologists to be highly developed versions of the process of reorienting individuals into the regimen and mores of the military culture (Karsten, 1998). According to Kinsvatter (2003) recruit training is an acculturation process in which the trainee learns the basic norms and values of the military subculture, and the arts of living and cooperating with a large group. Wyatt and Gal (1990) indicate that “values are the final arbiter of a soldier’s commitment and his legitimacy to act” (p. 21).

The Marine Corps believes good character can be cultivated (Krulak, 1984; Ricks, 1997) and an attempt to do so resulted in the creation of *The Crucible*, a culminating

event of recruit training designed to reinforce the organization's core values inculcated during recruit training. While examining the myriad methods devoted to the organizational socialization of individuals in Marine Corps boot camp is too large a scope for a single work, the claims of the effectiveness of The Crucible can be examined. The literature suggests that the relationships between values, identity, and behavior exist, and the goal of The Crucible is to strengthen them in Marine Corps recruits. This study examined the efficacy of The Crucible as a resocialization activity and whether there are measurable changes in recruits' values and identities that can be linked to behavior before and after The Crucible at Marine Corps Recruit Depot (MCRD) Parris Island. The intent of this study was to enhance the Marine Corps' understanding of the variables that contribute to the development of values and help in the selection and training of recruits.

At the time of this study, no empirical work had been conducted by the Marine Corps to specifically measure and evaluate the constructs of Honor, Courage, Critical Thinking, and Marine Identity inculcated during The Crucible intervention in recruit training so empirical evidence evaluating The Crucible would be beneficial to the Marine Corps.

Researcher Position

Reichardt and Ralls (1994) believe that the theories, hypotheses, and background of the researcher can strongly influence what is observed. Objectivity should be the standard to strive for in research, and the researcher should remain neutral to prevent values or biases from influencing the work. Mertens (1998) adds that while being aware of the potential influences, the researcher should strive for objectivity. Having served as an officer of Marines for 28 years I have a significant amount of life experience to bring

to this study. During eight of those years I served at both of the Marine Corps' Recruit Training Depots, MCRD San Diego and MCRD Parris Island in command and staff assignments as a recruit training Series Commander, Company Commander, and Battalion Commander. Staff duties included serving as the Recruit Training Regiment (RTR) Scheduling Officer and as the Assistant Chief of Staff Operations and Training Officer (AC/S G-3). From June 1994 until July 1998 while serving at MCRD, Parris Island as a Recruit Training Battalion Commander and as the AC/S G-3, I was extensively involved in the conception, design, approval, construction, testing, implementation, and evaluation of The Crucible. Appendix F details my perspective of these aspects.

Definition of Terms

Organizational culture according to Schein (2004) is “a pattern of shared assumptions that the group learned as it solved its problems of external adaptation and internal integration . . . to be taught to new members as a correct way to perceive, think feel in relation to problems” (p. 12).

Military culture according to James Burk (2001) is composed of four elements: discipline, a professional ethos, cohesion, and esprit de corps. Military culture is the bedrock of military effectiveness.

Socialization is a key method of cultural communication in an organization. The primary purpose of socialization is to transmit core values to newcomers through training, interaction with role models, and the newcomer's observation of the types of behavior that are rewarded and punished (Castonguay, 2000, p. 113).

Organizational socialization is a process of mutual adjustment that reduces uncertainty in tasks and environment by which individuals are exposed to new organizational or social environments and to the norms and behaviors that systematize and promote interpretation of different or more complex experiences and relationships by creating common behaviors and shared orientations and values among members (Fogarty & Dirsmith, 2001; Kramier, 1997; Moreland & Levine, 2001).

Values as understood here are enduring and centralized beliefs about culturally preferred ends of social activity or the means toward such idealized ends that guide actions and judgments across a variety of situations (Rokeach, 1970; Spates, 1983). Because of their centrality and stability, values are an important aspect of the self-concept, are profound and stable convictions that certain types of behavior are preferable to others and are considered determinants of favorable attitudes or evaluations of objects that are related to valued means or ends (Braithwaite & Scott, 1991).

Military values historically have been centered on the ideal of honor, including conceptions of honorable behavior, obedience, loyalty, selflessness, and achievement (Janowitz et al., 1974).

Beliefs have been defined as assumed facts about how certain concepts or ideas are perceived to fit together. Beliefs are learned not only through direct personal experience but also by indirect influence (Johns, 1988).

Attitudes have been defined as fairly stable emotional tendencies to respond consistently to situations (Johns, 1988). Attitudes have both a cognitive component and an affective component. Attitudes are a product of a related belief and value and have a strong influence on behavior (Johns, 1988; Schermorhorn, 1997).

Behavior is the most basic human action and is influenced by culture, attitudes, emotions, values, ethics, authority and attitude. The behavior of Marines falls within a range with some behavior being common, some unusual, some acceptable, and some outside acceptable limits.

Honor, for purposes of this study is defined as the ability to know right from wrong, the forbearance and self-discipline to do right, to live a life with integrity, responsibility, honesty and the ability to choose the proper means of attaining it.

Courage is defined as the mental and moral strength to do what is right in the face of fear, intimidation, or uncertainty. Courage requires consideration, judgment, and an assessment of risk to oneself before acting. It is not a conditioned response or a physical act.

Critical thinking is defined as the ability to openly reflect on the information available, to manage contradiction and ambiguity, and to flexibly adjust assumptions, decisions, and behaviors to the demands of the particular contexts involved.

Marine identity is the manifestation of congruency between the individual Marine and the organizational value system of the Marine Corps. The social bonding together of the individual and the organization, involving loyalty and teamwork, represents an identification with the common good that includes the self, but that stretches beyond one's own self-interest (Seligman & Peterson, 2004, p. 370). In the context of Marine Corps recruit training, the recruit has a strong sense of duty, works toward the good of the group, and can be trusted to pull his or her own weight.

Organization of the Study

Chapter Two presents a review of the literature on organizational culture and socialization that highlights processes at work, while the professional and occupational socialization literature identifies common contexts and variables related to role orientations. The literature on role identity, values, attitudes, and behaviors provides specific variables studied in this research. Previous research on military academies provides a similar organizational context.

An interactionist framework was used to study the effects of organizational socialization. The interactionist perspective views socialization as a process that has important consequences for society as a whole during which individuals create roles, norms, and values which they internalize (Blumer, 1969; Mead, 1934). Supporting Chapter Two are several appendices. Appendix C is an overview of recruit training, and Appendix D is a review of the military socialization in Marine Corps recruit training. In particular, the researcher analyzes the military training and the values instruction of recruit training. The description of the training events in the appendices gives the reader a better understanding of and appreciation for the ethos and the socialization process of the U. S. Marine Corps. Appendix E describes each event of The Crucible as originally designed, and Appendix F is the background and development of The Crucible training event. Appendix G is a brief historical review of Marine Corps recruit training.

Chapter Three describes the methods used to investigate the influence of one particular organization (U. S. Marine Corps recruit training) and the effect of one particular socialization event, The Crucible, on the identities and value orientations of its members (recruits). Guiding the research design in this study is previous research on

organizational socialization, identity theory, and values (Beutel & Marini, 1995; Burke & Reitzes, 1981, 1991; Hitlin, 2003; Kraimer, 1997), as well as research on the influence of the military and military academies on values and identity (Bachman, et al, 1987; Franke, 1997, 1998, 2000; Woodruff, 2003). The primary research method was an analysis of survey data obtained at the research site.

Chapter Four provides empirical findings obtained through an attitudinal survey of recruits that measures their value orientations and identity at the beginning of recruit training and both at pre- and post- recruit Crucible experience.

Chapter Five summarizes and analyzes the research results in light of theory and previous research to discuss the implications for military socialization and other applications. Limitations of the study and suggestions for future research conclude this chapter.

CHAPTER TWO

REVIEW OF THE RELATED LITERATURE

The end of the Cold War initiated an age characterized by rapid diffusion of technology, growing global instability, the consequences of increasing globalization and economic interdependence, and the constant threat of chaos, terrorism, ethnic, tribal, religious, and clan warfare. These developments created national security challenges remarkable in their complexity. In addition, the lines distinguishing combatant from “non-combatant” have blurred and adversaries, confounded by the superiority of the United States in conventional warfare, have resorted to asymmetrical means like terrorism and the IED (improvised explosive device) to address the imbalance. Further complicating the situation, traditional media and new social media with the technological means ensure that all future conflicts are acted out before an international audience. General Charles. C. Krulak, 31st Commandant of the Marine Corps (1995-1999), the son of Lieutenant General Victor H. Krulak has described such amorphous, asymmetric conflicts as “the three block war. Marines may be confronted with outright hostility, suspicion as they keep two warring factions apart, or active cooperation in distributing food to feed malnourished people, all in the span of a few hours and within the confines of three contiguous city blocks. Success or failure will rest, increasingly, with the individual Marine rifleman and with his ability to make the *right* decision at the *right* time at the point of contact (Krulak, 1997). The U. S. Marine Corps is, by design, a relatively young force. As often as not, Marines will be asked to deal with a bewildering array of challenges and threats that will include confronting moral quandaries. They must have the ability to “exercise their own judgment about the best response to make when confronted with given types of danger” (Janowitz & Little, 1974, p. 59). In order to

succeed under such demanding conditions Marines will require maturity, judgment, and strength of character. Most importantly, these missions will require Marines to make well-reasoned and independent decisions under extreme stress, decisions that will likely be subject to the harsh scrutiny of both the media and public opinion. In many cases, the individual Marine will be the most conspicuous symbol of American foreign policy and will potentially influence not only the immediate tactical situation, but the operational and strategic levels as well. His actions, therefore, will directly impact the outcome of the larger operation (Krulak, 1997). The Marine Corps' approach to preparing Marines for the complex, high-stakes, and asymmetrical battlefield of the three-block war is the subject of this research. It is a study of socialization, the means by which members learn the values, attitudes, and normative expectations of behavior of their military service, the United States Marine Corps.

Thomas Ricks (1997) followed 63 recruits from their hometowns through boot camp at Parris Island and into their first year as Marines. Ricks and subsequent researchers (Ferhrenbach, 1991; Krulak, 1984; Smith, 2006; Woulfe, 1998) view Marines as unique even within the culture of the U. S. military explaining that theirs is a culture apart:

Individual Marines are the bedrock upon which [the Marine] Corps is built.

The Air Force has its planes, the Navy its ships, the Army its obsessively written and obeyed "doctrine" that dictate how to act . . . the values and assumptions that shape its members is all that Marines have. (Ricks, p. 19)

The Marine Corps claims that the organization's values become the individual's (Clausen, 1968; Dornbusch, 1955; Krulak, 1984; Krulak, 1997; Stevens & Rosa, 1994) and asserts that it successfully makes the organization a part of its members by their identifying with its mission, its values, and its culture (Krulak, personal communication January 22, 1997; Ricks, 1997; Smith 2006). Recruits are repeatedly tested throughout boot camp, marching, firing their weapon, and by rebuilding their bodies through calisthenics and other physically demanding exercises. In these activities, recruits enact the new role they are assuming in the Marine Corps. At each juncture of the journey through Marine Corps boot camp, drill instructors subject the recruits to a constant iteration of the importance of standards, not just those related to physical achievement, but also standards of appearance, technical proficiency, obedience, a sense of camaraderie, interdependence, and determination to triumph in a careful effort to link the identity of the individual to the values, beliefs, attitudes, and behaviors of the specific group, the Corps (Krulak, 1997). Tajfel (1981) and Schein (2004) point out that when a group identity becomes salient; individuals tend to reference the values associated with that group and base decisions on its norms and values. Krulak (1997) says that in the Marines, recruit training is the genesis of the sense of belonging that characterizes the Corps.

Young men and women are . . . recast in the crucible of recruit training, where time proven methods instill deep within them the Corps' enduring ethos. Honor, courage, and commitment become more than mere words, but become the defining aspect of each Marine. This emphasis on

character remains the bedrock upon which the Corps is built. (Krulak, 1997, p. 15)

This deliberate process of values orientation and identity formation through organizational socialization is a cornerstone of recruit training in the Marine Corps and is the subject of this research.

Organizational Socialization

Socialization is what the organization “does” to the newcomer (Brim, 1968; Mortimer & Simmons, 1978) from “learning the ropes” (Schein, 2004) to the process by which employees are transformed from “outsiders” to “insiders” (Feldman, 1981). The organization establishes a system to inculcate both values and behavior in the newcomers. Louis (1980) provides a definition, drawing upon multiple sources (Van Maanen, 1976; Van Maanen & Schein, 1979), of socialization as a “change process through which individuals learn the values, abilities, expected behaviors, and social knowledge essential for assuming an organizational role” (p. 230). This definition stipulates that socialization plays a role in the development of organization-specific aspects of a person’s self-concept. Louis’s definition contends that the process of socialization must address: (1) how a stable organization-related role identity is formed, as well as (2) how it is linked to the values and behaviors expected within the organizational culture. Socialization can be thought of as the change process through which an individual comes to understand the organizational culture, including the values, norms, and practices, and as a result of this process becomes a representative member of the organization (Feldman, 1981; Porter, Lawler, & Hackman, 1975; Van Mannen, 1975). Van Maanen and Schein emphasize that organizational socialization takes place during every professional transition. Such

socializations are increasingly diverse, requiring a resocialization process every time (Adkins, 1995; Chao, O’Leary-Kelly, Wolf, Klein, & Gardner, 1994; Louis, 1980; Nicholson, 1984).

According to Caplow’s (1964) classic description of how the “organization man” is made, the process of organizational socialization develops in newcomers: (1) a new self- image reflective of organizational values related to his or her role; (2) new patterns of interaction through which organizational values and norms are transmitted and behavior is tailored to fit the required pattern; (3) new values that are communicated, accepted, legitimized, then internalized; and (4) attainment of knowledge, skills, abilities, and the completion of certain tasks or activities (p. 169-172). The organization as a social system may be characterized by a collective identity that includes both a common name and as shared image of membership in the organization (Caplow, 1964). The organization provides much of the formal and informal socialization that occurs in the lives of young people and adults (Moreland & Levine, 2001), and is one of the most significant influences on individuals in or approaching adulthood (Kraimer, 1997).

Caplow (1964) explains that organizations accomplish socialization of members by one or a combination of several modes of socialization: anticipatory, screening or self-selection, mortification, and training or education. In anticipatory socialization the individual begins to identify with a group to which he does not yet belong (Caplow, 1964; Van Maanen, 1975). This process may involve a person rejecting the orientations of his or her current group and rehearsing for future positions, occupations, and social relationships. Anticipatory socialization provides an individual with knowledge that, if accurate, will help with the initial entry into the organization (Caplow, 1964; Feldman,

1981). Screening or self-selection occurs when an organization chooses newcomers (recruits) based on characteristics that make certain individuals more likely to succeed or assist the organization in achieving its goals or when individuals select themselves into a group (Caplow, 1964).

Marine recruit training includes an intensive process of re-making the self, or mortification. Mortification is a dimension of socialization that is typically associated with entering into a total institution (Goffman, 1961). Goffman coined the term “total institution” to refer to institutions that regulate all aspects of a person's life under a single authority. Isolating organizational members from outside populations is one of the primary characteristics of a “total institution.” Total institutions, Goffman asserts, are places in which people are forced to become different. Mortification, as part of socialization to membership in a total institution, involves depriving individuals of personal control over their activities and self-image through changes in appearance, harsh treatment and punishment, excessive routinization of activities, and personal confinement or segregation (Caplow, 1964). The ultimate purpose of these activities is to remove individual resistance to the institution's influence and change individual performance and behavior in the direction of the desired norms of the institution (Caplow, 1964; Goffman, 1961). Education and training are formal processes that can include the teaching of organizational values, skills, abilities, and behaviors (Caplow, 1964).

Taking a somewhat different perspective, Schein (2004) depicts the transformations of newcomers to an organization as change in more than minor incremental ways in terms of unfreezing, changing, and refreezing. According to Schein, the system must first produce enough disequilibrium in the newcomer to force a coping

process that goes beyond just reinforcing assumptions already in place. Schein states that “fundamental changes underlying *any* change in a human system are derived originally from Lewin” (p. 319, emphasis in original). Schein elaborates on Lewin’s basic model in which Lewin posits that to change in more than minor ways, newcomers are “unfrozen” as the result of such disequilibrium, forcing a coping process that creates the motivation for change. Newcomers change aspects of their social selves in order to comply with the norms of the setting. These new selves are then “refrozen” through reinforcement or other cues that indicate acceptance and approval.

Feldman (1976, 1981) suggested that the initial encounter phase of socialization encompasses dimensions such as acquiring appropriate role behaviors, adjusting to the group's norms and values, and developing work skills and abilities. According to Feldman, these aspects of early socialization are facilitated through such mechanisms as discrete initiation events, group (as opposed to individual) socialization processes, on the job training, and timely feedback or performance evaluation.

The symbolic interactionist perspective suggests that these mechanisms require interaction between newcomers and the agents of socialization (Blumer, 1969). Through symbolic interaction individuals create collective products such as roles and values which they internalize (Blumer, 1969; Mead, 1934). Symbolic interactionism has been used to explain the social construction of self (Franke, 1999). Blumer viewed Mead’s analysis of symbolic interaction as a presentation of gestures. Group socialization, training, performance feedback, and the response to the meaning of those gestures are specific forms of symbolic interaction whereby newcomers make sense of and come to understand their roles in the work group, as well as their own capabilities. To the extent

that these dimensions of the encounter stage of socialization occur more rapidly as a result of frequent interaction, the entire socialization process is speeded up (Schein, 2004). From this perspective, socialization is a learning process in which individuals acquire a variety of information and behaviors to become effective members of organizations. Many organizations use of orientation programs designed to introduce new employees to their cultures and programs may take the form of formal training.

Ostroff and Koslowski's (1992) approach demonstrates the effectiveness of formal, institutionalized socialization in transmitting technical knowledge, role expectations, work group norms, and organizational values (Ashforth & Saks, 1996). Anakwe and Greenhaus (1999) suggest that experienced colleagues significantly influenced the success of newcomers in functioning in the work group, knowledge of processes, and acceptance of culture, values, and role clarity. They recommended that organizations must be aware of the impact of not only the content of socialization, but also the tactics selected by the organization to transfer knowledge to newcomers.

While socialization can be conceptualized as what the organization "does" to the newcomer (Schein, 2004), Morrison (1993), in a survey of public accountants found newcomers are not just passive observers or recipients of training, but they used proactive strategies to gather technical (job specific), referent (roles and expectations), normative (culture, values, and attitudes), and feedback (social and performance) information. Whereas much of the socialization literature considers the newcomer a passive receiver of information messages from the organization, Morrison's view added an important perspective from which to assess effectiveness of socialization.

Louis (1980) like Morrison, treats newcomers as active agents in their own learning, describing socialization as a search for information or attempts to make sense of the new realities and situations associated with the workplace and as a sense-making process where newcomers play an active role in interpreting situations. The newcomers experience surprises, chaos, conflict, and confusion as they attempt to compare the situation of the current work organization with that of which they are familiar (Schultz, 1995). These discrepant events trigger a need for explanation or interpretation. Role-related learning emphasizes the relevant knowledge, skills, and abilities required of the newcomer, along with the expectations of relevant others. The newcomers must develop an understanding of specific task requirements and salient social expectations in order to fill the role associated with the job. Louis refers to this process as acculturation. Newcomers must learn culture-specific interpretation schemes to make sense of situations and to respond with meaningful and appropriate actions (Weick, 1979). Learning the culture allows newcomers to define situations and to develop a “dictionary of meaning” for interpreting events (Louis, 1980; Schultz, 1995).

According to Louis (1980) explanations or meanings are derived from past experiences with similar situations and corroborated by observing insiders’ behavior and listening to their explanations. Insiders or veterans have sufficient history in the setting to assist in the interpretation of events. They are considered relevant role models as they have experienced the trials and tribulations associated with the newcomer’s current situation (Louis, 1980). Veterans assist newcomers with the process of altering previously held cognitive maps to understand and adapt to the new setting (Franke, 1997). To help newcomers develop accurate, internal maps of the new setting and appreciate

local meanings, they must have information available for amending their internal cognitive maps and for attaching meanings to any “surprises” that may arise (Louis, 1980). Finally, Louis (1980, 1998) suggests it is the interaction between newcomers and “insiders” that accounts for a majority of the socialization that occurs in organizations. Organizations should be aware of the impact of not only the content of the socialization, but also the tactics and agents selected by the organization to express and transfer knowledge, skills and values to new recruits.

Role of Culture in the Socialization Process

Organizational culture provides a meaning system (Schein, 2004) for employees to make sense of their environment (Weick, 1979). In common with most researchers, Eisenberg and Riley (2001) define culture as “a pattern of shared assumptions, shared frame of reference, or a shared set of values and norms” (p. 305). As such, it can be thought that organizational culture is the vehicle to influence the individual's identity and behavior (Parker, 2000) by socializing individuals into accepted norms and patterns of behaviors (Louis, 1980). Martin (2002) posits that organizational culture represents values, beliefs, behaviors, and expectations shared by organization members, while Louis (1998) considers organizational culture to be a shared set of tacit, clearly relevant understandings or meanings shared by a particular group of people, distinctive to the group and the antecedent to identity, attitudes, commitment, and behavior. Hitlin (2003) argues that identification implies some degree of belongingness and shared characteristics and this feeling of belongingness happens because of adoption of the organizational values, beliefs, and behaviors. Another definition of organizational culture is: “the system of values, symbols, and shared meanings of a group including the embodiment of these

values, symbols, and meanings into material objects and ritualized practices” (Sergiovanni & Corbally, 1984, p. viii). Most definitions involve having a shared system of values, meanings, and norms.

Louis (1980) and Parker (2000) contend that organizational culture serves as a vehicle of organizational influence on the individual's identity and behavior by socializing individuals into specific norms, values, and patterns of behaviors. In an organization, culture may be thought to serve four basic functions (Smirich, 1983; Schein, 2004). First, it can provide a sense of identity to members and increases their commitment to the organization. When employees internalize the values of the organization, they find their work intrinsically rewarding and identify with their fellow workers (Vardi & Wiener, 1996). Second, culture can be a sense-making device for an organization's members providing a way for employees to interpret the meanings of organizational events (Louis, 1980; Schein, 2004; Weick, 1979). Third, culture can reinforce the values of the organization (Schein, 2004). Finally, culture can serve as a control mechanism for shaping behavior (Schein, 2004).

Edgar Schein's (2004) study of organizational culture and his organizational constructs are commonly used in the literature as starting points for any discussion.

According to Schein organizational culture is:

A pattern of shared basic assumptions that was learned by the group as it solved its problems of external adaptation and internal integration that has worked well

enough to be considered valid and therefore to be taught to new members as the correct way to perceive, think and feel in relation to those problems. (p. 17)

Schein (2004) provides a model of three levels of culture as a means for conducting an analysis of the levels at which a culture manifests itself. The levels range from the very tangible, overt manifestations that one can see and feel, to the deeply embedded, unconscious basic assumptions that he defines as the essence of culture.

Schein (2004) uses linear representations as illustrated below to identify three layers of organizational culture. In his model, artifacts, while the most visible organizational structure and processes, are the most difficult to understand. “The most important point . . . is that it is easy to observe and very difficult to decipher” (Schein, 2004, p. 17). Organizational artifacts like language, symbols, stories, and ceremonies, provide evidence of the culture, but do not define it.

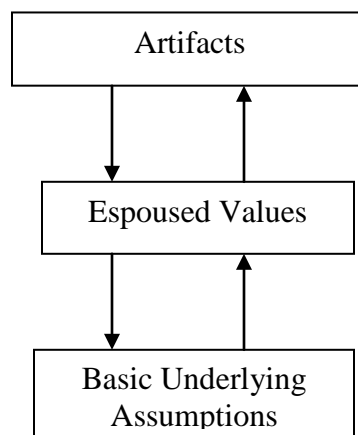


Figure 1. Schein's Model of Organizational Culture (2004).

Schein states “a set of values that becomes embodied in an ideology or organizational philosophy thus can serve as a guide and a way of dealing with uncertainty of intrinsically uncontrollable or difficult events” (Schein, 2004, p. 18). Social validation

causes certain values to become confirmed through shared experiences. Such values are initially espoused by key individuals and, once they are shown to work, become embodied in the organizational ideology or philosophy. These conscious values will predict much of the artifacts that might be observed. If the espoused values are congruent with Schein's deepest layer of culture, basic assumptions, then the articulation of those values into an operating philosophy can be helpful in serving as a source of identity. Basic assumptions tend not to be questioned and members of a group will find behavior based upon any other premise hard to understand or even inexplicable (Schein, 2004).

Major, Kozlowsky, Chao, and Garver (1995) defined socialization in the context of organizational culture as a learning activity, focusing on what and how newcomers learn as they transition from an organizational outsider to an organizational insider and also suggested that socialization is effective when newcomers understand and accept the organization's key values, goals and practices. Organizational socialization may be defined as “the process by which an individual comes to appreciate the values, abilities, expected behaviors, and social knowledge essential for assuming an organizational role and participating as an organizational member” (Louis, 1980, p. 229-230). Newcomers learn the culture through organizational socialization, the process by which newcomers are transformed from outsiders to participating, effective members of the organization (Feldman, 1981). Newcomers pass through the socialization process to establish a sense of identity (Pascale, 1985).

Social Identity

Identifying with others who share common attributes appears to be an important part of deriving one's sense of self. Military organizations actively promote military identity and provide prescriptions for behavior to the men and women from a range of socioeconomic backgrounds, of different ethnic origins, and educational backgrounds who volunteer to enter U. S. Army and U. S. Air Force basic training and U. S. Navy and U. S. Marine Corps recruit training (boot camp). They are expected to become not a collection of individuals, but a unit in which the individual will sacrifice to preserve the group (Janowitz & Little, 1974). Social identity, Tajfel (1981) suggested, is “that part of individual’s self concept which derives from knowledge of their membership in a social group (or groups) together with the value and emotional significance attached to that membership” (p .255). Individuals tend to draw on multiple, sometimes even competing, sub-identities from which they derive their self-conceptions. More importantly, sub-identities appear to form a core that influences most decisions, whereas peripheral sub-identities may affect decision making only in certain circumstances (Allport, 1979; Hogg & Abrams, 1988).

Swann and Ely (1984) found that when people entered interactions with independent and sometimes conflicting agendas, they tended to resolve cognitive inconsistencies through a process of identity negotiation. If successful, a contextual “working consensus” emerges that enables individuals to assume an identity for the duration of the interaction that is consistent with their self conceptions and that allows them to pursue the goals that motivated the interaction in the first place.

Identity negotiation not only shapes social interactions, but may also provide a tool for resolving cognitive inconsistencies that may arise when conflicting sub identities become potent. People generally tend to avoid behaving in ways that clash with an identity or value that is central to their self-conception. Dubin (1992) described those identities, values, beliefs, and attitudes that shape individuals' self-conceptions as “central life interests,” that is, “the set of activities about which each of us says: ‘that is who I am,’ and then invests all energies in realizing that ‘I’” (p. 3). Consistent with Swann and Ely’s (1984) empirical evidence, Dubin suggested that individuals can fulfill the demands of conflicting social or institutional role obligations because, as long as these activities and the cognitive and emotional responses they provoke are not central to the self, contradictory demands will not usually lead to crises of conscience. However, when core values or central identities are threatened, decisions will affect and may have lasting consequences for individuals’ self conceptions (Hogg & Abrams, 1988).

Role Identity

Tajfel (1981, 1982) defined identity as part of an individual's self-concept, arguing that an individual's self concept is composed of a social identity (or identities) and a personal identity. Creating a military identity begins to occur almost immediately after a recruit enters the service. A personal identity can be that part of the self that is composed of idiosyncratic attributes. One's social identity is defined in terms of the groups to which one belongs (social categories) (Tajfel, 1981). It is “that part of the individual’s self concept which derives from their knowledge of a social group or groups together with the value and emotional significance of that membership” (Tajfel, 1981, p. 225). Tajfel’s conceptualization of identification involves some degree of internalization

if the incorporation of social identities involves a change in self concept. Initially, Ashforth and Mael (1989) try to clearly distinguish identification from internalization by defining identity as a perception of unity or “oneness” with the organization that does not necessarily entail the adoption of organizational values. But in a later article, (Mael & Ashforth, 1992) they noted that in “identifying with the organization, people often internalize these attributes as their own” (p. 342).

Conceptions of Identity

Over the past three decades, researchers have analyzed the extent to which beliefs and values influence attitudes. Common to many of these studies is a conception of identity that simply connects observed behaviors, attitudes, or values to an ascribed identity (Franke, 1999).

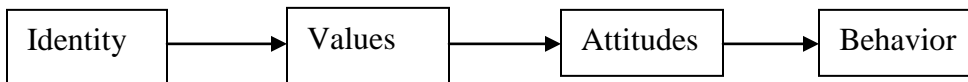


Figure 2. Franke’s Linear Conception of Identity (1999, p. 27).

Studies by Tajfel (1978, 1981) and Turner and his colleagues (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987) had subjects assigned to groups based on their preferences. Most subjects’ consistently favored anonymous members of their own group over out-group members. The experiments were designed so subjects liked or disliked others not as individuals, but based on their ascribed group membership. The findings suggested that when group membership becomes salient, individuals tend to perceive others in terms of their respective group identities. Consequently, group membership can be said to influence the attributions of values, attitudes, and behavior associated with both

in-group and out-group. The Figure 3 presents this basic social identity model according to Franke (1999).

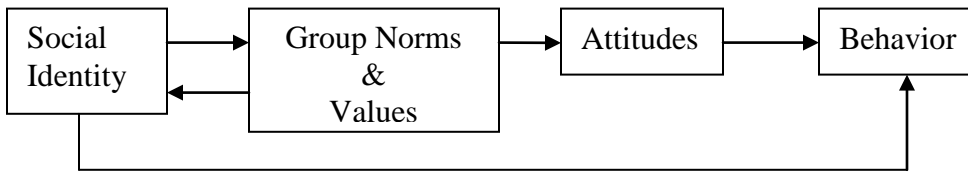


Figure 3. Franke’s Basic Social Identity Model (1999, p. 27).

Consistent with basic social identity frames, Bloom (1993) developed a psychological identification theory to explain when individuals give loyalty to and, in extreme cases, are even willing to die for their country. “In order to achieve psychological security, every individual possesses an inherent drive to internalize-to identify with-the behavior, mores and attitudes of significant figures in his/her social environment; people actively seek identity” (p. 23). Following Erikson’s (1963, 1968) research on identity formation, Bloom (1993) suggested that ideologies provide identity securing interpretative systems for individuals to make sense of reality.

Franke (1999) cites Turner and colleagues (1987) as advancing the basic social identity model to account for specific ideological and contextual influences on behavior through a process of self-categorization that they conceptualized in three stages: (1) individuals define themselves as members of social groups; (2) they learn the stereotypical norms of those groups; and (3) under conditions where a particular in-group category becomes salient, they tend to employ the in-group attributes to decide the appropriate conduct in the given context. The three stages are interdependent.

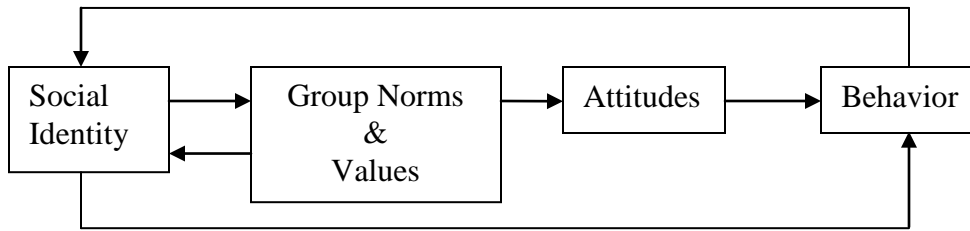


Figure 4. Franke's Advanced Social Identity Model (1999, p. 27).

Social Identity Theory (SIT) posits the individual can portray a number of roles as a result of one's placement in a social structure. This role results in how the individual is able to make sense of his or her placement in the social world and development of a personal perspective for operating in the social world. The role is what contributes to or detracts from one's self-esteem or self-definition (Hogg, Terry, & White, 1995). The identity role one fulfills differs because of one's level of commitment, institutional structures, and one's relation to others (Hogg, et al., 1995). The value of identity theory is that it provides a starting point to understand what influences an individual's self-meaning and self-worth because of one's roles in the social world (Hogg, et al., 1995).

Antecedents to identification vary depending on whether one views identification as a process of affinity or emulation. If identification occurs because individuals believe that the organization has values similar to them (affinity), then identification could occur when individuals perceive their values and beliefs to be similar to the organization. However, if identification occurs through emulation and the internalization of values, then other predictors might be postulated. Most of the currently postulated antecedents of organizational identification follow directly from Social Identity Theory (Ashforth & Mael, 1989).

Broadly defined, Social Identity Theory is about how social categories serve as "a system of orientation which helps to create and define the individual's place in society" (Tajfel, 1981, p. 225). More specifically, SIT is about how individuals incorporate knowledge of their group memberships into conceptions of their self-identities. In SIT terms, the defining characteristics of the social categories with which an individual feels membership comprise an individual's social identity (Hogg, et al., 1995; Hogg & Terry, 2000; Tajfel, 1981, 1982). Social identities differ from personal identities in that the former are consensual and shared by group members, whereas the latter are seen as idiosyncratic.

Social identification has clear perceptual and behavioral outcomes. When a specific social identity is salient, members tend to perceive and act in ways that conform to the norms and stereotypes of that social group. Thus, perceptions of differences among in-group members can be minimized. In contrast, in-group members may perceive out-group members in stereotypical (and sometimes derogatory ways), and differences between in-group and out-group members are maximized. As a result SIT traditionally, has been used to explain intergroup behavior and conflict (Hogg, 1996; Hogg et al., 1995; Tajfel, 1981, 1982; Tajfel & Turner, 1986).

SIT assumes that individuals are motivated to achieve "positive distinctiveness." That is, groups tend to make comparisons with other groups that "protect, enhance, preserve, or achieve positive social identity from members of the group" (Tajfel, 1982, p. 24). Because social identities are seen as self-evaluative, members are motivated to make comparisons with other groups that are favorable (Hogg et al., 1995).

This study will borrow Tajfel's (1981) concept of identity, "that part of the individual's self concept which derives from their knowledge of a social group or groups together with the value and emotional significance of that membership" (p. 225). Tajfel's conceptualization of identification involves some degree of internalization. The relationship between identity and values orientation is interactive (Franke, 1997). A recruit's Marine identity is established by membership in the Corps, so they will think of themselves, above all else, as a Marine and, as the saying goes, "once a Marine, always a Marine."

Values

The study of values and their impact has attracted many scholars over the past half century (Parsons & Shills, 1951; Rokeach, 1973; Schwartz, 1992). Rokeach (1973) provided a definition of a value as "an enduring belief that specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence" (p. 5). Erez and Early (1993) derived several characteristics of values from this definition. They state that while an individual's values are stable and enduring, they are also malleable. Erez and Early also stated that values can refer to either modes of conduct (instrumental) or end state (terminal), and that preference will be patterned in alignment with these values. Rokeach (1968) distinguished between instrumental and terminal values. An instrumental value is voiced in a single belief that a particular mode of conduct (i.e., honesty, courage) is personally and socially preferable in all situations with regard to all objects. By contrast, a terminal value is the belief that a certain end state of existence (i.e., salvation, world peace) is

personally and socially worth striving for. Finally, Erez and Early stated that an individual conceives a value as something that is socially or personally preferable.

Rokeach (1973) defined a value as:

a specific end-state of existence . . . transcends specific situations whereas a social norm is a prescription or proscription to behave in a specific way in a specific situation. A value is more personal and internal . . . that a specific mode of conduct . . . personally and socially preferable to alternative modes of conduct or end-states of existence. Once a value is internalized it becomes, consciously or unconsciously, a standard or criterion for guiding action . . . for justifying one's actions and attitudes, for morally judging self and others, and or comparing self with others. (p. 17-22, 160)

Values provide abstract frames of reference for perceiving and organizing experience and for choosing among courses of action (Robinson, Shaver, & Wrightsman, 1991; Scott, 1965). Unlike attitudes, values are imperative to action, “not only the belief about the preferable but also a preference for the preferable” (Rokeach, 1968, p. 160). Individuals face situations in which they cannot behave in a manner congruent with all salient values. Value conflicts may occur among instrumental values (i.e., whether to behave compassionately or rationally in a given situation), among terminal values (i.e., whether to choose self-fulfillment or prestige, salvation or the comfortable life), or between instrumental and terminal values.

Much of the research on values falls into several categories. Studies have addressed social and cultural change and values considered from a developmental

(Erikson, 1963), from a cohort perspective (Easterlin & Crimmins, 1991), or occupational or job values (Beutel & Marini, 1995; Johnson, 2001; Johnson & Elder, 2002; Kohn & Schooler, 1982; Lindsay & Knox, 1984; Marini, Fan, Finely, & Beutel, 1996; Mortimer & Lorence, 1979; Mortimer, Pimental, Ryu, Nash, & Lee, 1996).

While earlier functionalist approaches to the study of values fell to criticism, grounded approaches such as the work on social structural determinants of values (Kohn, 1959; Kohn & Schooler, 1982) and Rokeach's (1970) elaboration of instrumental and terminal values (desired means and ends), values change, and value based behavior relationship, advanced research in this area (Spates, 1983). The basic characteristics of values that flow from previous research hold that values: (1) are beliefs that, when activated, become infused with feeling; (2) refer to the desired goals and modes of conduct to promote such goals; (3) are transsituational; (4) serve as standards and guide selection and evaluation of behavior, people, and events; and (5) are hierarchically arranged (Hitlin, 2003; Rokeach, 1970; Schwartz, 1992).

According to Schwartz (1992), values are desirable goals that cross situations, vary in importance, and serve as guiding influence in a person's life. He further identifies four implicit concepts embedded in this definition. Values: (1) serve the interests of a social entity; (2) motivate action-providing direction and intensity; (3) function as standards for judging and justifying action, and; (4) are acquired through socialization to dominant group values and through the unique learning experiences of individuals (Schwartz, 1992).

A number of researchers believe a person's values serve as standards for judgment and justification for action. Feather (1995) found strong support that "attractiveness of

alternate courses of action were related to value types and that choice between alternatives was related to value types and valences” (Feather, p. 1145).

One confounding issue that arises in discussion of values relates to which level of analysis is appropriate for studying values. Both Parsons and Shils (1951) and Hofstede (1980) were interested in values as they manifested themselves as a societal cultural level. Kluckhohn and Strodtbeck (1961) were interested in values that not only described the individual as a part of a collective, but also form a belief set in the characteristics of mankind (the innate goodness of people, the individual's role in coping with nature). Rokeach (1973) studied values as they pertained to individuals like self-image, cognition of own behavior, instrumental value system and terminal value system. Franke (1999) examined the association between identity and values orientations to assess the commitment of military academy cadets.

Attitudes

An attitude differs from a value in several respects: An attitude refers to an organization of several beliefs around a specific object or situation. An attitude is not a standard (Rokeach, 1973). Eagly and Chaiken (1993) defined attitude comprehensively as the psychological response to the cognitive, affective, or behavioral evaluation that “express approval or disapproval, favor or disfavor, liking or disliking, approach or avoidance, attraction or aversion, or similar reactions” (p. 3). Attitudes may derive directly from past behavior and may be learned cognitively when people gain information about the attitude object and form favorable or unfavorable beliefs about it as a result of direct or indirect experiences. Finally, attitudes may derive directly from previous

behaviors. Furthermore, Franke (1999) found attitudes and behavior of military academy cadets were mutually interdependent.

Link Between Values and Behavior

Research beginning with Kohn (1959) and continuing through Rokeach (1970) to the present has claimed a link between values and behavior (Azjen, 1991; Azjen & Fishbein, 1980), but the empirical evidence of such a link has been less than satisfying (Charng, Piliavin, & Callero, 1988; Hitlin, 2003). Attempts to ground the value-behavior relationship in identity as proposed by Charng and colleagues (1988) and studied by Hitlin (2003) are a step in the direction of testing and validating this long-assumed relationship as argued by Spates (1983).

Specifically, Hitlin (2003) argues that a relationship exists between personal values and personal identities and that through the experiences of personal identities, role and group, or social identities are constructed and enacted. In a sense, it may be that values serve as a measure of commitment to personal identity in a manner similar to the way that values tie and meanings express commitment to a salient role identity. Thus, personal identity is transsituational, as it is constructed of similarly transsituational and cohesive values. Hitlin (2003) argues also that values, like personal identity, are subject to experiences and reflection and are capable of modification over time. Besides identity theory, other approaches to understanding value change, such as cognitive dissonance theory and reference group behavior (Jones, 1986; Kemper, 1968; Singer, 1990), offer possible explanations and have been associated with organizational socialization literature.

Organizational Commitment

The idea of adopting values and beliefs and aligning employees' values and goals with those of the organization is found in both organizational commitment and the organizational identity literature. Meyer and Allen (1991) suggest commitment is a psychological state that can characterize the employee's relationship with an organization, which influences his or her decision to stay or leave. For more than 30 years, organizational commitment has been operationalized in terms of careers, organizations, morals, and work jobs. One view of commitment evident in the literature finds commitment as behavior while the second observation views commitment as an attitude (Meyer & Allen, 1991; Zangaro, 2001). The classic commitment study conducted by Porter, Steers, Mowday, and Bouilian (1974) posits organizational commitment includes a belief in and acceptance of the organization's values and goals; a willingness to work on behalf of the organization to achieve its goals; a desire to maintain membership with the organization (cognitive and affective); and behaving or acting in a way that can increase commitment. While organizational commitment is of vital concern to military organizations, Gade, Tiggel, and Schumm (2003) state there have been relatively few studies on organizational commitment conducted with military personnel.

Organizations strive to build commitment among new hires by creating experiences that build linkages to organizational norms, values, goals, and colleagues (Brim, 1966). Chao et al., (1994) report that newcomer knowledge of organizational goals, values, and history are significantly related to job satisfaction three years following entry. Given the positive relationship between measures of new hire's job satisfaction and commitment (Adkins, 1995), newcomers receiving messages about goals, values, and

history are likely to report higher levels of organizational commitment than those not receiving such messages.

Research exploring socialization generally finds collective and formal institutional tactics to be positively related to organizational commitment (Allen & Meyer, 1990; Ashforth & Saks, 1996). In particular, collective and formal tactics, create a context where messages are most likely to produce uniform acceptance of organizational definitions and responsibilities (Jones, 1986; Van Maanen & Schein, 1979). In addition, investiture tactics lead to a socially supportive setting where newcomers may be more receptive to an organizational indoctrination, resulting in greater commitment to the firm.

Brown (1996) defines the strength of organizational commitment as “its significance or importance in the life of a person who owns the commitment relative to other commitments and pursuits” (p. 234). From the behavioral perspective, there are two ways to form commitment: by using overt statements of agreement and by using actions and behaviors that indicate where one stands. Salanik (1977) posits commitment grows stronger as behaviors are explicit, irreversible, voluntary, and public. From the attitude perspective, Brown (1996) states “a person can become committed without making an overt pledge, if a person develops sufficient positive attitudes or sense of goal congruence, then at some point that person is committed” (p. 237).

One of the most systematic approaches to the study of organizational commitment is found in Steers, Mowday, and Porter’s (1990) Organizational Commitment Questionnaire (OCQ). In the military, the organizational expectations is for extremely high levels of commitment and personal involvement with the minimum being the high end scales for the OCQ validated in civilian settings. Using this instrument, research of

the Canadian military has shown that tenure after training is related to levels of organizational commitment, but according to Cotton (1990) the vast majority of military respondents scored high on these measures. The organizational commitment necessary for the assembly line, a mundane and non-dangerous civilian variety, may be quite different than the unlimited liability of organizational commitment needed to be found in a combat fighting position. Little empirical research has been reported that systematically assesses organizational commitment value among military personnel. The criteria by which this research evaluates individual commitment to the Marine Corps can be of considerable military relevance. According to Cotton (1990) factors which Steers, Mowday, and Porter term the “work experience correlates of commitment” (p. 19) can be relevant to the military. These factors are: *organizational dependability*, or the extent to which the recruits feel the organization the Marine Corps can be depended upon to look out for their interests; *personal feelings of importance to the organization*, when recruits feel they are needed and relevant to the organization’s mission; *met expectations*, when recruits feel their expectations are met by the Marine Corps; and *social involvement*, which produces stronger social ties and greater involvement in the life of the Corps, so that it becomes the central life interest of individuals involved. Because of their attachment to the organization, employees with a strong affective commitment are likely to behave in a way that they view as being in the organization's best interest (Meyer, Stanley, Herscovitch, and Topolnytshy, 2002). Meyer and Allen (1991) state that employees become committed to organizations with which they share values and go on to say that “moreover, they work toward the success of those organizations because in doing so they are behaving in a manner consistent with their own values” (p. 76). Values

determine the extent to which the individual Marine is obliged to fulfill this self-imposed commitment to the Corps. Across multiple organizational contexts, organizational commitment provides a basic threshold indicator of employee acclimation and allegiance to the organization as well as a measure of employee investment in the organization's values and personnel.

Resocialization

Assuming a new social and occupational position suggests that a person unlearn a previous orientation and is intended to be part of the ongoing process of socialization that extends throughout the life span. Sociologist Erving Goffman (1961) defines resocialization as a more drastic process of tearing down and rebuilding an individual's roles and socially constructed sense of self. Resocialization refers to the process of discarding former behavior patterns in a sharp break with the past and socialization into radically different norms and values, accepting new ones as part of a transition in one's life. During recruit training as they transition from civilian to military culture, young adults are expected to learn the expected behaviors that conform to the norms and values of their organizational role in the military. Goffman (1961) referred to resocialization as a two-part process. First, strategies of the institution erode the newcomers' identities and independence by forcing individuals to surrender all personal possessions, get uniform haircuts, wear standardized clothing, and assign serial numbers or code names to replace the residents' given names. The second part of resocialization involves the systematic attempt to build a different self. This is generally done through a system of rewards and punishments as individuals change their behavior to fit in with the expectations of an authority figure or the expectations of the larger group (Goffman, 1961).

Often resocialization can occur when there is an explicit effort to transform an individual as roles change, as occurs from spouse to parent. For example, in the military during the recruit training process an individual's identity is systematically stripped away and rebuilt. All of these transitions involve a kind of resocialization. The process of resocialization typically involves considerable stress for the individual, much more so than socialization in general (Gecas, 1982). Resocialization frequently takes place in a context where people have been partly or wholly isolated from their previous background and is particularly effective when it occurs within a total institution (Gecas, 1982).

Total Institution

An often cited classic example of resocialization is evidenced in Goffman's (1961) studies of life in what he called total institutions, places of residence where individuals are isolated from society for a period of time and where behavior is tightly regimented. The resocialization process begins with the destruction of their previous identity. To do this the institution first raises a barrier between the new recruits and the outside world, creating separateness that leads to the loss of some of the subject's roles. Physical isolation facilitates the process of demanding total submission of individuals-a second characteristic of total institutions (Goffman, 1961).

Although many bureaucratic organizations can be thought of incorporating ways of "stripping down" individuals' self-concepts and replacing them with ones useful to the organization, this process is magnified in total institutions, resulting in the ultimate loss of individual rights. People often lose their individuality within total institutions. Loss is visibly demonstrated in the admission procedure: the haircut, the medical examination, the confiscation of one's customary clothing, and the assigning of a number and of a

place. These operations themselves and the way in which they are usually carried out, are designed to mold the newcomer (Goffman, 1961). Once the newcomer has been stripped of what he possesses, the institution carries out a replacement through resocialization, just as it does in the physical sense for clothing, so it does in the moral sense for one's identity and values (Gecas, 1982).

Lewin (1951) argued that effective socialization begins by unfreezing current beliefs, weakening the newcomer's identification with the old identity, which has been referred to as deidentification. Deidentification is particularly important if strong and stable identifications characterize the starting conditions of an identity change or resocialization process. There is a need to break down prior attachments before new definitions of self are possible. Reframing perceptions of identity must begin with events that signal that the present framework for understanding no longer works and must involve some "felt pain and disequilibrium" (Pratt & Barnett, 1997, p. 81).

Deidentification leads to temporary loss of meaning that spells ambiguity and uncertainty and opens the space for new possibilities. To effect deidentification, the strength of the value that individuals place on the old identity should be reduced (Lewin, 1951).

Deidentification brings about social uncertainty (lack of clarity about one's place in the social order) and may threaten people's need for belonging. When inclusion needs are threatened, people can resort their social identity either by discarding their threatened identity and involving other group identities that are more secure, or by enhancing aspects of the self that fit the new identity (Brewer & Pickett, 1999).

Military Resocialization

Despite variations across the services, military recruit training has a relatively homogeneous process. Referred to as “basic training” by the U. S. Army and U. S. Air Force and as “recruit training” or “boot camp” by the U. S. Navy and U. S. Marine Corps, basic training or recruit training is a period of resocialization and enculturation, occurring under conditions of relative isolation and confinement (Sarason, Novaco, Robinson, & Cook, 1981; Kindsvatter, 2003). Ranging from 7 to 13 weeks across service branches, young adults are expected to develop new behavior confined to a narrow range of acceptability shaped by heavy doses of physical reward and punishment. Boot camp necessarily involves a transition from civilian to military culture. “The process is primarily one of acculturation in which the recruit is subject to a forced change to reference groups” (Bourne, 1967, p. 187). “Training is seen as . . . inculcation . . . attitudes and conduct” (Yarmolinsky, 1971, p. 158). Sociologists Vidich and Stein (1960) explain that the goal of the socialization process of recruit training is “the transformation of the civilian minded recruit into a reliable soldier who will respond according to expectation. The institutional techniques for accomplishing this [transformation] involve a process of self-dissolution and reconstruction” (p. 496). Some authors have taken a stance that the sole purpose of recruit training is to break the person psychologically, render them helpless, instill reflexive conformity, and portrayed boot camp as a dehumanizing, social control process punctuated by themes of male sexuality (Dyer, 1985; Eisenhart, 1998). Dyer notes “the first step in the conversion process of turning civilians into Marines is the destruction of an individual’s former beliefs and confidence, and his reduction to a position of helplessness and need” (p. 111). “They tore you down.

They tore everything civilian out of your existence . . . and then they re-built you and made you over” (Appy, 1993, p. 86). “Tear down and build up” imply an extreme, perhaps violent process. Without a doubt boot camp is physically demanding and, perhaps, emotionally traumatic. Arkin and Dobrofsky (1990), Dyer (1985), and Ricks (1997), among many others, present recruit training as a conversion process that promotes socialization to military norms and values. The first step in this conversion process of turning civilians into Marines “is the destruction of an individual’s former beliefs and confidence, and his reduction to a position of helplessness and need” (Dyer, 1985, p. 114). This conversion process is intentionally stressful (Kindsvatter, 2003; Ricks, 1997; Smith, 2006).

Vidich and Stein (1960) highlighted the “challenges of transforming individualistic behavior that characterizes civilian life to the collective behavior of military life: (1) rapid expansion and contraction that requires forming consensus from disparate groups and individuals; (2) individual interchangeability at all levels that requires predictable performance, and; (3) generalized attitude toward authority that remains despite combat loss” (p. 493). Newcomers to the military are particularly vulnerable because of their near total dependence on the organization for almost everything. Having been virtually stripped of their former identity early in the socialization process, they are placed in a situation in which they must establish a new identity to survive, one that is in the desired mold of the military caste. In this state, they are particularly dependent on role models as sources of information and on the socialization system to show them what new behaviors are desired. At this stage, their dependence is nearly complete. This is precisely what makes socialization so effective in

transforming individuals into the desired organizational citizens (Browne, 2006; Caforio, 1998).

Segal and Segal (1983, 1993) suggested that the reason the military is capable of surmounting the systemic challenges and achieving the transformation of individuals is because of characteristics of the “total institution” that force change in people (Goffman, 1961). Subsequent literature, however, has shown that only certain aspects of military life, (i.e., boot camp), model most nearly the “total institution” (Rosa & Stevens, 1986).

Several researchers have examined the socialization or acculturation of new cadets at military academies and the recruit training programs of the services because the missions of these institutions are clearly directed at value change and professional preparation. Socialization at military academies aims at inculcating future officers with loyalty and commitment to the profession of arms and a willingness to serve their country on and off the battlefield (Franke & Heinecken, 2001). Most research on socialization in the military used quantitative and deductive methods using survey instruments and focused on the content of the socialization experience over varying time frames, the cost of attrition, and the quality of incoming recruits (Dornbusch, 1955; Franke, 1998, 2000; Franke & Heinecken, 2001; Guimond, 1995; Lovell, 1964, 1976, 1979; Stevens & Rosa, 1994; Trainor, 2004).

One of the more highly cited essayists on organization socialization who did not use survey research is Dornbusch (1955), who examined the assimilation of cadets at the U. S. Coast Guard Academy and provided the first account of modes and functions of socialization in a military academy environment. Using memories of his past experience as a cadet, he described the influence of the formal socialization process of mortification,

training, and assimilation with regard to institutional rules and values to highlight the informal aspects of identity change. Dornbusch described the socialization process at the academy as “a loss of identity in terms of pre-existing statuses” (p. 344). At the service academy, Dornbusch proposed that the institution provided a twofold process, providing both technical skill training and education in institutional values, identities, and behaviors, whereby a “unity of experience and orientation” fosters identification with the group and the larger organization (p. 316). However, Dornbusch criticized his own methods based upon what he called the “selective nature of memory” (p. 321). His perspective was informed in ways that current survey research approaches are not. Dornbusch actually lived the experience, observed and heard the behavior and language occurring within the situations confronted by new cadets. Dornbusch discovered that from the moment individuals enter an organization, they are both formally and informally socialized into the organization's culture. Dornbusch also revealed that a person's earliest experiences in an organization are the most formative in their development within the organization. Prospective members going through a socialization process are more receptive to organizational cues during this period than they ever will be again, and what is learned during the initial stage becomes the core of the individual's organizational identity (Dornbusch, 1955).

Lovell (1976, 1979) described and analyzed the pattern of attitude change, organizational and cultural changes that occurred among West Point cadets at the U. S. Military Academy using empirical research. He discovered only slight changes in orientation of the cadet toward their professional role as an Army officer. Lovell's initial sampling of first year cadets' orientations toward the military profession was taken after

the new cadets had been living in the Academy environment for five months. Lovell's methods involved primary survey research; the author never had personal contact with the cadets. Prior to conducting this research, Lovell conducted a study of the effects of value socialization on West Point cadets and civilian college students (Lovell, 1964). In the 1964 study, he compared a cross-section of cadet values responses to those of male college students attending an Ivy League college. U. S. Military Academy cadets expressed small, but non-significant differences in orientations to military roles across the four cadet cohorts, indicating the possibility of a self-selection bias existing in the orientation of the cadets (Lovell, 1964). This study failed to isolate the effects of self-selection to West Point by not obtaining the responses of cadets as they arrived at the U. S. Military Academy.

Stevens and Rosa (1994) studied the values of a longitudinal panel of U. S. Coast Guard Academy cadets at indoctrination and upon graduation. While the changes in values were apparent, the causes of the changes are not because other studies have highlighted similar shifts in value orientations for students during college (Astin, 1993; Pascarella & Terenzini, 1991).

Other factors may yet be at work as demonstrated in another study of the severity of initiation in military indoctrination in Canadian military college officer cadets (Guimond, 1995). In this study, negative attitudes were observed immediately following the harsh initiation into the organization, but a metamorphosis to congruent organizational values occurred by the end of the training process. In this case, cadet participation in leadership roles during the final year of training explained a significant amount of the variance in professional values throughout the period (Guimond, 1995).

Franke, (1998, 2000) investigated the influence of social categorization and group identification on military and political values of West Point cadets. In the first study, the value orientations of a cross section of cadets were compared to a sample of senior Army officers attending the Army War College to assess the cognitive preparedness for different missions at different training and experience points (Franke, 1998). The primary conclusion of this study is that the organization provides salient reference groups and values that may contribute to the formation of values. A criticism, however, is that the cross-sectional design limits the ability to generalize the effects to organizational socialization.

In a second study, Franke (2000) employed the same value scales to assess the effects of social identity theory on group identification, value orientations, and career intentions. He predicted that identification with a military or national identity would increase across class years and that cadets with a higher national or military identity would express both higher patriotic and warrior value orientations as well as greater commitment to a military career. Cadet orientations strongly and positively related to the values that closely defined the prevailing military identity group of the cadet. Contrary to the hypothesized direction, a central military identity rating did not increase from the first year to the fourth year cadets. However, rating the military identity in the top three identities did increase, suggesting a socialization effect exists in the organization. From these studies, Franke (1998, 2000) concluded the military academy helps socialize cadets to the most salient work roles or group identities they will undertake upon graduation by influencing the personal values that support these roles and missions.

Trainor (2004) studied the socialization and value congruence of incoming U. S. Naval Academy midshipmen and compared them to groups of civilian high school seniors. Significant differences in the orientations of incoming midshipmen and civilian peers were observed, indicative of self selection and anticipatory socialization effects. Trainor's analysis of survey research data showed that individual and institutional values, as well as role and group identities are linked through the process of selection, self selection, anticipatory socialization, and socialization to the attainment of individual and organizational outcomes.

The assumption that organizations change the attitudes and values of newcomers was examined in three studies by Guimond (1995) that assessed the impact of socialization of cadets at a Canadian Military College into the role of military officer. Studies One and Two compared commitment and the military values of cadets of two different officer-training programs, one of which has cadets in a total military environment. Cross sectional (Study One) and longitudinal (Study Two) evidence showed the greater changes observed among cadets subjected to more intense socialization efforts (Guimond, 1995).

The hypothesis of the second study (Guimond, 1995) was that change in attitudes and values would be more extensive among military respondents as compared to civilian respondents. The second study used a longitudinal design to provide an assessment of the effects of one year of training in a military college or a civilian university. Given the more intensive efforts at socialization in the military college, this study showed that the strength of traditional military values changed as cadets progressed through the Canadian Military College. These results confirmed those obtained in the first study. Guimond's

analysis of the data posits these changes in values are related to the organizational context (Guimond, 1995). From the results of these two studies, it appears that changes in military attitudes and values are not necessarily unidirectional or cumulative in the sense that the more exposure one has to the organizational culture, the more one would change in a direction consistent with the culture (Guimond, 1995).

The third study (Guimond, 1995) was carried out among Canadian Military College respondents as an undertaking to measure some of the socio-psychological processes through which changes in military values occur. Two stages in the socialization process were identified by Guimond: an “encounter” stage followed by a “metamorphosis stage” where values were found to change in a direction similar with those of the organization. Guimond indicates that the first stage is characterized by negative changes in attitudes and values followed by a metamorphosis stage during which the member internalizes a new set of attitudes and values (Porter, Lawler, & Hackman, 1975; Robbins, 1989). Schein (2004) suggests that “organizations socialize their new members by creating a series of events which serve the function of undoing old values so that the person will be prepared to learn new values. This process of undoing or unfreezing is often unpleasant” (p. 12). Similarly, Moore (1999) proposed that an intense period of “suffering” is a “prominent component in the training for all occupations that exhibit strong attention to standards of competence and performance” (p. 878).

The results from Guimond’s (1995) Study Three and the theory of anticipatory socialization (Lucas, 1971) would suggest that during their last year of training, cadets anticipate being an officer and thus are particularly likely to internalize values congruent with the profession (Guimond, p. 271). This process may also account for the positive

change occurring toward the end of the training period. The results of these three studies are particularly consistent with one of Van Maanen and Schein's (1979) arguments that socialization has a greater psychological impact "just before and just after a particular boundary passage" (p. 224).

Although several studies of organizational socialization support the contention that training and other induction processes produce significant effects on the values, attitudes, and commitment of new entrants (Caldwell, Chatmon, & O'Reilly, 1990; Feldman, 1976; Guimond, 1995), several researchers found, to the contrary, little or no effects (Arnold & Nicholson, 1991; Lovell, 1964). Thus, Lovell argues that "socialization at West Point produces only slight impact upon professional orientations and strategic perspectives of the cadet" (1964, p. 145). Similarly, Gaudet maintains that in Canada, "the socialization process does not have a major impact on the development of fundamental attitudes and values by the time the member reaches the rank of lieutenant or captain" (1987, p. 4). Bachman, Seligman, and Diamond (1987) concluded from their research of the military that "pro-military values among military service personnel are not, for the most part, the product of events and experiences that occur *during* military service" (p. 182; emphasis in the original). Wamsley (1972) in his study of Air Force cadets argued that researchers have measured dependent variables that do not focus on values central to the organizational culture. The socialization process in any organization cannot be expected to affect all attitudes and beliefs, but only a subset which in some ways are pertinent to the organizational culture.

Guimond (1995) concludes that changes in attitudes or values are the result of organizational socialization, it is necessary to show: (1) the attitudes and values of the

newcomers do change over time spent in the organization, and; (2) such attitudinal change is not due to maturation, by contrasting it with the change occurring during the same period among individuals who have not been similarly exposed to the organizational context. Guimond contends both a longitudinal design and a control group are required.

Military Culture

“The management of violence” (Huntington, 1957, p. 74) on behalf of society is the principle determinant of the military culture. Military culture, said to comprise the attitudes, values, and behaviors characteristic of the institution (Siegel, 2008), can have a significant impact on operational effectiveness and can be considered to be a specific form of institutional culture (Wilson, 2007), significantly different from civilian cultures in democratic societies (Sarkasian & Connor, 1999). In concise terms, military culture stresses honor and devotion to duty, unqualified service to the Nation, subordinating self to the greater good, and absolute authority and responsibility of those in command. For the service member, their standards of behavior are expected to conform to these values, sometimes in absolute terms (Sarkasian & Connor, 1999).

Applying Schein’s (2004) construct, military culture may be said to be rooted in the prevailing assumptions, norms, values, customs, and traditions which collectively, over time, have created shared individual expectations among the members. A shared sense of meaning is established through a socialization process that brings together a variety of groups that converge in operations of the military. Military culture included both attitudes and behavior about what is right, what is good, and what is important, and

is often manifested in shared stories, heroes, and rituals that promote bonding among members.

The Military as a Total Institution

The concept of Goffman's (1961) total institution as applied to the military basic training facilities where recruits are exposed to resocialization experiences systematically seeking to strip away their old roles and identities and fashion new ones has been an example cited in several works including Caforio (2003) and Browne (2006b).

As part of a well considered and designed plan . . . to set the trainees apart and mark them off from the rest of society . . . the first indispensable step is to physically isolate the youngsters from 'ordinary' society . . . by prohibiting any contact with the outside world during the first few weeks of basic training. (Van Creveld, 2008, p. 47)

The objective is to cut ties with the rest of society, do away as far as possible with any differences that distinguish the new recruits from one another, strip them of their security and sense of self-worth, and provide tangible proof that they are entirely dependent on their superiors, making them receptive to discipline as well as the instruction to come (Van Creveld, 2008). The recruit is taken "away from civilian life contacts and abruptly placed in a new routine, without customary individualistic responsibilities and dependent upon superiors for orders" (Weinberg, 1945, p. 272). The process of recruit training is "analogous to major crises in childhood and adolescence...it is a strict discipline plus the end of opportunities for self-expression and impulse gratification" (p. 272).

Since the findings of *The American Soldier* studies during World War Two, behavior scientists have observed the threat to self posed by the military recruit training process, stating that the new recruit is a “lone individual, hopelessly insecure in bewildering newness and complexity of environment . . . powerless . . . subjected to ‘shock treatment’” (Stouffer, Suchman, DeVinney, Star, & Williams, 1949, volume 1, p. 411-412). The process of recruit training is “a strict discipline plus the end of opportunities for self-expression and impulse gratification” (Weinberg, 1945, p. 272). The social structure of the Army is described as “the fact that the institution is governing the life of the individual when he is not on actual duty . . . is a sharp contrast to normal civilian social controls . . . aspects of daily life considered by civilian to be solely within the realm of private discretion are regarded as fit subjects for regulation” (Anonymous, 1946, p. 366). The [recruit] training center not only requires of its recruits:

the increasing decline of the social controls of the family and the neighborhood . . . there is a knifing off of past experiences . . . nothing in one's past seems relevant . . . [the recruit] is thrust into a completely alien role . . . he experiences feelings of isolation . . . impersonality. (Brotz & Wilson, 1946, p. 372-374)

During the first part of recruit training, “so much happens to the person in such a short time that reactions tend to be confused” (Hollingshead, 1946, p. 440).

The method of indoctrination in such [recruit training] centers is one of rigid discipline. Loud, constant verbal corrections are made on the new recruit's self. It seems that his responses to situations that have served him well in civilian life are now inappropriate or ineffective. He seems unable to do anything right. Everywhere he goes, everyone he must deal with

reminds him he is not an individual, but a recruit. He finds himself on the first day standing in ill fitting utilities, arms still burning from shots, head itchy from his haircut, hungry, tired, confused, lonely and lost. (Janis, 1945, p. 159)

The recruit finds previous expectations of autonomy, privacy, and even the recruit's self picture as a physical person challenged. Previously held self confidence as a civilian is no longer supportive and prior patterns of behavior leave the recruit powerless, isolated, and in conflict with the sanctioned norms of the recruit training environment. One of the initial purposes of recruit training has been realized, the recruit's previous experience of identity has been muddled, and the comfortable feeling of knowledge of self has been taken away. Earlier concepts of self and civilian expectations are rejected as being ineffective. If the disorientation process is effective, the recruit should be somewhat of a depersonalized and role-dispossessed shell, searching for the security and the certainty of a sanctioned role that can be enacted (Hollingshead, 1946).

Military Identity

Creating a military identity begins to occur almost immediately after entering the service by eroding the individual's identity and discarding previous orientations and behaviors (Goffman, 1961). New recruits are sent a message that regardless of who or what they were in civilian life, they are expected to conform and be assimilated into the mass as soon and as completely as possible (Ricks, 1997; Smith, 2006). Lipsky (2003), who spent four years tracking a company of military academy cadets at West Point said: "On [the first day] you surrender your old self in stages" (p. 145), but that is just the beginning of the training and personal re-engineering that is to come, as Lipsky shows

that “this program seems to be remarkably successful in changing the *identity* of the cadets, so they will think of themselves, above all else, as officers in the U. S. Army” (Lipsky, p. 143, emphasis in the original).

On the plebes’ first day at West Point . . . they strip down to their underwear, their hair is cut off and they are put into a uniform. They then must address an older cadet, with the proper salute and with the statement: “Sir, New Cadet Doe reports to the cadet in the Red Sash for the first time as ordered.” Plebes must stand and salute and repeat, and stand and salute and repeat, until they get it exactly right, all the while being reprimanded for every tiny mistake. (Lipsky, 2003, p. 145)

One’s identity is established by the group in which membership is established, in this case, the Corps of Cadets. Lipsky’s (2003) study of West Point offers a case study of how identity is made (Tajfel, 1982; Hogg, et al, 1995).

Many different sources, including officer guides, autobiographies, sociological studies, and military history demonstrate that the members of the military make an important distinction between *insiders* and *outsiders*—in this case, between military and civilian. An example of this may be found in Omar Bradley’s (1951) autobiographical account of the Allied invasion of Europe in World War Two, where he speaks of the *soldier* as a social category. He takes this social category as his own identity in his title, *A Soldier’s Story*. Bradley’s highest praise, which he reserves for exceptional officers and enlisted men, is to call them *soldiers*. Bradley’s term *soldiers* epitomize the characteristics of members of the military and how they should behave. Moskos, Williams, and Segal (2000) describe the ideal soldier as “war oriented in mission,

masculine in make-up and ethos, and sharply differentiated in structure and culture from civilian society” (p. 1). Official and semiofficial documents in all branches of the services describe the norms for military behavior. For example, the *Air Force Guide* (1998) tells its readers that soldiering is a profession with “a sense of corporate identity” (p. 2).

Military organizations actively promote such military identity. Military ideals and prescriptions for behavior are clearly stated and taught in basic training, recruit training, and military academies. The military makes investments to turn outsiders into insiders (Dornbusch, 1955; Franke, 1998, 2000; Franke & Heinecken, 2001; Guimond, 1995; Lovell, 1976, 1979; Stevens & Rosa, 1994; Trainor, 2004). Haircuts, boot camp, uniforms, and oaths of office are some noticeable means to create a common identity. The routine of the military academies demonstrate some of the tools used to inculcate military identification. Lipsky (2003) describes the training and rituals at West Point in detail. “Harsh training exercises are just one way the army stamps a new military identity” on plebes (Janowitz & Little, 1974, p. 78).

Military personnel are also turned from outsiders to insiders as a byproduct of normal operations, which include separation from the civilian world and ongoing interactions within units. The nature of an organization itself—dividing people into groups and workgroups—can affect identity. *The American Soldier*, a study of combat soldiers in World War II, finds soldiers’ major incentive to fight came from adherence to the ideal fostered in the combat unit of being “a man.” It meant showing “courage, endurance, and toughness . . . avoidance of display of weakness in general, reticence about emotional or idealistic matters” (Stouffer et al., 1949, volume 2, p. 131). “While initially the recruit behaved in this way to avoid the ridicule of his peers, ultimately, he

internalized the ideal himself” (volume 1, p. 412): “The fear of being thought less than a man by one’s buddies can be as powerful a control factor as the fear of the guardhouse. [The] process . . . is internalized in the form of ‘conscience’” (p. 412). Lipsky (2003) emphasizes the cadets’ internalization of West Point values.

Group Identity in the Military

Accounts and memoirs also illustrate the role of loyalty and workgroup identity in the military and how interaction in a combat unit instills an ideal for behavior. In their description of a battle in Vietnam, Moore and Galloway (1992) emphasize the incentives instilled in the combat unit: Soldiers fight for their buddies. The authors write that they went to Vietnam because of a sense of duty to country. But in battle, a tight bond developed among the soldiers, giving them the inspiration to fight: “We discovered in that depressing, hellish place, where death was our constant companion, that we loved each other. We killed for each other . . . died for each other . . . held each other’s lives in our hands” (p. xiv). Stouffer, et al. (1949) gives similar poignant accounts of soldiers’ loyalty for their buddies, as expressed, for example, by a soldier wounded in Sicily: “You would rather be killed than let the rest of them down” (volume 2, p. 136). This is the ideal behavior of the workgroup.

Miller (1997) observed that the military officer training builds up a professional identity on the basis of his personal immersion in the ongoing collective narrative when he states that “narrative ethics . . . emphasize the importance of personal identity, the excellences of character (the virtues)” (p. 241). This narrative identity is imparted not by instruction in international law, but by stories about deeds of honorable soldiers (Miller, 1997). These stories include accounts of how good situational judgment enabled the

soldiers to avoid inflicting unnecessary suffering on innocents. Learning stories about honor is integral to the process by which new soldiers make the moral history of their armed forces into their own personal history and identity.

Military Values

According to Aristotle, particular vocations require people of suitable temperament and disposition. Von Clausewitz' (trans. 1984) posthumously published 1832 classic *On War* says "that every special calling in life, if it is to be followed with success, requires peculiar qualification of understanding and soul" (p. 138). Samuel P. Huntington, in *The Soldier and the State*, views the military's traditional values as a subset of what he terms a professional military ethos: "A value or an attitude is part of the professional ethic if it is implied by or derived from the peculiar experts, responsibility, and organization of the military profession" (Huntington, 1957, p. 61). The need for character and moral judgment in the military professional is made crucial by the potential tragedy of its absence. Society has placed enormous trust in the hands that hold weapons of destruction (Huntington, 1957).

The new recruit is a professional military person and has an immediate need to learn the values and ethical norms of the profession of arms, while always aware that those values and ethical norms are placed at the service of the civilian world they no longer inhabit. This raises the question whether the military has special ethical norms because of the role they play within the larger society and requires the same latitude as other professional groups in role differentiated behavior. Hartle (1982) responds:

Society grants to members of the military possession and control of an elaborate array of weaponry-weapons of great power forbidden to the

general members of society. In addition, military leaders have the authority to order other persons into situations of great danger, sometimes when death is likely. And, of course, soldiers are authorized to use deadly force in ways that general members of society are not. These factors suggest a differentiated role for the military. (p. 7)

Taylor (1985) notes “membership of the [military] group entails living according to the values by which are embodied in its honour code” (p. 110).

Shannon French (2003) depicts moral competence as “the warrior’s code;” it is the shield that guards “the warriors” humanity. A “warriors code” as advocated by French cannot be reduced to a list of rules, rather it is an internalization of regulations, concepts, culture, and traditions, which together result in an understanding of what it means to be an honorable member of the military, setting boundaries on behavior, and distinguishing honorable acts from shameful acts (French, 2003).

From ancient Sparta to West Point, the goals and methods of training . . . young men on their way to becoming warriors are broadly similar . . . the way attitudes and values are inculcated and transmitted from one generation to the next is part of the culture. (Van Creveld, 2008, p. 46)

Anthony Hartle captures the complexity of military life when he writes: members of our armed forces make a moral commitment . . . to a set of values, which provides a depth and complexity . . . to adhere to and support a set of values that itself has extensive moral implications. (Hartle, 1982, p. 2)

U. S. Marine Corps Resocialization

Making Marines is synonymous directly with socialization where the purpose and goals of boot camp, as described by Marine Lieutenant General (LtGen) Victor H. Krulak (1984), correlate directly to the description of organizational socialization process defined by Schein (2004). Krulak (1984), in his book *First to Fight*, attempts to capture this transformative process:

In the Marines, recruit training is the genesis of the enduring sense of brotherhood that characterizes the Corps. In that period . . . an almost mystical alchemy occurs. Young adults from diverse areas of the country and backgrounds are immersed in an environment wherein they are able to perceive, understand, and finally accept as dogma the essential Marine Corps virtues Recruit training consists of preparing . . . mentally, morally and physically . . . youths to meet the experience of violence . . . which is war Most of all it involves developing in the recruit a sense of commitment The entire Marine recruit training process is dedicated to developing a sense of brotherhood, interdependence, and determination to triumph. (p. 159)

The primary socializing experience of the U. S. Marine Corps is recruit training (boot camp) which is conducted at either the Marine Corps Recruit Depot (MCRD) at Parris Island, South Carolina or San Diego, California. From the point of view of the Marine Corps, the new recruit arrives at recruit training with a well developed personality, a civilian frame of reference, and a set of cultural values and expectations that may or may not be compatible with the objective of recruit training or the Marine Corps. In boot

camp the trainees acquire not only skills and knowledge about the Marine Corps, but also those shared norms, attitudes, and values of the Marine Corps which are intended to develop a compatible community of like-mindedness and purpose (Ricks, 1997; Smith, 2006). The immediate adjustment issue consists of reorienting the recruit's behavior from a civilian frame of reference to the standards of the Marine Corps (Ricks, 1997; Smith, 2006). The Marine recruit experiences a structured process of socialization designed for a specific military outcome under the tender care of drill instructors who earnestly entreat their efforts. Through the process of self-regulation, the new recruit initially regulates his actions and behavior in accordance with those of the group through formal programs of training and development and informal daily social interaction between drill instructor and recruit that culminates in a Marine who has internalized the identity and values of a U. S. Marine (Klimp, personal communication, April 22, 2003; Ricks, 1997). McHugh (1966) goes on to say that the severance of past interpersonal relationships by individual recruits makes possible the shared adaptation by members of an old system to the new system of Marine Corps recruit training. The physical isolation of recruits at Parris Island and San Diego for 13 weeks creates conditions to discontinue the old system of relationships.

Ricks (1997) described how the U. S. Marine Corps socializes new recruits. This process takes 13 weeks and it “contains intensive group formation, harsh training, and severe physical exercises, without alcohol, tobacco, TV, video games, let alone drugs or sex” (Ricks, 1997, p. 43). The process aims at a total value system transfusion, as the new recruits must learn the Marine Corps way of walking, talking, and thinking (Ricks, 1997; Soeters, Winslow, & Weibull, 2006).

In the Marine Corps, group and formal socialization tactics are utilized during boot camp. Incoming recruits are segregated from society and exposed to identical group experiences. The purpose of Marine Corps recruit training is simply to “Make Marines.” Occupational and in-depth combat training are conducted at follow-on schools (Ricks, 1997). “We take America’s youth, ‘raw material,’ and we transform them into Marines. We instill in them our core values-honor, courage, commitment” (Krulak, personal communication, January 22, 1997). Fehrenbach (1991) describes Marines in glowing terms:

Marine human material was not one whit better than that of the human society from which it came. But it had been hammered into form in a different forge, hardened with a different fire. (p. 182)

As previously described by Janowitz and Little (1974), during boot camp the process of socialization begins as divestiture, in which former civilian roles and individual orientation are stripped away and replaced by military orientation and behaviors.

The process begins with an effort to “strip” all of the novice's ties with the civilian world [that] conflict with the requirements of the military and to substitute new bases for identification. At the most personal level the recruit faces a loss of privacy and exposure to a pervasive set of controls. (p. 78)

The Marine recruits are figuratively and literally stripped of their individual identity and status by the initial haircut to remove any distinction. During recruit training, recruits exchange their old identities for the military uniform, haircut, and daily routines.

They are emptied of the achievements of their previous lives (Hollingshead, 1946).

Hollingshead goes on to point out that in the recruit training center, though the opportunity to attain military status is present, the meaning of military status does not grow clear for some time. The intentionally designed early emphasis is on role-dispossession and the major result from the point of view of the recruit is confusion rather than enactment of the Marine role. When the recruit realizes that his old civilian life is behind him and he is in the military, “the self will begin to appraise itself in relation to the new situation and to adjust” (p. 442). The vacuum created in recruits’ self-esteem is then filled with the new identity that the military wishes to provide. Gradually, drill instructors provide morsels of positive feedback until the recruits have learned to be proud of themselves in an entirely new way. The new recruits have acquired a new set of skills and values (Higate, 2003).

Training new recruits . . . has in the past been governed by a conception of shock treatment--of the need for a sudden and decisive break with civilian life and rapid exposure to the rigors of military experience. The shock treatment was an essential element. (Janowitz & Little, 1974, p. 79)

Divestiture tactics used by the Marine Corps are found at the point of initial entry into the organization, boot camp. Once a recruit has passed this initial boundary into the Marine Corps, subsequent socialization is much more likely to be of an investiture nature.

Marine Corps boot camp is a sequential socialization process (Van Maanen & Schein, 1979) characterized by a series of discrete and identifiable stages through which the individual recruit and the group (platoon) passes in order to achieve a defined role or status in the organization. Boot camp is divided into three training phases and further

broken down to individual training days. Each phase builds upon the other and reinforces the knowledge, skills, and values necessary to become a Marine. The distinct phases also provide goals for the recruits. Each phase includes intensive education and training on history, customs and courtesy, marching in formation (close order drill), as well as other topics deemed essential for United States Marines. Boot camp itself is a 13-week cycle of training, including the first week of pre-training in-processing, called “Processing and Forming” (and disorientation from previous life experiences). After the initial period of disorientation, Phase One, training days (TD) 1-24, consists of learning recruit life protocol and is where the foundation and reinforcement of core values and ethics starts. Through physical fitness training, unchanging routines, instruction in the Marine Corps Martial Arts Program (MCMAP), academic classes in general military subjects (knowledge), pugil stick fighting, first aid training, close order drill, inspections, the obstacle course, and the confidence course, Phase One instills mental and physical discipline in recruits through performance and feedback. By the end of Phase One, recruits can march, respond to orders, and can exercise adequately. Phase Two (TD 25-47) is where core values and ethics are reinforced and is designed to enable the recruits to learn. All recruits must pass combat water survival swim qualification, demonstrate proficiency in the fundamentals of marksmanship through rifle qualification, and perform a week of maintenance duties. Phase Three (TD 48-70) is an evaluation process. Recruits receive additional training in marksmanship and basic warrior training, are tested academically and physically, and face what the Marine Corps refers to as the defining moment of boot camp, The Crucible, a three-day test of mental, moral, and physical challenges. During the last week before graduation the recruits transition from recruit to

basic Marine. According to Van Maanen and Schein (1979) the cumulative effects of the stages impact the recruits in such a way that they may find themselves considerably different at the end of the process. Recruits must follow explicit behavioral rules and requirements as well as complete specific technical and professional training in order to graduate (Ricks, 1997).

Time is a mechanism to schedule and control the enlisted entry level training process by the Marine Corps. The 13 week training cycle of boot camp is an example of fixed socialization tactics denoting the expectation that the individuals will progress through a series of stages in a distinct amount of time. Typically, fixed tactics are used with groups, classes, or cohorts of newcomers. The fixed tactics of boot camp highlight, in a specific time the specific knowledge and skills required to complete each step along the way (Jones, 1986; Van Maanen & Schein, 1979).

The serial socialization tactics found in Marine Corps recruit training are demonstrated by experienced members, drill instructors, serving as role models and who provide recruits with social support and affirmation of their competency in order to increase their commitment (Jones, 1986; Van Maanen, 1975). During boot camp, drill instructors conduct all formal socialization activities and serve as models that depict ideal organizational socialization for newcomers. This serial socialization process tends to produce a recruit response to the socialization activities that assumes a custodial orientation, not questioning the mission, knowledge, and tactics associated with the drill instructor (Van Maanen & Schein, 1979).

The Marine Corps Recruit Depots and the recruit training process possess all these characteristics. However, in an organization like the Marine Corps with a strong

and distinctive culture, divestiture tactics work best as an institutionalized tactic because it effectively strips away the old identity of a person and enables him or her to be remade in the organization's image (Ashforth & Mael, 1989). A process of organizational socialization that includes many of the modes and conditions described in the literature, including the collective, formal, sequential, fixed, serial, divestiture socialization tactics described by Van Maanen and Schein (1979), exists at boot camp. A detailed analysis of the socialization tactics of Marine Corps recruit training can be found in Appendix D.

U. S. Marine Corps Culture

U. S. Marines adhere to a unique ethos that distinguishes them from professionals in other occupations and is the heart of the Marine Corps and its operational effectiveness. This ethos comprises values, beliefs, and expectations that reflect the core values of the Corps.

It acts as the center of gravity for the Corps and establishes the ethical framework for the professional conduct of Marine Corps operations. In establishing desired norms of behavior, the ethos of the Corps acts as an active and unifying spirit that brings all Marines together. (FMFM 1, 1997, p. 4)

For the Marine Corps, its ethos is uniquely formed by the founding values of the republic, including a commitment to unlimited personal liability on behalf of American society. Today, the Marine Corps lists its core values as honor, courage, and commitment (FMFM 1).

Culture plays a crucial role in how the U. S. Marine Corps thinks about and prepares for war. Marine Corps culture is about winning in combat and according to the Marine Corps, "combat is an act of controlled violence, a clash of opposing human wills,

shaped by human nature, subject to the complexities and inconsistencies of human behavior and is an extreme trial of moral and physical strength and stamina” (FMFM 1, 1989, p. 3).

Schein’s (2004) model provides a common frame of reference for an examination of Marine Corps culture. His values, artifacts, and basic assumptions provide a common language for measuring and assessing the Marine Corps’ culture. Applying Schein’s (2004) construct, Marine Corps culture may be said to refer to the deep structure of the Corps, rooted in prevailing assumptions, norms, values, customs, and traditions which collectively, over time, have created shared individual expectations among the members.

Culture can be understood, in part, through an examination of the behavior of organization members. Personal enactment is behavior that reflects the organization’s values (Nelson & Quick, 1999). Modeled behavior is a powerful learning tool for new employees, as Bandura’s social learning theory demonstrated (Bandura, 1997).

Individuals learn by observing others’ behavior and patterning their own behavior similarly. If one considers Schein’s (2004) definition that “socialization is the conduit by which leaders embed and transmit an organization’s culture” (p. 18), the agents who transmit the leader’s message are seen as the important link and, possibly, a major filter in the process. Therefore, a strong bond between the new individual and the socializing agent of the organization emerges and is necessary if the socialization process is to be successful. This position is supported by Van Maanen’s (1975) belief that:

the success of the socialization process is then determined largely on the basis of whatever mutual regard is developed by the agent and the newcomer, the relevant

knowledge possessed by an agent, and of course, the agent's ability to transfer such knowledge. (p. 24)

This transfer of knowledge is accomplished in three ways: deliberate role modeling, teaching, and coaching (Schein, 2004, p. 231). These three areas have been studied by Bandura and by Weiss (role modeling), Schein (teaching), and Feldman (role modeling and mentoring). Studies by Bandura (1970) and Weiss (1977) indicate that role modeling affects new behaviors and creates a transfer of learning. Schein (2004) emphasizes the importance that teaching plays in socialization by pointing out that "the things that the group tries out are the result of leader-imposed teaching" (p. 228). Feldman (1989) discusses the:

importance of the agent's informal interactions and their role in mentoring and coaching in filling the gaps left by formal training and orientation.

One avenue is through coaching the individuals on the organization's politics, forcing new [recruits] to stretch themselves to their greatest abilities. (p. 338)

Osiel (1999) also defends the value of presenting persons entering the military culture with role models who remain true to their codes of honor. In the Marine Corps, these role models provide additional motivation to obey rules when they are clear, while giving much needed guidance when rules are not enough (Krulak, 1984). From this perspective, the agents of socialization at Marine Corps boot camp, the drill instructors, fill three roles in the Marine Corps: role model, teacher, and coach or mentor.

U. S. Marine Corps Boot Camp as a Total Institution

U. S. Marine Corps boot camp is a situation that facilitates the transition process into new social roles and statuses. Goffman's (1961) characteristics of a total institution are clearly identifiable in Marine Corps recruit training. For example, the existence of physical and psychological barriers between Parris Island and the outside world greatly facilitates the process of socialization and acculturation. There is a fundamental rank hierarchy that promotes segregation of rank and status at recruit training. The scheduling of activities at recruit training is perceived as critical to the socialization process and the desired outcome, and effectively controls freedom of movement. In relation to the total institution having one authority, it is generally accepted that life at recruit training falls under the chain of command with everyone ultimately accountable to the commanding general who occupies the highest position in the hierarchy (Goffman, 1961).

Divestiture socialization processes seek to deny and strip away certain personal characteristics of the recruit. The degree to which the recruit experiences the socialization process of boot camp as an ordeal indicates the degree to which divestiture processes are operating. Goffman's (1961) "total institutions" are commonly thought typical in this regard in the deliberate "mortification of self" which entry into them entails.

Every individual who joins the Marine Corps comes to it with a "presenting culture," an elaborate set of values, roles, norms, and expectations which lead them to behave in certain ways with regard to certain preconceived social stimuli. Because he or she really does not know the expectations of the Marine Corps, the new recruit is a civilian person guided by individual freedoms that cannot be tolerated in a total

institution if it is to remain total. Therefore, the first major task of recruit training, or boot camp, is to de-civilianize, to role dispossess, the entering individual (Smith, 2006).

Shortly after entering the training organization, the new recruits go through a process of degradation or “mortification,” stripped of clothing (Garfinkel, 1956) and given a haircut. A process of deconstruction of their civilian status and identity has begun. Subsequently, having become receptive to new values, the recruits are “re-built,” that is they are given a new identity. This means they are exposed intensively to the norms, authority relations, and disciplinary codes of the organization which are expressed to them by their seniors. Even a person’s self is taken away; recruits are forbidden to refer to themselves using “I” or “my,” and instead each must refer to him or herself as “this recruit” (Ricks, 1997).

Recruits are forced to abstain from certain types of behavior, must follow a rigid set of regulations, and are isolated from former associates who would continue to confirm the recruit's old identity. This process serves to commit and bind the recruit to the organization. These stern tactics both destroy an identity and bestow an identity (Goffman, 1961).

Disorientation

The new recruits’ first impression of MCRD, Parris Island begins during the final stage of a bus ride from the airport. Always arriving in the dark of night, Parris Island materializes as a dark, isolated, sinister locale, as the word “island” indicates, surrounded by salt water marshes. This image intensifies the new recruits’ sense of isolation and being cut off from their past, the outside world, and focuses them on what is to come in the next few months. The recruits will not sleep for another 18 hours (Ricks, 1997).

The bus stops in the street in front of the Receiving Barracks. A drill instructor walks up into the bus and faces the recruits. His first word is “Now!” This word is appropriate as it locks their attention into the present and every order they hear while at Parris Island will carry the tacit insistence that it be executed immediately. “Sit up straight. Get your eyes on me. If you have anything in your mouth, get it out now.” The Corps wants to disorient the arriving recruits and strip them of their old civilian identities before building new Marines. They are welcomed to Parris Island “on behalf of the Commanding General” and, when told to do so, they are to get off the bus safely. “Now, get off my bus!” They charge off the bus onto rows of yellow footprints painted on the asphalt. In their first moment on the ground of Parris Island, they have figuratively and literally stepped into the Marine Corps’ powerful and distinctive culture. The footprints, four to a row in 18 rows are so closely packed that the newcomers cannot be seen as individuals. Standing nearly heel to toe in the dark of night, their faces are hardly visible, and their bodies become one mass (Ricks, 1997).

The effect is intentional as the Marine Corps culture is the culture of the group, made up of members who are anonymous. In the ensuing silence, the drill instructor silently counts the recruits as they are standing on the yellow footprints, each recruit experiences feelings of anxiety in the face of this ambiguous agenda and shift in power. From this moment on, everything that happens has potential meaning and consequences for the recruit and his group (the platoon) (Ricks 1997).

Two articles of the Uniform Code of Military Justice (UCMJ) are read to them as they stand on the yellow footprints. The recruit is subject to a special kind of law, military law, the UCMJ. Then they are ushered into a classroom and the drill instructor

tells them, “You are not at home. You are not back on the block. Everything you do will be done quickly and loudly” (Ricks, 1997, p. 37). The self begins to appraise itself in relation to the new situation. This emphasis on behavior and language, not military training will form the core of their boot camp experience. Marine Corps boot camp is about making Marines; combat training is later (Ricks, 1997).

All new recruits make a phone call home shortly after arrival at Parris Island and all repeat the exact same words:

This is Recruit [last name]. I have arrived safely at Parris Island. Please do not send any food or bulky items. I will contact you in 3 to 5 days via postcard with my new mailing address. Thank you for your support.

Goodbye for now. (Smith, 2006, p. 74)

“Everything is taken away - hair, clothes, food and friends,” says Navy Lieutenant James Osendorf, a Catholic priest (Ricks, 1997, p. 43).

It’s a total cutoff from previous life. The sign on the road as you come into Parris Island says, WHERE THE DIFFERENCE BEGINS, but it's more than that, it’s where the transformation begins. Over the next twelve weeks the recruits receive a value system transfusion, as they learn the Marine Corps way of walking, talking, and thinking. (Ricks, p. 43)

After the recruits receive their haircut that takes all of twenty seconds, they move to the supply room and are issued all the clothes they will wear and everything else they will need for the next thirteen weeks. They change into their issued clothing, inventory their civilian clothes, remove all jewelry, and place it in a brown paper bag. They carry their new “gear” upstairs into a white cinderblock room with bare floor, furnished with

mattresses on bunk beds (racks) without sheets. It is about 4:00 am, but they do not sleep. The first thing they are taught is how to toe the line, to put their feet on a line in the barracks, and a few basic elements of how to walk as a group in a military formation on the way to breakfast (Ricks, 1997).

Mortification is a mode of socialization commonly associated with the total institution (Goffman, 1961) and involves depriving individuals of personal control over their activities and self-image through changes in appearance, harsh treatment and punishment, excessive routinization of activities, and personal confinement or segregation (Caplow, 1964). By the approach of the first evening on Parris Island, the recruit's identity has been stripped away. They know very little about anything except to put their toes on a line, which they get very good at. They are wearing anonymous military camouflage uniforms, the recruits around them are still strangers. Purposefully, they live in a disorienting, empty world. Their sole clue to their identity is the number of their platoon written in black ink on their left hands. In some ways this is the most important moment of their time at boot camp. This is the point when the drill instructors cut all the ties to the past and irrevocably establish the fact that the drill instructor is in charge, entirely on their own terms, for the duration. This is intentionally done to create uncertainty (Ricks, 1997).

Social control is exerted by the drill instructor as information concerning the fate of the recruit is often withheld from him. Uncertainty pervades the recruit's life as they seldom can be certain of what is in store from one moment to the next. Told to fall into formation, to march, the recruit finds his destination when he gets there. The work structure is based on a 24 hour day, 7 days a week of classes, drill, physical training, and

security watches at night. Real barriers that separate the training depot and the recruit from society at large are constantly visible in the form of the salt water marshes separating the island from the mainland, the armed Marine guards at the gate, the denied access to phones, television, or email (Ricks, 1997; Smith, 2006).

Although all bureaucratic organizations incorporate ways of “stripping down” individuals’ self-concepts and replacing them with self-concepts useful to the organization (Schein, 2004), this process is magnified in total institutions, resulting in the ultimate loss of individual rights. Total institutions, Goffman (1961) asserts, are places in which people are forced to become different. The process begins with the destruction of their previous identity. To do this the institution first raises a barrier between the new recruits and the outside world, creating separateness that leads to the loss of some of the subject’s roles. The late night arrival, the sense of isolation as one crosses the causeway, the denial of phone contact and email are all intentionally designed to create separateness from the previous life. Other losses are produced by the admission procedure: the haircut, the medical examination, the confiscation of one’s customary clothing, the assigning of a number and of a place. These operations, also for the way in which they are usually carried out, are designed to mold the newcomer (Goffman, 1961). Once the new recruit has been stripped of possessions, the institution carries out a replacement, just as it does in the physical sense for clothing, so it does in the moral sense for one's identity and values. Radical change requires changes in values. Disintegration of previous social relationships tends to eradicate, rather than simply diminish the efficacy of values in guiding behavior. Therefore, social disintegration can be one phase of radically changed

behavior. Radical change can be treated as substitution from one set of value orientations for another (Goffman, 1961; McHugh, 1966).

In summary, the initial stages of Marine Corps boot camp at Parris Island includes many of these characteristics including the shaving of heads, wearing common uniforms, participating in demanding, repetitious physical and mental drills, and restrictions of personal freedoms. The ultimate purpose of these activities is to remove individual resistance to the Marine Corps' influence and change individual performance and behavior in the direction of the desired norms and values of the Marine Corps. All aspects of the recruit's life are conducted in the same place (the Recruit Depot) and under a single central authority (the drill instructor). The recruit does everything in the company of his fellow recruits and the expectations for his particular behavior are the same for all his fellow recruits. The day's activities are a function of the Recruit Training Program of Instruction (POI); everything is done at the proper time, in the proper place, according to the master training schedule. There is a single rational plan intended to systematically strip away a recruit's individual identity and then slowly and deliberately to make Marines out of civilians. These activities are designed to fulfill the official function of the Recruit Depot, to produce a basically trained Marine. In the light of these criteria, the Marine Corps Recruit Depot, Parris Island, South Carolina can be seen to be a total institution (Goffman, 1961).

Subsequent literature, however, has shown that only certain aspects of military life, (i.e., boot camp), model most nearly the "total institution" (Rosa & Stevens, 1986). As a result, the hypothesized effects of Marine Corps socialization on values and personal identity is viewed from a broader perspective that includes literature on values, identity,

and role identity behavior in the environment of Marine Corps boot camp and The Crucible. A detailed review of the resocialization events in Marine Corps boot camp as a total institution is contained in Appendix D.

The Corps' Core Values

Lieutenant Colonel (ret.) J. Carl Ficarrotta, U. S. Air Force argues that men and women of bad character cannot function well as soldiers, sailors, airmen, or marines. This claim is based on the unique demands of the military service. Comrades in arms must be able to trust one another in order to be effective; they must be willing to behave selflessly and sacrifice themselves for the good of the mission; they must embody “the virtues of courage, obedience, loyalty, and conscientiousness when the stakes are the highest” (French, 2003, p. 7).

In his critical analysis of the problem of motivating ethical behavior among combat troops, Mark Osiel (1999) wrestled with the complex issue of how to control conduct in the “fog of war.” His central thesis is that “the best prospects for minimizing war crimes . . . derive from creating a personal identity based on the virtues of chivalry and martial honor, virtues seen by officers as constitutive of good soldiering” (Osiel, p. 23). In other words, Osiel (1999) asserts, the best way to ensure a young Marine will not commit a war crime is not to drill the said Marine on the provisions of international law and the UCMJ, but rather to help him internalize an appropriate code that will inspire him to recognize and reject a criminal or unethical direction.

Osiel (1999) makes a strong case for the character-based approach to the prevention of war crimes. He connects it to Aristotle’s virtue ethics which stress the importance of positive habituation and the development of critical virtues, such as

courage, justice, benevolence, and honor over the rote memorization of specific rules of conduct. Osiel goes on to say:

the manifest illegality rule merely sets a floor, and a relatively low one at that: avoid the most obvious war crimes, atrocities. It does not say, as does the internal ideal of martial honor: always cause the least degree of harmful, collateral damage to civilians, consistent with your military objectives. By taking seriously such internal conceptions of martial honor, we may be able to impose higher standards on professional soldiers than the law has traditionally done, in the knowledge that good soldiers already impose these standards upon themselves. (1999, p. 23)

Osiel (1999) tells the story of a young enlisted Marine in the Vietnam War: whose judgment concerning the distinction between combatants and noncombatants was compromised after he had seen one too many of his fellow Marines killed. An officer found the young Marine with his rifle at the head of an old Vietnamese woman. (1999, p. 23)

The officer could have tried barking out the relevant provisions of military law or the rules of engagement. Instead, he just said, “Marines don’t do that.” Jarred out of his state and recalled to his place in a long standing warrior tradition, the young Marine stepped back and lowered his weapon” (Osiel, p. 23). As Osiel notes, the statement “Marines don’t do that” is “surely a simple, more effective way of communicating the law of war than threatening prosecution for war crimes” (p. 23).

Osiel (1999) recommends that this code of behavior not be reduced to a list of rules. “Marines don’t do that” is not merely shorthand for “Marines don’t shoot unarmed

civilians;” “Marines don’t commit rape;” “Marines don’t leave wounded or dead Marines behind,” even though these firm injunctions and many others are part of what we might call the Marines’ core values. What Marines internalize when they are indoctrinated into the culture of the Corps is an amalgam of specific regulations, general concepts (e.g., honor, courage, commitment, discipline, loyalty, and teamwork), history, and tradition that adds up to a coherent sense of *what it is to be a Marine*. To remain “Semper Fidelis,” (Always Faithful) to the core values of the Marine Corps is never to behave in a way that cannot be reconciled with that image of what it is to be a Marine (Osiel, 1999).

Erikson (1963) suggests that individual’s progress through psychological stages throughout their lifespan. At each successive stage in the life cycle, according to Erikson (1968), “a crucial period of heightened potential serves as a source of adjustment and potential strength . . . different capacities use different opportunities to become components of the new configuration” (p. 96). He discusses the role institutions serve in utilizing rituals to cultivate strengths and virtues. The rituals that cultivate strengths can be thought of as simulations: trial runs that allow children and adolescents to display and develop a valued characteristic in a safe context in which guidance is explicit (Unell & Wyckoff, 1995). For example, Erikson’s (1968) often cited description of the decisive and transformative male Sioux Indian event of the “Sun Dance” as an individual development and group identity religious ceremonial event. According to Erikson, our identity is the conscious sense of self we develop through social interaction, “a number of related items are so well established and integrated that the next step in development can be initiated” (p. 100). An earlier formulation of this concept comes from Van Gennep (1960) who stated that to facilitate the passage from one stage to another, group

techniques take the form of commemorative ceremonial rites, commonly designated as rites of passage that are vehicles to “allow the individual to pass from one fixed situation to another” (p. 14). Turner’s (1978) theory describes the event as one that:

bisects the past and the future, a state and process of mid-transition and persons who enter this phase are ambiguous for they are passing through a realm that has few or none of the attributes of the past or coming state. (p. 249)

Bossard and Boll (1948) describe a rite of passage as a framework of techniques set up by the elders of a social group to facilitate the individual’s passage from one life situation to another at a critical period of life and in a socially approved way.

Military Recruit Training as a Rite of Passage

To reach the desired psychological state, the socialized warrior has always required some kind of initiation process . . . in that rite, now called basic training, his civil identity is eradicated . . . and set aside in favor of the warrior identity . . . and totalized in his commitment to the warrior role. (Lifton, 1973, p. 28)

The “rite of passage” observed by Mircea Eliade (1958), is an initiation through which one becomes another. He writes:

The term initiation in the most general sense denotes a body of rites and oral teachings whose purpose is to produce a decisive alteration in the . . . social status of the person to be initiated. In philosophical terms, initiation is equivalent to a basic change in existential condition; the novice emerges from his ordeal endowed with a totally different being from that which he possessed before his initiation; he becomes another. (1958, p. x)

The Marine Corps considers *The Crucible* a defining moment of recruit training. In keeping with previous work (Deegan & Hill 1991; Mead 1934; Turner, 1969), *The Crucible* can be interpreted as a dramatic ritual, a rite of passage and as an opportunity for symbolic interaction. Deegan and Hill (1991) introduce the term “the ‘liminal self’” by extending and combining Mead’s concept of “self” with Turner’s concept of “laminar” and Van Gennep’s (1960) formulation of rite of passage. Mead (1934) clarified “the self, as that which can be an object to itself, is essentially a social structure, and it arises in social experience” (p. 140). The “self” is composed of the “I” and the “me” in which “the attitudes of the others” constitute the organized “me,” and then one reacts toward that as an “I” (Mead, p. 175). Combining these ideas, the “liminal self” is a transitional self wherein the structure of the self is altered through a rite de passage. The result is the formation of a new self.

In anthropological literature since the time of Van Gennep (1960), the bridge of rituals across which individuals in socially marked transition must pass has been known as a rite of passage. Rites of passage, as mentioned by Van Gennep, consist of three principal stages: (1) separation of the participants from their previous social status; (2) a marginality or liminality, period of transition in which they have neither one status nor the other at which the person undergoes redefinition; and; (3) an integration phase in which they are absorbed into their new social state through various rituals of incorporation as a “new” member, redefined and not connected to the previous identity (Durel, 1993, p. 223).

Turner (1969) notes that for the rite of passage to be successful:

a profound interior transformation takes place in the initiate by means of the rituals that make up the rite. It is the ritual and the esoteric teaching which . . . makes men . . . knowledge obtained in the liminal period is felt to change the inmost nature of the neophyte, impressing him, as a seal impresses wax, with the characteristics of his new state. It is not a mere acquisition of knowledge, but a change in being. (p. 238-239)

Durel (1993) says that Deegan and Hill (1991) maintain that the “gnosis” that so changes the recruit’s inmost nature usually consists of essential elements of the core values and belief system into which he or she is being initiated and that the degree of effectiveness of the rite-that is, the degree to which a psychological transformation actually occurs in the recruits-depends on the extent to which they absorb these values. The essential problem faced by the drill instructors conducting such rites is how to ensure this absorption.

According to Cockerham (1998), among the socialization experiences associated with the United States Army is a particular event of status passage which:

allows those individuals completing the passage to gain acceptance as members of an elite subgroup and to acquire role specific knowledge as a basis for organizing behavior . . . exists not only as a formal organization but also as a social perspective based upon elaborate construction of symbolic meanings representing a social experience to those involved

In airborne training, the trainees acquire not only knowledge about military parachuting by also those shared norms, values, attitudes, and

traditions of the airborne soldier...thus serves as a rite of passage in that the airborne trainee is inducted into a particular human collectivity which produces this knowledge as well as a social reality. (p. 221)

The successful trainee is able to assume the role of the paratrooper upon successful completion of the passage. Cockerham (1998) goes on to state that according to Becker and Straus (1956) airborne training qualifies as a status passage because it represents not only transitions of status within a social structure, but also possible change in personal identity in terms of prestige among those who accept the value system. Van Gennep's (1960) division of the process of passage into rites of separation, rites of transition, and rites of incorporation provide a framework for the discussion of airborne training, Marine Corps recruit training, as well as The Crucible. The airborne trainee is separated from his non-airborne environment, next comes the stage of transition as the trainee begins to attend to the conditions of passage, and upon completion, the former trainee is incorporated into a new group, the airborne.

Marine Corps Boot Camp as a Rite of Passage

Van Gennep (1960) could consider the entire Marine Corps recruit training process a rite of passage. Boot camp consists of three principal stages: (1) separation of the participants from their previous social status; (2) a marginality or liminality, period of transition in which they have neither one status nor the other at which the person undergoes redefinition; and; (3) an integration phase in which they are absorbed into their new social state through various rituals of incorporation as a "new" member, redefined and not connected to the previous identity of recruit (Durel, 1993, p. 223). These three stages provide an appropriate general organization structure for describing recruit training

as a rite of passage. The successful recruit is able to assume the role of Marine upon successful completion of recruit training and The Crucible. Boot camp qualifies as a status passage because it represents changes in personal identity and values.

The Crucible as a Rite of Passage

Consideration by the Marine Corps of The Crucible as a capstone exercise/ experience or as a rite of passage relies on Eliade's (1958) statement that a rite is a change in social status and existential condition. The Crucible process is, as demonstrated by Van Gennep's (1960) approach, a transition ritual in which a person undergoes a change and then reenters the world possessing a new status and having undergone an inward transformation.

Durel (1993) recounts a capstone exercise like The Crucible is a "rite of passage" (p. 223). The rite of passage expressed by Durel is an initiation through which one becomes another. Consideration of The Crucible experience as a rite of passage relies on Durel's statement that a rite of passage is a change in social status and Durel continues that a "capstone course is typically described as a course or experience coming at the end of a sequence of courses with the specific objective of integrating a body of relatively fragmented knowledge into a unified whole" (p. 224).

The Marine Corps intends The Crucible as a capstone exercise and rite of passage. The Crucible is thought to provide the recruit the opportunity to both look back at recruit training in an effort to make sense of that experience and look forward to life as a Marine by building on that experience. In The Crucible, recruits are considered to disengage (separate) from the status of recruit and reemerge (incorporate) prepared to serve and act responsibly as Marines. Thus, The Crucible could provide the liminal threshold at which

recruits change their status. As a separation process, The Crucible capstone exercise is the finale to the recruit training curriculum. The Marine identity is thought to be finalized by the self during The Crucible, this rite of passage.

The Crucible culminates with a ceremony during which the Marine Corps emblem, the eagle, globe, and anchor is handed over as the drill instructor addresses the recruit as “Marine” for the first time and welcomes him or her into the Marine Corps. The focal point of The Crucible as a rite of passage is the closure ceremony which signifies the end of the passage and maximizes awareness of the new status. Cockerham (1998) cites the work of Glaser and Strauss (1971) who have argued that these ceremonies are especially important when the passage has not been pleasant, yet the achieved goal is desirable. “Ceremony” symbolizes having traveled a rough road to success. Not only is there a feeling of self worth and the accomplishment, but also the individuals passage into the Marine Corps is accompanied by feelings of pride and personal identification with the Marine Corps and its norms, values, and traditions.

The Crucible as Further Socialization

By training day 62, the day before The Crucible, recruits are expected to have learned the difference between right and wrong, and that they will do what is right, and that they have fully embraced ethical behavior and Marine Corps core values: honor, courage, and commitment, values that make up the bedrock of a Marine’s character, should now be a part of each of them. They aspire to become Marines, and this night, when they step off to challenge The Crucible, they are measured against these values, and only those who pass will earn the title “Marine” (Wolfe, 1998).

In the July 1997 *Marine Corps Gazette*, General C. C. Krulak provided his Commandant's perspective when he said:

The Crucible was not implemented because the Marine Corps found the tried and true methods of recruit training to be flawed. Nothing could be further from the truth. The Crucible was developed for two major reasons . . . change in the operating environment in which Marines will be employed. Decentralized operations, high technology, increasing weapons lethality, asymmetric threats, the mixing of combatants and noncombatants, and urban combat will be the order of the day rather than the exception in the 21st century. Marines must be good decision makers . . . trained to the highest standard . . . self-confident . . . have absolute faith in the members of their unit. This is why . . . we instituted The Crucible . . . why we have enhanced the way we transform America's sons and daughter into U. S. Marines . . . to ensure that newest Marines fully understand and appreciate what the Marine Corps represents, and that, as members of the world's fighting elite, they must uphold the sacred trust we have with our Great Nation--and the sacred trust we have with each other. The Crucible is designed specifically to contribute to the making of this kind of Marine. Preparing our young Marines for battle is the genesis for The Crucible. (Krulak, 1997, p. 14)

Krulak (1997) goes on to say:

What is The Crucible? The Crucible is the centerpiece of the recruit training phase of a four step process of Transformation: recruiting, recruit

training, cohesion, and sustainment. It is a three day training evolution that has been added to the end of recruit training, designed specifically to make Marines better warriors. It features little food, little sleep, over 40 miles of forced marches and 32 stations that test the physical toughness and mental agility. The events are designed to focus primarily on two areas--shared hardship and teamwork. We wanted to create a challenge so difficult and arduous that it would be the closest thing possible to actual combat. We wanted to create for the recruits a Crucible that, once experienced, would be a personal touchstone and would demonstrate for each and every recruit the limitless nature of what they could achieve individually and, more importantly, what they could accomplish when they worked as a team The drill instructor is still the backbone of the recruit training process. The drill instructor's role in . . . training remains as it always has been . . . to guide the recruits, seeking to build confidence in their individual abilities, and to emphasize the importance of the team. The objective is to build a sense of unit cohesion so that by the end of The Crucible, the individual recruits see the value of working together, in a common cause, to overcome the most arduous tasks and conditions. (Krulak, 1997, p. 14-15)

Recognizing one's moral compass as the cornerstone of a Marine's character, and ultimately the bedrock of the Marine Corps' foundation, General Krulak (1997) sought to enhance recruit training by increasing the mental, physical, and moral development of recruits. Embracing the Corps values training initiated by his predecessor, General Carl Mundy, Krulak extended recruit training one week to provide drill instructors ample time

to teach Core Values in a mentoring role. This bold initiative, a paradigm shift, was undertaken despite other services' moves to ease the demands of their respective recruit training by shortening its length. General Krulak went on to implement a grueling 54-hour test of teamwork –The Crucible–to reinforce Marine values such as honor, courage, and commitment, taught throughout the preceding 11 weeks for recruit training. The Crucible acts as a “rite of passage” in the transformation from civilian to “citizen-soldier.” The drill instructor facilitates this metamorphosis through leadership by example, as a respected mentor, not as a dominating, feared demagogue (Klimp, 2003).

From the perspective of Klimp (2003) and others, the Marine Corps learned in the early 1970s it cannot “make a Marine out of anybody” (Klimp, 2003). It is not possible to transform someone who does not already possess a requisite level of virtue, like the particular virtues enumerated by Socrates, Plato, Aristotle, Augustine, Aquinas, and others, as the traits of character that made someone a good person. According to LtGen V. H. Krulak (1984), General C.C. Krulak (1997), and LtGen J. W. Klimp (2003), the Marine Corps believes that good character can be developed, but to do so, an intervention process in the form of recruit training must be conducted. The “Transformation” process of recruit training simply takes young men and women with the right “mettle” and forges the “steel” of moral character. It teaches virtue to those individuals seeking it (Klimp, 2003).

Krulak (1997) and Klimp (2003) recognize that it is unrealistic to expect that everyone who arrives at Parris Island understands, comprehends, and will instantly abide by every facet and nuance of the Corps' core values. The Corps acknowledges that honor, courage, and commitment are values that must and can be taught and absorbed before

they can be applied effectively as behaviors to their full, intended purpose. By the nature of the person's age and experience, some recruits arrive at Parris Island as near empty vessels that have had to overcome extraordinary life circumstances, may be lacking in direction, and lack some of the values, beliefs, and behaviors required for success in the far more rigid and demanding environment in which Marines find themselves. Others arrive at boot camp with a fairly well developed sense of what is considered as honorable and proper behavior, those with strong moral and family values, while still others may be slightly damaged by society with minor legal or moral problems and have had only a minimum of exposure to what is considered appropriate actions for Marines (Klimp, 2003).

LtGen Krulak (1984) believes that boot camp has a long and proud tradition of producing a quality basic Marine. While the Corps and General Krulak (1997) as Commandant desired to retain this proud tradition, the Corps developed an enhancement designed to reinforce core values, give more time to the drill instructor to be able to teach and guide recruits, and provide a culminating event to recruit training. The Crucible is a 54 hour training evolution that takes place in the 11th week of recruit training. It is designed to be a crystallizing experience during which everything that the recruit has learned in the previous 10 weeks is drawn together and brought sharply into focus. Sleep and food deprivation, physical and mental challenges, and a constant operating tempo are all designed to build strength of character, a sense of self-sacrifice, and teamwork. Constant reinforcement of the values of courage (both physical and mental), honor, and commitment are the hallmarks of the exercise (Klimp, 2003). Differently labeled, but

corresponding values have been empirically studied by Seligman (2002) and Peterson and Seligman (2004).

Three years after the inception of The Crucible, Marine Captain Joey Klinger's (1999) Naval Postgraduate School thesis examined The Crucible event at MCRD San Diego through structured interviews, focusing on the perceptions of drill instructors and officers regarding the training effectiveness of The Crucible. Five main themes emerged from Klinger's study: (1) The Crucible is effectively reinforcing the teachings of teamwork and core values; (2) is effective as a rite of transition; (3) is effectively using Marine Corps history and symbols; (4) is teaching combat decision making skills, and; (5) has a proper level of difficulty for recruits. The study findings suggest that The Crucible is an effective training event utilizing effectual training methods and is a defining moment of a recruit's initial training experience.

Honor

Peterson and Seligman (2004) discuss wisdom in the following way: is distinct from intelligence; represents a superior level of knowledge and judgment; is used for the good or well-being of oneself and that of others. Wisdom has been correlated with "maturity, open-mindedness, even-temperedness, sociability, social intelligence, and the absence of neuroticism" (Peterson & Seligman, p. 182).

Peterson and Seligman's (2004) definition of wisdom is consistent with the Marine Corps definition of honor. For the purposes of this study, honor can be conceptualized as a component of judgment and perspective (wisdom) on the Values In Action Inventory of Strengths (VIA-IS) (Peterson & Seligman). Peterson and Seligman explain that philosophers since Socrates and Confucius consider wisdom the chief virtue,

making all others possible. They admit to struggling from the beginning of their project with the right way to label a strength included in all virtue catalogs, ancient and modern. They chose to label this character strength specifically as open-mindedness and more generally as judgment. Both of these strengths are contained under the general category of wisdom. Measures of this construct are often measures of morality and justice-based reasoning (Kohlberg, 1981). Peterson and Seligman agree that wisdom is distinct from intelligence, but represents a superior level of judgment and allows the individual to address important and difficult questions about the conduct of life and is used for the good or well-being of oneself and that of others.

Honor is considered by many as the bedrock of Marine character, the unifying value for the Marine Corps because it represents a Marine's ability to live up to all the Corps' values. Warfighting (FMFM 1-0) states "a Marine in battle fears disgracing himself by running. He fears not losing his life, but losing his honor. He may not be able to preserve his life, but he can always preserve his honor" (1995, p. 43). Honor is considered by many as the quality that guides Marines to:

exemplify the ultimate in ethical and moral behavior; never to lie, cheat, or steal; to abide by an uncompromising code of integrity; to respect human dignity; to have respect and concern for each other. The quality of maturity, dedication, trust, and dependability that commits Marines to act responsibly; to be accountable for actions; to fulfill obligations; and to hold others accountable for their actions.

(FMFM 1, 1989, p. 7)

FMFM 1-0 says:

when people conduct lives built on high moral standards and physical fitness, they tend to develop qualities that produce inspired leadership and discipline . . . a battlefield is the place where moral advantage [honor] is paramount. Moral ascendancy is an imperative that serves as primary means of getting the opponent to surrender his will to resist . . . must act from the courage of their own convictions, even when such a position runs counter to the policy of seniors. In his landmark book *Anatomy of Courage*, Lord Moran would say “a man of character [honor] in peace becomes a man of courage in war. He cannot be selfish in peace and yet be unselfish in war . . . a habit, the daily choice of right instead of wrong . . . grows to maturity in peace and is not suddenly developed on the outbreak of war . . . acts in war are dictated not by courage, not by fear, but by conscience.” (p. 160)

Merely memorizing the core values of honor and courage will not provide Marines with the guidance and the inspiration needed to protect them from succumbing to savagery of combat. Values are the final arbiter of a Marine’s commitment and his or her legitimacy to act (Krulak, 1984). For purposes of this study Honor is defined as the ability to know right from wrong, the forbearance and self-discipline to do right, to live a life with integrity, responsibility, honesty and the ability to choose the proper means of attaining it.

Critical Thinking

Peterson and Seligman (2004) further discuss a component of wisdom as allowing the individual to address important and difficult questions about the conduct and meaning of life and has been correlated “open-mindedness and critical thinking” (Peterson &

Seligman, p. 143). Ennis (1985) defined critical thinking as reflective thinking that focuses on deciding what to do. Bruning, Schraw, Norby, and Ronning (2004) further described the purpose of critical thinking is to evaluate information to enable us to make informed decisions, but also to appropriately determine relevance and reliability of information.

Peterson and Seligman (2004) define open-mindedness as good judgment, critical thinking. The open minded, critical thinker engages this style when confronted with complex judgments and shows up in perspective taking. Observation of open-mindedness and critical thinking on the part of others can be elevating and can defuse emotional issues. The order of the day for Marines in the 21st century will be decentralized operations, high technology, increasing weapons lethality, asymmetric threats, the mixing of combatants and noncombatants. Marines must be good decision makers. Good judgment and critical thinking (not shooting civilian bystanders) is “inherently tied to combat: assessing risk Not knowing . . . who the enemy is . . . in an instant whether or not to pull the trigger” (Tortorello, 2009). This conceptualization also fits well with both philosophical and psychological treatments of the construct. The traditional virtue that is supposed to tie together the other virtues in philosophy is wisdom.

Tortorello (2009) presents critical thinking as:

inherently embodied and irreducibly tied to combat: knowing, not knowing, suspecting, and assessing risk . . . in situations of fundamental value conflict . . . risk of moral damage and physical death to oneself or to others . . . in outcomes [that] are uncertain. Not knowing where or who the enemy is . . . in an instant whether or not to pull the trigger. (p. 264)

Seligman and Peterson's (2004) definition of open-mindedness is consistent with critical thinking.

For purposes of this study Critical Thinking is defined as the ability to openly reflect on information available, to manage contradiction and ambiguity, flexibly adjust assumptions, decisions, and behaviors to the demands of the particular contexts involved.

Courage

The meaning of courage shifts across contexts. Petersen and Seligman (2004) use Shelp's (1984) definition of:

the disposition to voluntarily act, perhaps fearfully, in a dangerous circumstance, where the relevant risks are reasonably appraised, in an effort to obtain or preserve some perceived good for one's self or others recognizing that the desired perceived good may not be realized. (p. 214)

Petersen and Seligman emphasize that courageous acts must be voluntary and must involve judgment, an understanding of risk and the acceptance of the consequences of the action. "People distinguish between courageous and foolhardy action" (p. 214).

In contrast to the large theoretical literature, Petersen and Seligman (2004) note that little empirical research has focused on courage. The meaning of bravery shifts across contexts, but little empirical research has focused on bravery. It is difficult to create conditions in a laboratory that require meaningful bravery (Deutsch, 1961).

Petersen and Seligman go on to note that when courage or valor items are included in self-report measures, they are listed along with many other items asking about values or important qualities and they do not focus specifically on factors presumably involving courageous action.

Petersen and Seligman (2004) report that a lack of reliable and valid measures translates into few well-documented correlates of dispositions toward courage. They go on to state that: tolerance for ambiguity or uncertainty; an ability to assess risk across situations; an inclination toward reflection; and involvement in socially worthy aims are additional correlates of courage and make contact with other character strengths and deserve systematic study. The researcher considered these correlates in selecting survey questions for this research.

Petersen and Seligman (2004) indicate that no psychological interventions described in the academic literature, other than psychoanalysis itself, attempt to directly foster courage. They go on to describe Pearson's (1998) book *The Hero Within* and the self-tests and self development tools to develop the Warrior archetype that embodies the ability to confront fear and act in the face of psychological danger as particularly relevant. Several popular psychology books attempt to teach bravery. Though not built on a foundation of research, these books walk people through self-awareness exercises and share stories of bravery. These books and exercises show triumphs over adversity through inspiring stories (Pearson, 1998; Williams & Paisner, 2001).

Robbins and CoVan (1993) authored one of the more well known and popular psychology texts promoting a braver life that represented an approach building on a physiological, habitual, and attitudinal approach to cultivating bravery. Many popular psychology books often discuss how a man might reclaim his valor while others relate stories of brave women's lives. Petersen and Seligman (2004) note that still others follow a workbook format, giving women exercises that help them engage in reflection and self-discovery that may build a more courageous life. Using qualitative interview data,

Finfgele (1999) explored factors that foster the development of courage, citing a strong value system, hope, optimism, and self-confidence. She also suggested that a role model can help foster courage. The power of social groups to sustain courage is supported by research of a particularly brave tribe of Native Americans, the Mohawks (Hill, 1987). Members of the tribe are refuted to have said they would not work with anyone who was not afraid, emphasizing the interrelationship between fear and courage among those highly trained in dangerous work like the building of the Empire State building or other Manhattan skyscrapers (Worline, 2002).

The Marine Corps defines courage as “not the absence of fear; rather, it is the strength to overcome fear” (FMFM 1, 1989, p. 12). Courage therefore is the ability to do what needs to be done despite fear. This view of courage by the Marine Corps allows this value to be applied beyond the domain of battle to saying or doing the unpopular but correct thing. The value of courage has both physical and emotional expressions according to the Marine Corps definition. Courage is the moral, mental, and physical strength ingrained in Marines to carry them through the challenges of combat and the mastery of fear; to do what is right; to adhere to a higher standard of personal conduct; to lead by example, and to make tough decisions under stress and pressure. “It is the inner strength that enables a Marine to take that extra step” (FMFM 1, 1995, p. 102). While physical courage is the most obvious expression of courage, Marines are often called upon in times of conflict to face fear and act decisively. Moral and mental (or psychological) courage may also be necessary to face the challenges of peacetime and combat.

The moral courage of leaders is the key to keeping effective combat units from becoming armed mobs. Moral courage is a form of conscience that can often be an even tougher challenge than physical courage especially in peacetime (FMFM 1). The Armed Forces unification hearings that followed World War II provided an example of the moral courage to stand up for what one believes. In January 1946, a Senate bill was introduced that included authority that would permit the newly created Secretary of Defense to prescribe, by fiat without Congressional check, the roles and missions of the Armed Forces. This would remove the Marine Corps from the protection of Congress. An order was promulgated forbidding opposition testimony to the bill on the part of Marine officers. Brigadier General Merritt Edson, holder of the Medal of Honor and two Navy Crosses disagreed with the unification of the armed forces and could not support it. Edson wanted to speak about it publicly. To protect the Corps, he left active duty to pursue a course he believed was right. Edson demonstrated that everyone had an option, if they only had the courage to pursue it (Hoffman, 1994).

Mental courage exemplified by Colonel Shoup enables Marines to cope with some of the challenges of combat; to lead by example, and to make tough decisions under stress and pressure.

Colonel (Col) David Shoup served as commanding officer of all Marine Corps troops in action against enemy Japanese forces on Betio Island, Tarawa Atoll, Gilbert Islands, from 20 to November 22, 1943 and exhibited consummate mental courage. Although severely shocked by an exploding enemy shell soon after landing at the pier and suffering from a serious, painful leg wound which had become infected, Col Shoup

fearlessly exposed himself to the terrific and relentless artillery, machine gun, and rifle fire from hostile shore emplacements. Rallying his hesitant troops by his own inspiring heroism, he gallantly led them across the fringing reefs to charge the heavily fortified island and reinforce hard-pressed, thinly held lines. Upon arrival on shore, he assumed command of all landed troops and, working without rest under constant, withering enemy fire during the next 2 days, conducted smashing attacks against unbelievably strong and fanatically defended Japanese positions despite innumerable obstacles and heavy casualties. By his brilliant leadership daring tactics, and selfless devotion to duty, Col Shoup was largely responsible for the final decisive defeat of the enemy, and his indomitable fighting spirit reflects great credit upon the U. S. Naval Service. (Medal of Honor citation)

Existing research suggest several factors that may enable courage:

Contextual messages supporting courage; contextual support of prosocial values and an emphasis on truth telling; strong leadership; trust; clear expectations of behavior, and; community ties. Courage can be promoted by practice (moral habit), by example (modeling), and by developing certain attributes of the individual (self-confidence) or group (cohesion).

(Peterson & Seligman, 2004, p. 221)

For purposes of this study, Courage is defined as the mental and moral strength to do what is right in the face of fear, intimidation, or uncertainty. Courage requires

consideration, judgment, and an assessment of risk to oneself before acting. It is not a conditioned response.

Commitment

Peterson and Seligman's (2004) definitions of citizenship and fairness could be considered consistent with the Marine Corps definition of commitment. Both of these strengths are contained under the general category of justice. Measures of this construct are often measures of morality and justice-based reasoning (Kohlberg, 1981) and citizenship that refers to a strong positive sense of identification to a common good that extends beyond the self to include others (Peterson & Seligman, 2004). According to Peterson and Seligman:

loyalty and teamwork represent a feeling of identification with a sense of obligation to a common good that includes the self, but that stretches beyond one's own self-interest. The individual with this strength has a strong sense of duty, works for the good of the group rather than for personal gain and can be trusted to pull his or her own weight. (p. 370)

Commitment is central to the operational effectiveness of armed forces as systems of controlled violence. Commitment to the point of death, what Hackett (1979) terms "the unlimited liability clause of military members remains a distinguishing feature of the military" (p. 101). This is the central theme of Janowitz (1971) who writes that the military's requirement for commitment is derived from, and is conceptually centered on the battlefield as long as the notion of combat, preparation for battle and actual battle, remains a central military value. Several researchers state that commitment is the essence

of unit cohesion (Cotton, 1979, 1990; Hackett, 1979; Janowitz, 1974). The Marine Corps defines the value of commitment as:

the spirit of determination and dedication found in every Marine. It is what compels Marines to serve our country and the Corps. Every aspect of life in the Corps shows commitment; from high standards of excellence to vigilance in training. (FMFM 1, 1995, p. 14)

It leads to the highest order of discipline for the unit and self; it is the ingredient that enables 24-hour-a-day dedication to Corps and Country; pride; concern for others; and an unrelenting determination to achieve a standard of excellence in every endeavor. Commitment is the value that establishes the Marine as the warrior and citizen others strive to emulate. (FMFM 1, p. 14)

Medal of Honor recipients are generally not allowed to return to combat. Gunnery Sergeant John Basilone, who had been the first enlisted Marine in World War Two to receive the Medal of Honor on Guadalcanal, turned down an assignment to remain safely in the United States on War Bond tours.

While serving as a Leader of a Machine-Gun Section, Company C, 1st Battalion, 27th Marines, 5th Marine Division, in action against enemy Japanese forces on Iwo Jima, 19 February 1945. Shrewdly gauging the tactical situation shortly after landing when his company's advance was held up by the concentrated fire of a heavily fortified Japanese blockhouse, Gunnery Sergeant Basilone boldly defied the smashing bombardment of heavy caliber fire to work his way around the flank and up to a position directly on top of the blockhouse and then, attacking with grenades and demolitions, single handedly destroyed the entire hostile strong point and its defending garrison. Consistently daring and aggressive as he

fought his way over the battle-torn beach and up the sloping, gun-studded terraces toward Airfield Number 1, he repeatedly exposed himself to the blasting fury of exploding shells and later in the day coolly proceeded to the aid of a friendly tank which had been trapped in an enemy mine field under intense mortar and artillery barrages, skillfully guiding the heavy vehicle over the hazardous terrain to safety, despite the overwhelming volume of hostile fire. In the forefront of the assault at all times, he pushed forward with dauntless courage and iron determination until, moving upon the edge of the airfield, he fell, instantly killed by a bursting mortar shell. Stouthearted and indomitable, Gunnery Sergeant Basilone, by his intrepid initiative, outstanding skill, and valiant spirit of self-sacrifice in the face of the fanatic opposition, contributed materially to the advance of his company during the early critical period of the assault, and his unwavering devotion to duty throughout the bitter conflict was an inspiration to his comrades and reflects the highest credit upon Gunnery Sergeant Basilone and the United States Naval Service. (Navy Cross citation)

Commitment indicates an orientation toward others rather than the self. A Marine exhibiting this value might exhibit what some thinkers would define as altruistic behavior toward others. Altruism emphasizes the well-being of others over one's own well-being (Peterson & Seligman, 2004). This value might be demonstrated in a number of ways in military life including, sacrificing one's life for that of another, a superior waiting to eat until all of his or her subordinates have eaten, foregoing personal gratification in situations where such behavior might reflect poorly on the United States, the Marine Corps, or the Marine's unit. Altruism is considered a pro-social behavior by many psychologists (Peterson & Seligman, 2004) and is typically measured through self-report because of the obvious difficulties associated with more observational measures (e.g.,

motive cannot be seen). The psychological correlates of the value of loyalty include altruistic behaviors, empathy, and a sense of affiliation (Brehm & Rahn, 1997). For purposes of this study commitment is defined as the unwavering, unselfish dedication to mission accomplishment and personal, professional responsibility. Marines draw strength, security and a sense of invulnerability from their commitment to their fellow Marines and vice versa (Krulak, 1984).

Organizational commitment is defined for this study as a social bonding together of the individual and the organization. In the context of Marine Corp recruit training, the recruit is thought to identify with the organization and take pride in the Marine Corps organization. Organizational commitment is the manifestation of congruency between the individual Marine and the organizational value system of the Marine Corps, a conscious, value based process (Wyatt & Gal, 1990). Values determine the extent to which the individual Marine is obliged to fulfill this self-imposed commitment to the Corps.

This study considered the general influence of socialization tactics by comparing the value orientations of recruits as a result of their socialization experiences during boot camp prior to and after they have experienced and completed The Crucible. It looked at three different points in the Marine socialization process, shortly after arrival at boot camp, before and after The Crucible, to determine whether the training and indoctrination results differ in outcomes (value orientation), thus providing some further evidence of a socialization tactic effect. A detailed review of the socialization tactics of The Crucible are found in Appendix E and Appendix F.

Emergent Variations in Key Constructs

Based on the review of the literature and existing measures of honor, courage, commitment, organizational commitment, and organizational identity, as well as discussion with experts in the field (Seligman, personal communication, 13 Jan 2009), survey indices were developed to assess the values of honor, courage, and commitment, commitment to the Marine Corps, as well as Marine identity. The result was a questionnaire that included 47 items related to dependent variables: 10 items for honor, 10 items for courage, 10 items for commitment, 8 items for organization commitment, and 9 items for identity (see Appendix A). However, an exploratory factor analysis of these items revealed that they did not perform as anticipated with this sample, as will be discussed in detail in Chapter Three. In sum, what emerged from factor analysis of the 47 items are 4 constructs that serve as the dependent variables for this study: 9 items that reflect the concept of *Honor*; 6 items that represent *Courage*; 9 items that bring together elements of identity, commitment, and organizational commitment in a way that collectively reflect *Marine Identity*; and 4 items (originally part of the items measuring honor) that pinpoint *Critical Thinking*. Thus, the research questions in Chapter One and the hypotheses that follow reflect the four emergent constructs of (1) Honor, (2) Courage, (3) Critical Thinking, and (4) Marine Identity.

Hypotheses

Broadly, the Marine Corps expects that completion of recruit training and The Crucible to develop and strengthen recruits' values related to Honor, Courage, Critical Thinking (Kindsvatter, 2003; Krulak, 1984; Ricks, 1997), as well as their Identity as a Marine (Franke, 1997; Wyatt & Gal, 1990). The main hypothesis of this study is that

there will be measurable and statistically significant gains in the values orientations and identity of recruits as Marines resulting from the recruit training socialization process from Processing (T1) to Post-Crucible (T3) (see Figure 5 and Appendix C). However, the principle hypothesis of this study is that there will be measurable and statistically significant gains in the values orientations and identity of recruits from Pre-Crucible (T2) to Post-Crucible (T3). The third hypothesis of this study is that there will be measurable and statistically significant gains in the values orientations and identity of recruits as a result of the recruit training socialization process from Processing (T1) to Pre-Crucible (T2).

Consistent with the values, identity, and organizational commitment literature, the researcher hypothesized that:

H.1. Results will indicate statistically significant gains in recruits' value orientations of Honor, Courage, Critical Thinking, and Marine Identity at the end of recruit training (at post (T3) exposure to The Crucible from Processing (T1)).

Alt.H.1. There will be no statistically significant difference in recruits' value orientations of Honor, Courage, Critical Thinking, and Marine Identity at post (T3) exposure to The Crucible from Processing (T1).

H.2. Results will indicate statistically significant changes in recruits' value orientations of Honor, Courage, Critical Thinking, and Marine Identity at post exposure (T3) to The Crucible from pre (T2) exposure as measured by survey items.

Alt.H.2. There will be no statistically significant difference in recruit's values orientations of Honor, Courage, Critical Thinking, and Marine Identity from post (T3) exposure to The Crucible from pre (T2) exposure as measured by survey items.

H.3. Results will indicate statistically significant gains in recruits' value orientations of Honor, Courage, Critical Thinking, and Marine Identity at pre (T2) exposure to The Crucible from Processing (T1) as measured by survey items.

Alt.H.3. There will be no statistically significant gains in recruits' value orientations of Honor, Courage, Critical Thinking, and Marine Identity at pre (T2) exposure to The Crucible from Processing (T1) as measured by survey items.

The preceding sections presented the constructs and identified the issues studied in this research. The literature on organizational socialization highlights the processes involved in recruit training. Previous research on military cadets provided a backdrop to research in a similar organizational context. The hypothesis of this study is that The Crucible provides recruits with the opportunity to both look back at recruit training in an effort to make sense of that experience and look forward to life as a Marine by building on that experience. In The Crucible, recruits are considered to disengage (separate) from the status of recruit and reemerge (incorporate) prepared to serve and act responsibly as Marines. The next chapter discusses the methods used to evaluate the effects of military socialization on the value orientations of Marine Corps recruits.

CHAPTER THREE

METHODOLOGY

Introduction

This chapter presents the research design to measure the effects of The Crucible culminating event of U. S. Marine Corps recruit (basic) training, “boot camp,” on the values orientation and identity of recruits as part of the broader organizational socialization process that occurs in boot camp. A symbolic interaction framework was used to guide the study of the effects of organizational socialization of The Crucible on recruits’ values and identity. Symbolic interaction (Blumer, 1969; Mead, 1934) is the process of verbal and social interaction through which meaning and identity arise. As discussed in Chapter Two, the symbolic interaction framework is beneficial to understanding the daily activities within Marine Corps boot camp; the interaction between drill instructors and recruits; the influence the group has over individual Marines.

As previously discussed in Chapter Two, Marine Corps recruit training and The Crucible socialization processes are intended to instill in recruits the Marine Corps’ values of Honor, Courage, and Critical Thinking. These values closely align with Peterson and Seligman’s (2004) conceptions of wisdom, valor, and citizenship as outlined in their work on *Character Strength and Virtues*. This study examines the extent to which the boot camp socialization process influences the values and identity as a Marine as inculcated through the boot camp experience and enhanced by The Crucible. Within this context the study relies heavily on the foundational work of Seligman (2002) and Peterson and Seligman (2004).

Research Design

This study used both a quantitative and, to a lesser degree, a qualitative component. A quantitative questionnaire was used to gather data at three points in time during the recruit training process on a broad range of variables which included respondents' perceptions, values, and demographic data for statistical analysis. Baseline observations were obtained on Processing Day One (T1) at the beginning of the recruits' training which occurs once they have been administratively "processed" after their arrival at Parris Island. Ten weeks later, the same procedure was used for the administration of the second questionnaire prior to The Crucible event, on Training Day 60 (TD-60) (T2). In addition, open-ended qualitative questions were included as part of the third administration of the questionnaire after the intervention of The Crucible event on Training Day 66 (TD 66) (T3), as a means of garnering descriptive data and for exploring the subjective meanings of respondents' experiences. In this way, the qualitative data were collected simultaneously with the quantitative data at the end of recruit training.



Figure 5. Questionnaire Administration Time.

The questionnaire constructed for this study was intended to measure recruits' values reflecting traditional Marine Corps values of Honor, Courage, Critical Thinking, and Identity as a Marine. The final survey instrument for this study included 47 indicators (10 items for each of the 3 values of interest, 9 items for identity, and 8 items for organization commitment) that offer a 5-point Likert-style set of response categories for measuring respondents' self reported reflection of the values Honor, Courage, Critical

Thinking, and Identity as a Marine. The 47 items in the instrument were presented in random order in each of the three administrations of the questionnaire. The final instrument and administration protocol was approved by the Indiana University of Pennsylvania (IUP) Institutional Review Board (IRB) and the Department of the Navy (DON) IRB.

Study Population

This study involved a sample of 248 U. S. Marine Corps recruits. Specifically, Marine Corps recruits who arrived at the Marine Corps Recruit Depot (MCRD), Parris Island during the spring of 2011 were invited to participate in the study. The population of interest for this research was the 459 recruits who arrived at MCRD, Parris Island during one week in a period referred to by the Marine Corps as “FMAM” (February-March-April-May) 2011. The census of all incoming recruits during this week was a population of 459 recruits, 331 men and 128 women. Seventeen recruits (14 men and 3 women) did not complete the initial processing phase of recruit training and were not among the potential respondents who could participate in the study. Also, two men and four women were under the age of 18 and therefore ineligible to participate because they were not of age to give informed consent. Of the 436 eligible recruits (315 men, 121 women) who began the training process, 71 (61 men and 10 women) declined to participate at Time 1 (T1). Therefore, 365 recruits, 254 of the 315 men (80.65% response rate) and 111 of the 121 women (91.7% response rate) completed the T1 questionnaire for an overall T1 response rate of 83.7%. Over the course of the 12 weeks of recruit training, training attrition caused 17 men and 24 women to be removed from the sample after completing the T1 questionnaire. Self-selection to not participate found the sample

size decrease by 29 men and 6 women who completed the T1 questionnaire only. Thus, there were 324 eligible recruits who completed basic training. A total of 248 recruits participated in all three data collection points: (76.5%) matched sets of scores comprising 184 of 298 men (61.7%) and 64 of 97 women (65.9%) of eligible recruits completing recruit training at MCRD, Parris Island during one week of FMAM 2011.

The sample used in this study was purposefully obtained and was intended to represent the general population of Marine Corps recruits that shipped to boot camp in FY 11. The sampling plan comprised the recruits arriving at boot camp during the week the researcher was permitted to administer the survey questionnaire by the research site. The non-representative sample arose due to the constraints of the research site and may be considered non-representative of U. S. Marine Corps recruits as it over represents women and non-whites, subgroups of the population. Variability within these two subgroups is reduced by having a larger number of observations for women and non-whites.

A number of sociodemographic questions were included in the T1 questionnaire. Recruits were asked to identify reference group affiliations such as gender, age, race, religious attendance, education, family who have joined the armed forces, when they enlisted in the Delayed Entry Program (DEP), and years participated in sports or extra-curricular activities. Each respondent's selection was recorded. Demographic information is depicted in Table 1.

Table 1

Demographic Characteristics of Study Sample

		N
Gender	Men	74.2% (184)
	Women	25.8% (64)
Age	18-28 (Range)	
	20.16 (Mean)	
	2.23 (Std Dev)	
Race/Ethnicity	White	66.1% (164)
	Non-White	33.9% (84)
Education	High-School or GED	54% (134)
	Some college or more	46% (114)
Family Member in Military	No	65.3% (162)
	Yes	34.7% (86)
Time in the Delayed Entry Program (DEP)	Less than 90 days	28.2% (70)
	More than 90 days	71.2% (176)
	Not identified	0.8% (2)
Religious Attendance	Never or Rarely	32.7% (81)
	Occasionally	23.8% (59)
	Regular (monthly or weekly)	43.5% (108)

Table 1 (continued)

Demographic Characteristics of Study Sample

		N
Years Participated in Sports	0 years	20.6% (51)
	1 year	4.8% (12)
	2 years	13.7% (34)
	3 years	8.9% (22)
	4 years	16.5% (41)
	5 or more years	35.5% (88)
Years Participated in Extracurricular Activity	0 years	48.8% (121)
	1 year	6.5% (16)
	2 years	8.5% (21)
	3 years	5.6% (14)
	4 years	11.7% (29)
	5 or more years	19.0% (47)

The gender of those sampled was 25.8% women and 74.2% men. This ratio is unlike the U. S. Marine Corps ratio of 92.5% men and 7.5% women who entered recruit training during Fiscal Year 2011 (FY 11), October 2010 to September 2011, the FY that the sample shipped to boot camp. The average age of the sample was 20.16 years old, slightly older than the average age of 19.9 for recruits at boot camp during FY 11.

The majority, 66.1% of the recruits sampled identified themselves as white, is less than the 84.7% of Marine Corps recruits shipped to recruit training during FY 11. While 15.3% of Marine Corps recruits in FY 11 were nonwhite, nonwhite recruits in the sample accounted for 33.9%. African Americans accounted for 7.3% of the sample and 10.0% of all Marine Corps recruits in FY 11. Mexican, Mexican American, Puerto Rican, and Other Hispanic, Latino /a represented 15.2% of the sample, and more than one race represented 7.7%. Other minority racial groups accounted for 3.7% of the sample.

More than half of the recruits sampled, 54% were traditional high school graduates, graduated from a vocational/technical high school, held a certificate of attendance, or graduated from an alternative high school and nearly 4 of 10, 39.9% of the recruits attended some college, but did not graduate which is a greater percentage who attended college than the general population of recruits that shipped to recruit training in FY 11. Six percent of the sample had a two year Associates degree or a Bachelors degree. None of the recruits in this sample entered boot camp less than nine months after their high school graduation.

Nearly two-thirds of the sample, 65.3% of the sample did not have a family member (father, mother, brother, sister) who is serving or has served in the military, while 34.7% has a family member who has served or is serving in the military.

In this sample, recruits who spent less than 90 days in the Delayed Entry Program (DEP) prior to shipping to recruit training accounted for 28.2% of the sample. The majority of recruits, 71% had more than three months in the DEP while 0.8% did not identify what year they enlisted. Marine Corps recruits who shipped to recruit training in

FY 11 averaged 195 days in the Delayed Entry Program (DEP) prior to shipping to recruit training.

Regular attendance at religious services (monthly or weekly) was reported by 43.5% of the sample with occasional attendance reported by 23.8%. Slightly less than one-third of the sample, 32.7% reported never or rarely attending church.

Approximately one recruit of five, 20.6% of the sample, did not participate in a sport in school, while 4.8% participated one year. Sports participation for two years was reported by 13.7%, for three years by 8.9%, for four years by 16.5%, and 35.5% participated five years or more.

Nearly half of the sample, 48.8%, did not participate in an extracurricular activity in school. Nearly one in five of the sample, 19% participated five years or more in an extracurricular activity, while 11.7% participated four years, 5.6% participated three years, 8.5% participated two years, and 6.5% participated one year in an extracurricular activity in school.

Development of Values Indices Measuring the Dependent Variables

Dependent Variables

Scales for assessing values were adapted based on a review of Seligman's (2002) work on values and Peterson and Seligman's (2004) *Values in Action Inventory of Strengths* (VIA-IS). Organizational commitment items were adapted from Allen and Meyer's (1990) instrument and occupational identity items were adapted from the Occupational Performance History Inventory-II (Kielhofner, Mallinson, Crawford, Nowak, Rigby, Henry, & Walens, 1998). All adaptations are based on the original items, a review of other literature in the scholarship on values, identity, organizations, and

military studies, as well as extensive discussions with military professionals, in addition to the researcher's own 28 years of experience in the U. S. Marine Corps and in-depth understanding of recruit training and the recruit experience. Appendix A provides the original items and their sources side-by-side with the adapted items used in this study.

My first objective in analyzing the recruit data was to identify items to be included in final measures of Honor, Courage, Critical Thinking, and Marine Identity. In keeping with the technique described by Field (2009), I conducted an exploratory factor analysis to identify clusters of variables and reduce the 47 survey questionnaire items into factors reflecting dimensions of the dependent variables. Cronbach's coefficient alpha was calculated to measure internal consistency. Field (2009) explains:

factor analysis is often used in the social sciences to measure latent variables and to reduce a large set of data to a smaller subset of measurement variables. The existence of clusters of large correlation coefficients between subsets of variables suggest that those variables could be measuring aspects of the same underlying dimension...by reducing this data set from a group of interrelated variables to a smaller set of factors. Factor analysis achieves parsimony by explaining the maximum amount of common variance in a correlation matrix using the smallest number of explanatory constructs. Factors are statistical entities and can be described in terms of variables measured and the relative importance of them for that factor. Variables that make up a factor can be plotted according to the extent to which they relate to a given factor. (p. 628-635)

Analysis of the data obtained at the beginning of the study (T1) revealed that items generally loaded on the factor representing the construct they were intending to measure. Two levels of refinement of the scale were utilized to establish to validity of the measure. An initial factor analysis was run to obtain eigenvalues for each component of the data.

Four components had eigenvalues over one. Given the sample size ($n = 248$) and Kaiser's criterion on four components, all four components were retained in the final analysis. As reported in Table 2, an exploratory factor analyses and reliability analyses were used to examine whether the four factors measure distinct constructs in a reliable and valid way. The results of the factor analysis retained items that met the criterion of loading initial eigenvalues greater than one. To establish validity the pattern of loadings on the T1 sample were examined to look for items with consistently high loadings of above 0.5.

Table 2

Summary of Exploratory Factor Analysis and Reliability Estimates (N = 248)

Factor	Number of Items	Cronbach's Alpha	Mean	Std Dev	Range
Honor	9	.715	10.57	4.02	-18 to +18
Courage	6	.619	6.34	3.49	-12 to +12
Critical Thinking	4	.665	1.31	2.96	-8 to +8
Identity	9	.839	12.45	5.06	-18 to +18

Honor

Honor, according to the Marine Corps (FMFM 1, 1989; FMFM 1-0, 1995; MCRP 6-11, 1998) is a desired attribute of Marines and considered by many as the bedrock of Marine character and the unifying value for members of the Marine Corps because it represents a Marine's ability to live up to all the Corps' values. For the purposes of this study, Honor was measured using nine items adapted from the VIA-IS sub-scale intended to measure wisdom, integrity, valor, citizenship, and fairness (Seligman, 2002; Peterson & Seligman, 2004), which was comprised of 30 items. The final Honor Index (Table 3) is comprised from the questionnaire items honor 2, 6, and 10; courage items 2 and 10; and commitment items 3, 6, 7, and 10. It has a Cronbach's alpha of .72 which reflects respectable reliability (Devillis, 1991).

Table 3

Honor Index

Item Description	Original Questionnaire Item
If a problem arises during a game or activity with friends; I am good at figuring out why it happened	Honor 2
It bothers me if my friends steal (Reverse coded)	Honor 6
It's okay if my friends cheat (Reverse coded)	Honor 10
Even if I might get teased for it, I do what I think is right	Courage 2
My friends believe that I make smart choices about what I say or do	Courage 10

Table 3 (continued)

Honor Index

Item Description	Original Questionnaire Item
I have a responsibility to improve the world in which I live	Commitment 3
I support my teammates or fellow group members	Commitment 6
It is important to me personally that I help others who are in a difficult situation	Commitment 7
I am an extremely loyal person	Commitment 10

For purposes of this study Honor is defined as the ability to know right from wrong, the forbearance and self-discipline to do right, to live a life with integrity, responsibility, honesty and the ability to choose the proper means of attaining it.

Courage

In this study, Courage was measured using 10 items adapted from the VIA-IS sub-scale intended to measure valor, persistence, and integrity (Seligman, 2002; Peterson & Seligman, 2004), which was comprised of 30 items. The Courage Index (Table 4) consists of six questions made up of courage subscale items 1, 4, 5, 6, 9, and honor item 5. It has a Cronbach's alpha of .62 which reflects a less desirable reliability according to Devillis (1991).

Table 4

Courage Index

Item Description	Original Questionnaire Item
I stick up for myself, even when I am afraid	Courage 1
I speak up in protest when I hear someone say mean things	Courage 4
I avoid activities that are physically dangerous (Reverse coded)	Courage 5
I hesitate to publicly express an unpopular opinion	Courage 6
I stand up for my beliefs	Courage 9
When the topic calls for it, I can be a highly rational thinker	Honor 5

For purposes of this study, Courage is defined as the mental and moral strength to do what is right in the face of fear, intimidation, or uncertainty. Courage requires consideration, judgment, and an assessment of risk to oneself before acting.

Critical Thinking

For the purposes of this study, Critical Thinking was conceptualized as reflecting open-mindedness and critical thinking (wisdom) on the VIA-IS (Peterson & Seligman, 2004) and was measured using four items adapted from the VIA-IS sub-scale intended to measure open-mindedness and critical thinking (wisdom) (Seligman, 2002), which was comprised of 20 items. The final Critical Thinking Index (Table 5) included four questions from the honor subscale items 4, 7, 8, and 9. It had a Cronbach's alpha of .67 which reflects minimally acceptable reliability according to Devillis (1991).

Table 5

Critical Thinking Index

Item Description	Original Questionnaire Item
I take into consideration evidence that goes against my beliefs	Honor 4
I believe that I should revise my beliefs in response to new evidence	Honor 7
I disregard evidence that conflicts with my beliefs (Reverse coded)	Honor 8
I believe that abandoning a previously held belief is a sign of strong character	Honor 9

For purposes of this study Critical Thinking is defined as the ability to openly reflect on information available, to manage contradiction and ambiguity, flexibly adjust assumptions, decisions, and behaviors to the demands of the particular contexts involved.

Marine Identity

For purposes of this study, Marine Identity was measured using six items adapted from Allen and Meyer's (1990) instrument and three items from the Occupational Performance History Inventory-II instrument of Kielhofner, Mallinson, Crawford, Nowak, Rigby, Henry, and Walens (1998). For this study, the Marine Identity Index (Table 6) consisted of identity subscale items 1, 2, 4, 6, 7, 8, 9, and organization commitment items 3, 7, and 8. It has a Cronbach's alpha of .839 and is considered very good reliability according to Devillis (1991).

Table 6

Marine Identity Index

Item Description	Original Questionnaire Item
I have personal goals for myself as a Marine	Identity 1
I expect to be successful as a Marine	Identity 2
As a Marine, I have special obligations and responsibilities	Identity 4
I am effective as a Marine	Identity 6
I trust myself as a Marine	Identity 7
I have the skills and abilities needed to be a Marine	Identity 8
I feel like “part of the family” of the Marine Corps	Organization Commitment 3
The Marine Corps has personal meaning for me	Organization Commitment 7
I feel a strong sense of belonging to the Marine Corps	Organization Commitment 8

Marine Identity is defined for this study as the manifestation of congruency between the individual Marine and the organizational value system of the Marine Corps. The social bonding together of the individual and the organization, loyalty, and teamwork representing a feeling of identification with a sense of obligation to a common good that includes the self, but that stretches beyond one’s own self-interest.

Independent Variables

The independent variable is U. S. Marine Corps boot camp and The Crucible. Dimensions of recruit training are too numerous to study independently. The totality of

the Marine Corps boot camp experience prior to The Crucible and The Crucible are the conditions to which the recruit is exposed. The survey administration points in the study permit the parceling out of the influence of The Crucible as a standalone experience on recruits' values and identity. Appendices C and D depict the training schedule for the resocialization process of recruit training and The Crucible. The Marine Corps has emphasized and placed particular attention to the independent variable of The Crucible exercise as a culminating event in boot camp specifically designed to provide more time and opportunity for drill instructors to reinforce the Marine Corps values of honor, courage, and commitment in recruits.

Recruit Characteristics

Recruits were asked basic demographic characteristics such as gender, age, race, education, as well as background information such as whether they had family members who have joined the armed forces, when they enlisted in the Delayed Entry Program (DEP), their frequency of religious service attendance, and the extent of their participation in sports and extra-curricular activities.

Gender was measured by asking respondents “What is your gender?” and offered two response categories, “man” (coded 0) and “woman” (coded 1). Men ($n = 184$) comprised 72.4% of the sample and women ($n = 64$) comprised 25.8% of the sample.

Age was measured with a single item, “What is your age in years?” The mean age in the sample was 20.16 ($s.d. = 2.125$).

Race/ethnicity was recoded to “white” (coded 0) or “non-white” (coded 1) due to small samples sizes of individual non-white categories. The sample was made of up 66.1% whites ($n = 164$) and 33.9% non-whites ($n = 84$).

Religious attendance was coded as “never attend” (coded 0) reflecting the responses of 32.7% of recruits (n = 81), “attend occasionally or several times a year” (coded 1) reflecting responses of 23.8% of recruits (n = 59), and “attend regularly-weekly or monthly” (coded 2) reflecting the responses of 43.5% of recruits (n = 108).

Education was coded as “high school diploma or GED” (coded 0), the highest level attained by 54.0% of recruits (n = 134) or “some college or more” (coded 1), the level of education attained by 46.0% of recruits (n = 114).

Family members in the military was coded as “no immediate family member ever served in the armed forces” (coded 0), which described 65.3% (n = 162) recruits, or “yes” (coded 1) which described 34.7% of recruits (n = 86).

Time in the Delayed Entry Program (DEP) prior to shipping to boot camp was coded as “three months or less” (coded 0), the case for 28.2% (n = 70) recruits or “more than three months in the DEP” (coded 1), the case for 71% (n = 176) recruits.

Previous participation in sports or other extra-curricular group activities was coded zero (0) if a respondent indicated they had not participated in either a sport or an extracurricular activity in school, coded one (1) if a respondent indicated they had participated in either a sport or an extracurricular activity in school for one year, coded two (2) for two years participation, coded three (3) for three years participation, coded four (4) for four years participation, coded five (5) for five or more years participation in sports or extra-curricular activities.

The qualitative research component consisted of three open-ended questions. These qualitative questions allowed for study of some questions in greater depth and can be more appropriate for the questions related to changes in values orientation. The use of open-

ended questions to collect data is a common method used in qualitative research. Patton (2002) writes that qualitative research draws on a method that respects the humanity of the participants in the study (Patton, 2002). The qualitative research used in this study builds on the foundation established by the quantitative research and provides a richer understanding of the role of The Crucible in recruit training. As Mertens (1998) states, “by using an inductive approach, the researcher can attempt to make sense of a situation without imposing preexisting expectations . . . [allowing] the categories of analysis to emerge from the data as the study progresses” (p. 160). Mertens suggests that one reason for selecting a qualitative approach is the nature of the research questions. Given the nature of the research questions in this study, the use of both qualitative and quantitative methods provided the opportunity for greater detail for some of the questions, while simultaneously gathering data related to a broader range of variables. The qualitative research questions were:

1. What did The Crucible experience mean to you?
2. How did The Crucible experience impact your commitment to being a Marine and upholding Marine Corps values?
3. How did The Crucible experience reinforce what you had already learned during Basic Training?

Some phenomena, such as Honor, Courage, Critical Thinking, and Marine Identity are difficult to measure quantitatively and therefore, qualitative results helped augment the quantitative results. The qualitative data allow for a measurement from a different perspective.

Procedures

Informed Consent

Because recruits are expected to comply with requests of authorities and would be vulnerable to coercion to secure their participation in the study, the voluntary nature of their participation in the study was explained and the data was collected in such a way that the recruits felt that they really had a choice as to whether to participate in the study, prior to providing their informed consent. The same procedure was used for the administration of the questionnaire (see Appendix C) on three different occasions.

All three administrations of the questionnaire (see Appendix C) were administered as follows: Drill Instructors (DIs) brought recruits to a classroom. The DIs then left the room. The researcher read verbatim a statement explaining the purpose of the research and the voluntary nature of the study. The researcher then distributed the paper packet that included a written Statement of Informed Consent as a cover sheet. Both the verbal statement and the written Informed Consent form advised the subjects that if they choose not to participate in the study, they could submit a blank questionnaire. The recruits kept a copy of the Informed Consent Form. To ensure that non-participants did not stand-out from participants, the packet that all subjects received containing the questionnaire also included a page with a word search puzzle. In the Informed Consent Form, subjects were advised that if they choose not to participate, they could submit a blank questionnaire and use the word search puzzle page for entertainment while they waited for the conclusion of the activity. All subjects were advised to review their Marine Corps training handbook when they had completed the “packet” while waiting for the

conclusion of the activity. All “packets” were collected together: as the recruits exited the classroom, they placed the questionnaires and word search puzzles in a box near the door.

The survey data were collected anonymously. Recruits’ laundry numbers were used to match the participants’ responses from each of the three administrations of the questionnaire, but the researcher had no key to link the laundry numbers to individual recruit’s names. The completed surveys were kept in a locked, secure location that was accessible only to the researcher. The Indiana University of Pennsylvania (IUP) Institutional Review Board (IRB) and the Department of the Navy (DON) IRB approved this research and I followed the protocol required for the protection of human subjects.

Data Collection

Data were collected using survey questionnaires (Appendix B, Figure 5). Baseline observations were obtained on Processing Day One (T1) at the beginning of the recruits’ training that occurs once they have been administratively “processed” after their arrival at Parris Island. Ten weeks later, the same procedure was used for the administration of the second questionnaire (see Figure 5 and Appendix C) prior to The Crucible event, on Training Day 60 (TD-60) (T2), and for the administration of the third questionnaire, after the intervention of The Crucible event, on Training Day 66 (TD-66) (T3).

Baseline observations of recruits’ values and identity as Marines, along with sociodemographic and background data were obtained on Processing Day One (T1). Processing is a four day period of time beginning with the recruits’ arrival at MCRD, Parris Island consisting principally of administrative tasks that must be accomplished before the recruits are ready to begin training. It consists of the recruits’ arrival on Parris Island, Welcome Aboard speech, initial haircut, clothing and gear issue, medical and

dental screening, a moral screening that comprises a urinalysis test for drug use and a review of any police or criminal involvement, and completing the Initial Strength Test to ensure the recruits are mentally, morally, and physically qualified to begin recruit training. The Processing period ends when the recruits are introduced to their drill instructors.

Following Processing is one or two days of Forming. Generally about 200 recruits a day can be “processed,” but the training infrastructure can support up to 600 recruits per day. It may take up to three days for a training company of up to 600 recruits to “Form” into a training company of multiple platoons after four days of administrative Processing. When all the training platoons have completed their processing and they are formed into their training company, the official recruit training schedule begins with Training Day One (TD-1) (see Appendix C and Appendix D for a detailed description of the training schedule). Thus, baseline measures of key study variables were administered prior to the beginning of training.

The measurements of values were repeated three days prior to The Crucible (on Training Day 60 of recruit training) (T2) and again two days after The Crucible event, on Training Day 66 (TD-66) (T3). The Crucible is a specifically designed portion of Marine Corps recruit training, standardized, formalized in writing, and monitored (see Appendices D and E for a detailed description and background of The Crucible).

Analysis

Quantitative Analyses

The framework for this study could be considered similar to Raudenbush and Bryk’s (2002) studies of student achievement wherein they looked at changes in student performance taking into account the influence of the “nested” classroom, school, and

district environments that groups of students share that have unique characteristics such as particular teachers, principals, and school boards, respectively. This study investigates change in value orientations of recruits (rather than achievement of students) and seeks to examine relationships or correlations between combinations of recruit characteristics (gender, age, race, education, family members, religious attendance, sports or extracurricular participation, time in the DEP) nested within training platoons with their own characteristics, such as particular drill instructors and the gender composition (all men or all women) of the platoon (rather than student data nested within classrooms, schools, and school districts). In the context of this study, it is difficult to separate the effects of individual drill instructors or a team of drill instructors from the effects of the individual recruit characteristics. For example, recruit data is referred to as being “nested” in that recruits are assigned to recruit training platoons, the platoons are part of a recruit training company, and the company is part of a recruit training battalion of men or a recruit training battalion of women. To some extent recruits’ experiences of basic training will vary due to these nested effects and therefore they are important to take into consideration in examining changes in recruits’ values and identity as Marines during the training process.

Raudenbush and Bryk’s (2002) studies of student achievement suggests that in this study it would be important to determine not only variations in how recruits’ values change over time (from T1 to T2 , T2 to T3, and T1 to T3), but also how much of this variation is due to differences in individual recruit characteristics (gender, age, race, education, family members, religious attendance, sports or extracurricular participation, time in the DEP) and how much is due to differences from platoon to platoon. Similarly,

if we consider that recruit data is nested in a hierarchical structure, then it makes sense to use a multilevel analysis in order to account for the influence of variables at different levels of this hierarchy. As Raudenbush and Bryk point out in regard to educational research, simply aggregating or disaggregating the student data does not provide satisfactory insight into the effect of variables at every level. Given the hierarchical nested nature of the data in this study, it is appropriate to use Hierarchical Linear Modeling (HLM) to examine the relationships among variables.

HLM will account for individual recruit characteristic (gender, age, race, education, family members, religious attendance, sports or extracurricular participation, time in the DEP), group characteristics (platoon), and the changes in values and Marine identity during recruit training. Raudenbush and Bryk (2002) explain:

With hierarchical linear models, each of the levels in this structure is formally represented by its own submodel. These submodels determine relationships among variables within selected levels, and how variables at one level influence relations occurring at another. (p. 7)

Specifically, in this study, a Multilevel Mixed-Effects Linear Regression Model was used to examine the data. This analytic procedure has the ability to model data with parameters that vary at more than one level, so it is particularly appropriate for research designs like this one where the data for participants is nested, or organized at more than one level (Raudenbush & Bryk, 2002). These nested data were examined both as multiple-point repeated observations and as data nested within organizational units such as platoons. With hierarchical linear models, each of these demographic levels is represented by its own submodel. These submodels express relationships among

variables within a given level, and specify how variables at one level influence relations occurring at another level. These models afford an integrated approach for studying the predictors of change and improve the estimation of effects within the regression model. Such demographic variables were helpful in identifying group differences that were not originally hypothesized as part of this study. Observed differences between men and women recruits were found and controlled for through hierarchical modeling. For this study, the minimum threshold for findings to be considered significant is a p value < 0.05 .

An exploratory factor analysis was conducted on the 47 items that served as indicators of the dependent variables to explore the dimensions present in the data. Field (2009) explains:

factor analysis is often used in the social sciences to measure latent variables and to reduce a large set of data to a smaller subset of measurement variables. The existence of clusters of large correlation coefficients between subsets of variables suggests that those variables could be measuring aspects of the same underlying dimension. By reducing this data set from a group of interrelated variables to a smaller set of factors, factor analysis explains the maximum amount of common variance in a correlation matrix using the smallest number of explanatory constructs. Factors are statistical entities and can be described in terms of variables measured and the relative importance of them for that factor. Variables that make up a factor can be plotted according to the extent to which they relate to a given factor. (p..628-635)

The exploratory factor analysis technique was used to identify clusters of factors among related variables and was used to reduce the 47 items to a more manageable set of four indices measuring the dependent variables (Honor, Courage, Critical Thinking, and Marine Identity), while retaining as much of the original information as possible (Field, p. 628).

Qualitative Analysis

This study also involved a qualitative component which consisted of three open ended questions presented at the end of the third questionnaire. Patton (2002) suggests that there is a very practical side to qualitative methods that simply involves asking open-ended questions of people in order to improve knowledge in the area of study and qualitative methods facilitate an in-depth and detailed study of the issues. Given that the Corps' core values are personal and permit reflection, open-ended questions at the end of the third quantitative questionnaire proved valuable in gaining a greater understanding of Honor, Courage, Critical Thinking, and Marine Identity as experienced by the respondents. Qualitative research allowed for study of some questions related to change in values orientation in greater depth. As Mertens (1998) states, "by using an inductive approach, the researcher can attempt to make sense of a situation without imposing preexisting expectations . . . [allowing] the categories of analysis to emerge from the data as the study progresses" (p. 160).

The qualitative research used in this study builds on the foundation established by the quantitative research and provides a richer understanding of the values Honor, Courage, Critical Thinking, and Marine Identity. Some phenomena, such as Honor and Courage are difficult to measure quantitatively and therefore qualitative results helped

augment quantitative results. A copy of the survey questionnaire can be found in Appendix B.

After an initial review of the qualitative responses, a coding system was developed to organize the patterns and themes that emerged from the responses. Mertens (1998) relates that coding serves to break the data into categories that facilitate comparison. Codes and patterns emerged based on the responses provided by the participants.

Summary

The purpose of this study was to measure the effects of The Crucible, considered by the Marine Corps as the culminating event in boot camp, on the values orientation and identity of recruits as part of the broader organizational socialization process that occurs in boot camp. This chapter presented the methodology for this research. The research used both a qualitative and quantitative component. The research design produced cross-sectional time series data where there are many more subjects than occasions (i.e., many more clusters as each recruit identifies a cluster of responses). The quantitative data were analyzed using statistical analysis software and a Multilevel Mixed-Effects Linear Regression Model, which had the ability to model data with parameters that vary at more than one level. This model is particularly appropriate for research designs where the data for participants is organized at more than one level, nested data. Descriptive statistics were calculated, factor analysis examined underlying dimensions, and Cronbach's alpha measured internal consistency. The qualitative data were reviewed using an inductive approach and open coding to "make sense of a situation without imposing preexisting expectations and [allow] the categories of analysis to emerge from the data" (Mertens, p.

160). The use of the methodology outlined in this chapter produced a study with strong empirical results based on accepted standards for social science research. These details are discussed in Chapter Four, Results.

CHAPTER FOUR

RESULTS

This chapter reports the results of analyses of data gathered using the methods described in the previous chapter. I first present descriptive statistics of the sample. Next, I present a detailed quantitative analysis testing the hypotheses. Finally, I present an analysis of the qualitative data collected with the three open-ended questions included in the Time 3 survey questionnaire.

The purpose of the analyses reported in this chapter is to determine whether to accept or reject the hypotheses presented in Chapter Two. Data analyses and results are presented in order to answer the stated research questions. I will discuss the findings of the study, including their implications, in Chapter Five.

Broadly, the Marine Corps expects that completion of recruit training and The Crucible to improve (a) value orientations of recruits (Kindsvatter, 2003; Krulak, 1984; Ricks, 1997), and (b) identity as a Marine, as reflected by aspects of commitment to the organization (Wyatt & Gal, 1990) and identity with the organization (Franke, 1997). I hypothesized that changes in the values orientations of recruits as a result of the recruit training socialization process from Processing Day One (T1) to Post-Crucible (T3) would be measurable (i.e., significant). The principle focus of and hypothesis of this study is that there also would be measurable changes in the values orientations of recruits from Pre-Crucible (T2) to Post-Crucible (T3). The third hypothesis of this study is that gains in the values orientations of recruits as a result of the recruit training socialization process from Processing Day One (T1) to Pre-Crucible (T2) will be measurable (i.e., significant). Similarly, I expected the same outcomes in regard to the effect of the training

socialization process on recruits' identities as Marines from T1 to T2, T2 to T3, and T1 to T3 will be measurable (i.e., significant). For this study, the minimum threshold for findings to be considered significant is a p value < 0.05 .

As described in Chapter Three, this study has both a qualitative and quantitative component. The quantitative portion of the study centered on the self-reported measures for exploring the values orientation of U. S. Marine Corps recruits. Scales for assessing values were adapted based on a review of Seligman's (2002) work on values and Peterson and Seligman's (2004) *Values in Action Inventory of Strengths* (VIA-IS). Marine Identity items were adapted from Allen and Meyer's (1990) instrument, and occupational identity items are adapted from the Occupational Performance History Inventory-II (Keilhofner, Mallinson, Crawford, Nowak, Rigby, Henry, & Walens, 1998). All adaptations are based on the original items, a review of other literature in the scholarship on values, identity, organizations, and military studies, extensive discussions with military professionals, in addition to the researcher's own 28 years of experience in the U. S. Marine Corps, understanding of recruit training, and the recruit experience.

In addition to basic demographic information, the survey questionnaire used in this study included self-report measures of values orientation, as well as Marine identity completed by a large sample of Marine Corps recruits over three intervals (T1, T2, and T3) of their recruit training (see Figure 5). Data were collected using survey items that were adapted from existing scales and constructed specifically for the purpose of this study. Baseline observations (T1) were obtained on Processing Day One at the beginning of the recruits' training that occurs once they have been administratively "processed" after their arrival at Parris Island. The same procedure was used for the administration of

the second questionnaire (See Appendix C) prior to The Crucible event, on Training Day 60 (TD-60) (T2), and for the administration of the third questionnaire (see Appendix C), after the intervention of The Crucible event, on Training Day 66 (TD-66) (T3).

As discussed in Chapter Three, the research design used in this study produces cross-sectional time series data where there are many more subjects than occasions (i.e., many more clusters as each recruit identifies a cluster of responses). To address the research questions, hierarchical linear modeling (HLM) was used to test hypotheses because, according to Rabe-Hesketh and Skrondal, (2012) the approach allows examination of the data as both multiple point repeated observations and also as data nested within organizational units such as platoons. With hierarchical linear modeling each of these demographic levels was represented by its own sub-model. These sub-models express relationships among variables within a given level, and specify how variables at one level influence relations occurring at another level (Rabe-Hesketh & Skrondal). Specifically, I used a Multilevel Mixed-Effects Linear Regression Model, which has the ability to model data with a random intercept, to look at deviations from an overall pooled mean. This hierarchical linear model measures relationships in two or more clusters and in clusters of variable sizes (Rabe-Hesketh & Skrondal). In this study, each respondent (Marine recruit) represents a cluster of three data points.

Overview of Quantitative Analysis Approach

To test my hypotheses concerning change in Marine recruits' values and identity at three times periods during recruit (basic) training, including pre- and post-Crucible, I used a specific form of hierarchical linear modeling called *multilevel mixed-effects linear regression* (Rabe-Hesketh & Skrondal, 2012), controlling for sociodemographic

characteristics of the recruits as well as intra-platoon effects. The multilevel mixed-effects linear regression technique permits modeling data with a random component; in this case, a random intercept was introduced which allowed the starting point for each recruit to vary from one person to the next versus remaining “constant” at the group mean.

For each dependent variable a multilevel mixed-effects linear regression model was specified. Each model involved regressing a specified dependent variable on the primary independent variable, time, and additional covariates consisting of recruits’ age, being non-white, education, having family members in the military, time in the delayed entry program, frequency of attendance at religious services, years of participation in sports, years of participation in extracurricular activities, and assigned platoon. In specifying these models I checked for all possible interactions and retained only significant interactions to maintain parsimony.

The analysis using multilevel mixed-effects linear regression models followed five basic steps, which were repeated for each of the four dependent variables:

First, I ran a basic model, testing the null hypothesis that time and the other covariates were unrelated to the dependent variable. If the chi-square value was significant ($p > .05$) for the basic model, I rejected the null hypothesis and proceeded to the next step, critiquing the model.

Second, to critique the model I tested whether a fixed effects model was a better fit to the data than a model with a random intercept. That is, I tested a hypothesis that there is no random intercept in the model (Rabe-Hesketh & Skrondal, 2012). And, I conducted residual diagnostics, examining the distribution of the residuals for potential deviations from normality. Skewed residuals prohibit hypothesis testing unless

appropriate adjustments are made to the models. When the distribution of the residuals indicated a skew the estimated standard errors were adjusted by using the *Huber-White “sandwich estimator,”* a robust estimation of the variance that does not rely on the model being correctly specified (Rabe-Hesketh & Skrondal, 2012).

Third, I calculated *Rho* (ρ) and the *coefficient of determination* (R^2). *Rho*, the interclass correlation, represents the proportion of the variation in the dependent variable “that is not explained by the covariates [but] is due to unobserved time-invariant subject-specific characteristics” (Rabe-Hesketh & Skrondal, 2012, p. 250) and is calculated as $\rho = \frac{\hat{\psi}}{\hat{\psi} + \hat{\theta}}$. The coefficient of determination, or R^2 , indicates the proportion of the variation in the dependent variable that is accounted for by the covariates in the model (Rabe-Hesketh & Skrondal, p. 134-137) calculated as: $R^2 = \frac{\hat{\psi}_0 + \hat{\theta}_0 - (\hat{\psi}_1 + \hat{\theta}_1)}{\hat{\psi}_0 + \hat{\theta}_0}$. In these formulas, the values are derived as follows:

ψ_0 = the variance of the random intercept (level-2 error) for the null model

θ_0 = the variance of the residuals (level-1 error) for the null model

ψ_1 = the variance of the random intercept (level-2 error) for the full model

θ_1 = the variance of the residuals (level-1 error) for the full model

Fourth, I examined the main effects in the final models for each dependent variable. When the simple main effect was found significant, I investigated all possible comparisons for significance. For example, when controlling for recruits’ sociodemographic characteristics and platoon, I tested whether the joint effect associated with Time was significant. I then tested whether the various contrasts between the time periods were statistically significant in terms of variation in the dependent variable

between Time-1 (Processing or T1) and Time-2 (Pre-Crucible or T2), Time-2 and Time-3 (Pre-Crucible T2 to Post-Crucible or T3), and T1 and T3 (Processing T1 to Post-Crucible T3). I did this for each independent variable contained in the fixed portion of the model for each of the dependent variables.

According to Williams (2012), coefficients and means alone have “little intuitive or practical appeal” (p. 3), but computing predicted values, or *marginal effects*, for the “average person” in a given category provides for better understanding. Although there are several types of marginal effects and, accordingly, different computations for each, in this study I primarily used *average marginal effects (AME)*. However, at times I instituted the method of *marginal effects at representative values (MER)* by setting specific values for specified variables and thereby calculating effects that vary across different levels of the specified variables. When this method was employed I noted it in the interpretation of the output. Otherwise, all marginal effects followed the AME method. AME has become a more preferred approach among researchers versus using *marginal effects at the mean (MEM)* because AME relies on the actual observations associated with the covariates as measured on each case versus simply using group means for the covariates (Williams, 2012).

Fifth, I tested for interaction effects. I was requested by the research site to report any gender differences that I might find among recruits in their experiences of recruit training and The Crucible and, consequently, at the end of recruit training. Therefore, I treated interactions with gender as planned hypotheses. For these planned hypotheses I followed the practice specified by Fisher’s Least Significant Difference (LSD) test; if the simple/joint effect is significant then it is appropriate to explore all pairwise comparisons

for the specific differences between groups or categories (Milliken & Johnson, 2009). However, some interactions emerged that were not expected and, accordingly, I treated those as unplanned hypotheses and applied the more conservative Scheffé method which accounts for all possible comparisons without addressing the number of comparisons being made and therefore institutes more stringent confidence limits than other multiple comparison tests thereby hampering “unfettered data snooping” (Winer, Brown, & Michels, 1991, p. 191).

Finally, where useful, I ran models in which I aggregated the data into two different groups (i.e., men versus women) or into different levels (i.e., few versus many years of participation in sports) to highlight the marginal effects associated with significant interactions. These models produced the same significant differences as the ones involving the full range of categories within each variable, but aggregating the data made significant differences of interest more apparent for interpretation.

Results of Multilevel Mixed-Effects Linear Regression

Analyses of the Dependent Variables

HONOR: Multilevel Mixed-Effects Linear Regression Analyses

Basic model. Using a mixed-effects multilevel linear regression model, I regressed HONOR on time, the sociodemographic control variables, and platoon, as well as significant interaction terms discovered in preliminary exploration of the data. These interactions included platoon (as a proxy for gender since platoons are organized by gender) by time and religious service attendance by time. This model produced a chi-square value of 245.81 ($df = 44$, $p < .000$) supporting the rejection of the null hypothesis that no relationships existed. I then proceeded to critique the model.

Critique of the model. First, I tested the model with and without a random intercept to examine whether the model with the random intercept better fit the data. The likelihood ratio tests reflects that the model with the random intercept is significantly better than the model with a fixed intercept (chi-square = 147.51, $df = 1$, $p < .000$). Next, I explored the level-1 and level-2 residuals to check their distributions for normality. As show in Figures 6 and 7, the residual distributions show a slight negative skew for both the fixed (level 1) and random (level 2) components of the model. This indicates the presence of some negative outliers.

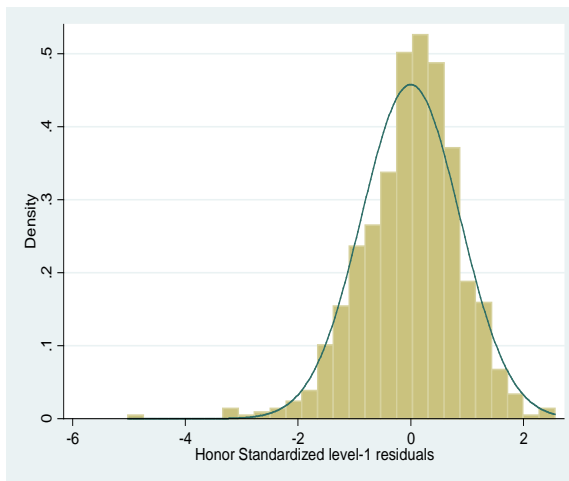


Figure 6. Distribution Level 1 (Fixed) Residuals for Honor.

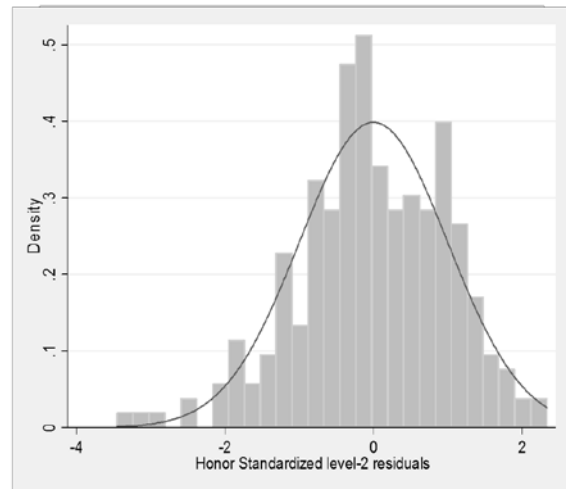


Figure 7. Distribution Level 2 (Random) Residuals for Honor.

To adjust for this I opted to use the “*sandwich estimator*” of the variance for better estimates of standard errors in light of the incorrectly specified model (Rabe-Hesketh & Skrondal, 2012). I further explored the level-1 residuals by looking at the random nature or pattern of standardized residuals for the fixed portion of the model relative to the predicted values of Honor. As evident in Figure 8, with the exception of one potential outlier, the random error largely clusters around the mean of the error (zero),

suggesting that there is no heteroskedasticity or unusual dispersion of error for which additional adjustments should be made before further analysis. Overall, Figure 8 suggests relatively normal level-1 errors.

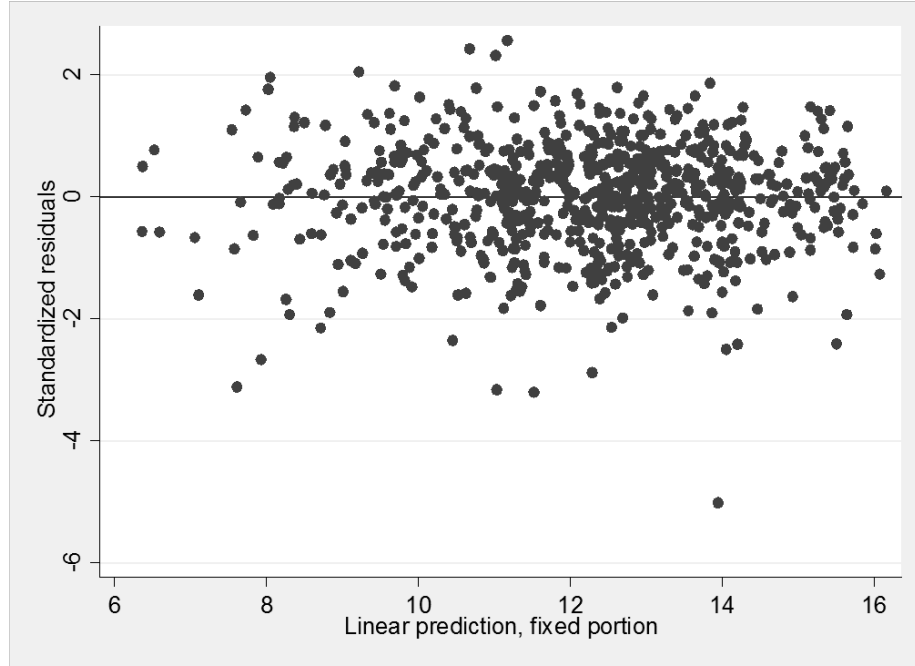


Figure 8. Scatterplot of Residuals for Fixed Portion of Honor Model.

Calculating Rho and the Coefficient of Determination (R^2)

Recalling the formula for Rho, $\rho = \frac{\hat{\psi}}{\hat{\psi} + \hat{\theta}}$, we can calculate

$2.408066^2 / (2.408066^2 + 2.571158^2) = .4672806$. Thus, the percent of variance in Honor in the model that is due to random subject-specific characteristics is 46.7%. To calculate the proportion of Honor that is explained by the specified model, R^2 I used the formula:

$$R^2 = \frac{\hat{\psi}_0 + \hat{\theta}_0 - (\hat{\psi}_1 + \hat{\theta}_1)}{\hat{\psi}_0 + \hat{\theta}_0}, \text{ described earlier. Here, the values are:}$$

$$\psi_0 = (2.61403)^2 = 6.8331528$$

$$\theta_0 = (3.0232077)^2 = 9.1397848$$

$$\psi_1 = (2.4080655)^2 = 5.7987795$$

$$\theta_1 = (2.571158)^2 = 6.6108535$$

$$\psi_0 + \theta_0 = 15.972938$$

$$\psi_1 + \theta_1 = 12.409633$$

$$R^2 = .22308388$$

Thus, 22.3% of the variation in Honor is accounted for by the variables in the model, which indicates “to what extent the responses can be predicted from the covariates” (Rabe-Hesketh & Skrondal, 2012, p. 137).

Final model. The final model takes into account the information gleaned from critiquing the basic model (discussed above) and incorporating significant interactions (only significant interactions were used in the final model to ensure parsimony). The only substantive difference between the final model and the basic model was the use of the sandwich estimator for standard errors (i.e., the vce robust option in Stata). The results are shown in Table 7. The model was significant with a chi-square value of 255.79 ($df = 44$) at $p < .000$.

Table 7

Multilevel Mixed-Effects Linear Regression of Honor

Honor	Coeff	SE	z	df	χ^2	$P > z $
Age	-0.0325	0.091	-0.36			0.719
Non-White	-0.432	0.394	-0.11			0.913
Education	-0.197	0.403	-0.49			0.625
Military Family Member	-0.343	0.399	-0.86			0.389
Delayed Entry Program	-0.048	0.422	-0.12			0.908

Table 7 (continued)

Multilevel Mixed-Effects Linear Regression of Honor

Honor	Coeff	SE	<i>z</i>	<i>df</i>	chi ²	<i>P</i> > <i>z</i>
Religious Attendance ¹						
(Joint Effect)				2	7.93	0.019
Occasionally vs Never				1	1.27	0.261
Regularly vs Never				1	7.81	0.005
Time ²						
(Joint Effect)				2	113.59	0.000
Pre-Crucible Time 2 vs Processing Time 1				1	76.99	0.000
Post-Crucible Time 3 vs Processing Time 1				1	110.95	0.000
Sports Participation ³						
(Joint Effect)				7	12.73	0.026
Platoon ^{4,5}						
(Joint Effect)				5	31.94	0.000
Religious Attend by Time						
(Joint Effect)				4	13.87	0.008
Platoon ^{4,5} by Time						
(Joint Effect)				16	150.26	0.000
Platoon by Time						
(Gender Effects)		0.383	4.85	2	9.17	0.010

Table 7 (continued)

Multilevel Mixed-Effects Linear Regression of Honor

Honor	Coeff	SE	<i>z</i>	<i>df</i>	chi ²	<i>P</i> > <i>z</i>
Model: <i>N</i> = 738; Number of Groups = 246 <i>R</i> ² = 22.31 <i>Level-1 Variance</i> = 2.408 ² <i>Level-2 Variance</i> = 2.571 ²						
				44	255.79	0.000

Note. ¹0 = never or seldom attends religious services is the omitted reference category; ²T1 = processing is the omitted reference category; ³0 = no years of participation is the omitted reference category; ⁴Platoons were randomly numbered to ensure anonymity of Drill Instructors; ⁵Platoon is a proxy for gender; platoons 2 and 7 are women's platoons.

I compared the means of Honor by time, controlling for the covariates, to test the research hypotheses that (H₁) Honor is higher after The Crucible (T3) compared with beginning of recruit training (Processing T1), that (H₂) that Honor is higher after The Crucible (T3) compared to before The Crucible (T2), and that (H₃) Honor is higher before The Crucible (T2) than at the beginning of recruit training (Processing T1). The null hypothesis (H₀) is that Honor does not vary at different times in the study. The chi-square value for the joint (simple) effect (113.6, *df* = 2) was significant at *p* < .000. Therefore, I rejected the null hypothesis and proceeded with pairwise comparisons, relying on Fisher's LSD to identify significant differences. Table 8 shows the results: Recruits are significantly (*p* < .000) higher, by 0.67 points, on the Honor Index after The Crucible than just before this culminating event, which supports H₁. The largest incremental change in Honor, though, comes between T1 (Processing) and T2 (Pre-

Crucible), when Honor increases, on average, by 2.10 points ($p < .000$), which supports H₂. This time period constitutes the majority of the recruit training experience.

Nonetheless, as recruits' level of Honor increases from T1 to T2, and then from T2 to T3, the net result is a significantly ($p < .000$) higher level of Honor (by 2.78 points, on average) at T3 (post-Crucible), the end of recruit training, than at the beginning of recruit training. This result supports H₃.

Table 8

Pairwise Comparison of Mean of Honor by Time

Honor	Mean	Contrast	SE	z	df	χ^2	$P > z $
Time ² (Joint Effect)					2	113.59	0.000
Processing Time 1	10.585		0.234	44.95			0.000
Pre- Crucible Time 2	12.686		0.219	57.79			0.000
Post- Crucible Time 3	13.362		0.219	60.80			0.000
Pre- Crucible Time 2 vs Processing Time 1		2.101	0.239	8.77	1	76.99	0.000
Post- Crucible Time 3 vs Processing Time 1		2.776	0.264	10.53	1	110.95	0.000

Table 8 (continued)

Pairwise Comparison of Mean of Honor by Time

Honor	Mean	Contrast	SE	z	df	χ^2	$P > z $
Post- Crucible Time 3 vs Pre- Crucible Processing Time 2		0.675	0.187	3.60			0.000

Note. ² T1 = processing is the omitted reference category.

The pairwise comparisons in Table 8 shows that, all things being equal, the mean of Honor is higher at each interval (T1 to T2, T2 to T3, and, of course, T1 to T3). This is to say that Honor, as measured, significantly increases at each of the two levels of “treatment” in this study and The Crucible plays a significant part in the increase of Honor among the recruits. This is reflected in Figure 9.

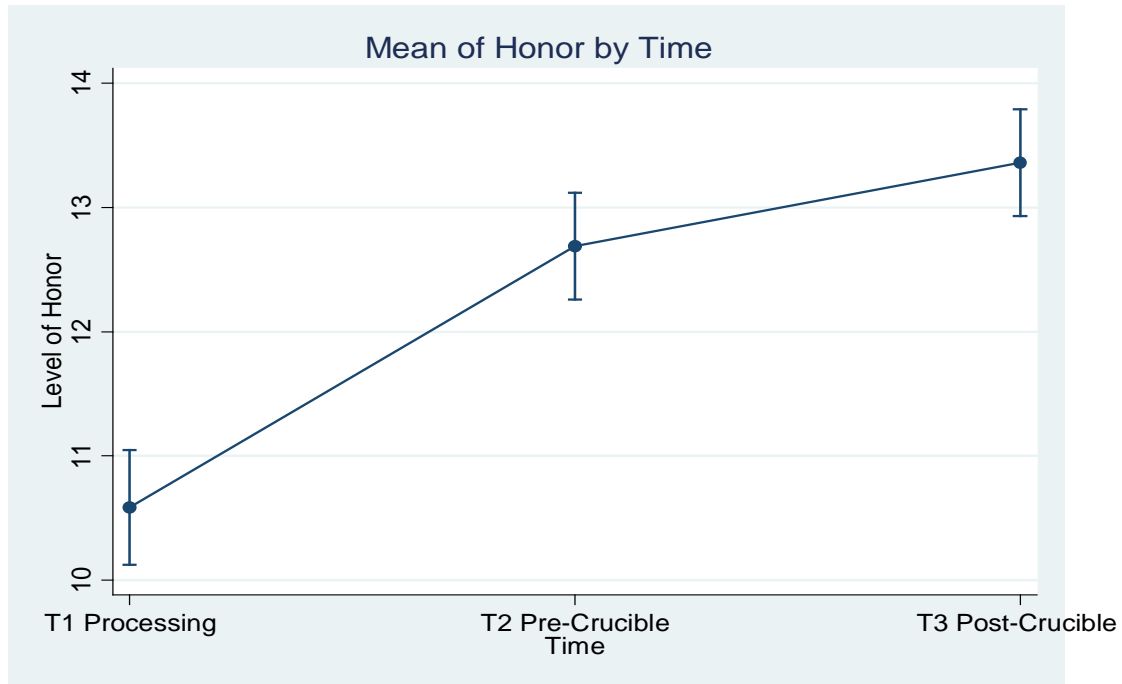


Figure 9. Mean of Honor by Time.

To test the hypothesis that Honor varies at different levels by gender, I compared variations by platoon, which served as a proxy for gender as women's platoons (randomly numbered 2 and 7) are separate from men's platoons (1, 3, 4, 5, 6, and 8). The chi-square value for the joint (simple) effect (31.9, $df = 7$) was significant at $p < .000$. Therefore, I rejected the null hypothesis and proceeded with pairwise comparisons, relying on Fisher's LSD test to identify significant differences between platoons. The results, shown in Table 9, indicate that, irrespective of the other covariates, women have higher Honor scores than men. Women's platoons (2 and 7) are not significantly different from each other on the measure of Honor and both are higher than all of the men's platoons, although the difference with platoon 6, which seems to stand out among the men, is not statistically different; platoon 6 is only significantly different from other men's platoons 1 and 4.

Table 9

Pairwise Comparisons of Means of Honor by Platoon

Honor	Mean	Contrast	SE	<i>z</i>	<i>df</i>	chi ²	<i>P</i> > <i>z</i>
Platoon ^{4,5} (Joint Effect)					7	31.94	0.000
1	11.167		0.532	20.99			0.000
2	13.677		0.404	33.84			0.000
3	11.384		0.648	17.58			0.000
4	11.364		0.518	21.95			0.000
5	11.990		0.475	25.24			0.000
6	12.977		0.628	20.66			0.000
7	13.537		0.409	33.11			0.000
8	11.646		0.562	20.72			0.000
Platoon 2 vs Platoon 1		2.509	0.688	3.65	1	13.30	0.000
Platoon 6 vs Platoon 1		1.809	0.829	2.18	1	4.77	0.029
Platoon 7 vs Platoon 1		2.369	0.667	3.55	1	12.63	0.000
Platoon 3 vs Platoon 2		-2.292	0.738	-3.10	1		0.002
Platoon 4 vs Platoon 2		-2.313	0.679	-3.41	1		0.001
Platoon 5 vs Platoon 2		-1.687	0.651	-2.59	1		0.010
Platoon 8 vs Platoon 2		-2.030	0.702	-2.89	1		0.004
Platoon 7 vs Platoon 3		2.152	0.752	2.86	1		0.004

Table 9 (continued)

Pairwise Comparisons of Means of Honor by Platoon

Honor	Mean	Contrast	SE	<i>z</i>	<i>df</i>	chi ²	<i>P</i> > <i>z</i>
Platoon 6 vs Platoon 4 Platoon 7		1.612	0.808	2.00	1		0.046
vs Platoon 4 Platoon 7		2.173	0.669	3.25	1		0.001
vs Platoon 5 Platoon 8		1.547	0.609	2.54	1		0.011
vs Platoon 7		-1.891	0.715	-2.64	1		0.008

Note. ⁴Platoons were randomly numbered to ensure anonymity of Drill Instructors;

⁵Platoon is a proxy for gender; platoons 2 and 7 are women's platoons.

The results, shown in Figure 10, indicate that, irrespective of the other covariates, women have higher Honor scores than men.

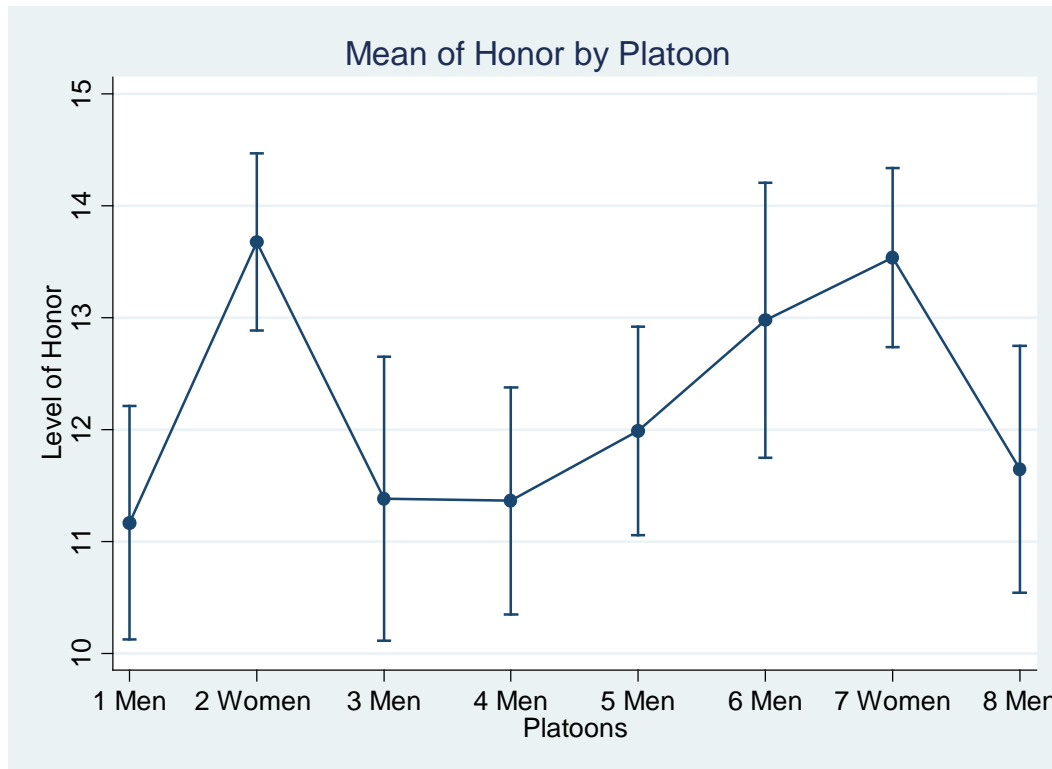


Figure 10. Mean of Honor by Platoon.

Differences in Honor also emerged by different levels of recruits' attendance at religious services and years of participation in sports. In testing the joint (simple) effects for attendance at religious services, the chi-square value of 7.93 ($df = 2$) was significant ($p < .05$), so I proceeded to examine pairwise comparisons. As evident in Table 10, the only significant difference in Honor, as measured in this study, by religious service attendance is between recruits who never or seldom attend and those who regularly attend religious services.

Table 10

Pairwise Comparisons of Mean of Honor by Attendance at Religious Services

Attendance at Religious Services	Mean	Contrast	SE	z	$P > z $
Never	11.537		0.328	35.13	0.000
Occasionally	12.139		0.411	29.54	0.000
Regularly	12.766		0.260	47.29	0.000
Occasionally vs Never		0.601	0.534	1.12	0.261
Regularly vs Never		1.229	0.439	2.79	0.005
Regularly vs Occasionally		0.627	0.489	1.28	0.200

As evident in Figure 11, the mean of Honor, as measured in this study, by religious service attendance increases from recruits who never or seldom attend and those who occasionally or those who regularly attend religious services weekly or monthly.

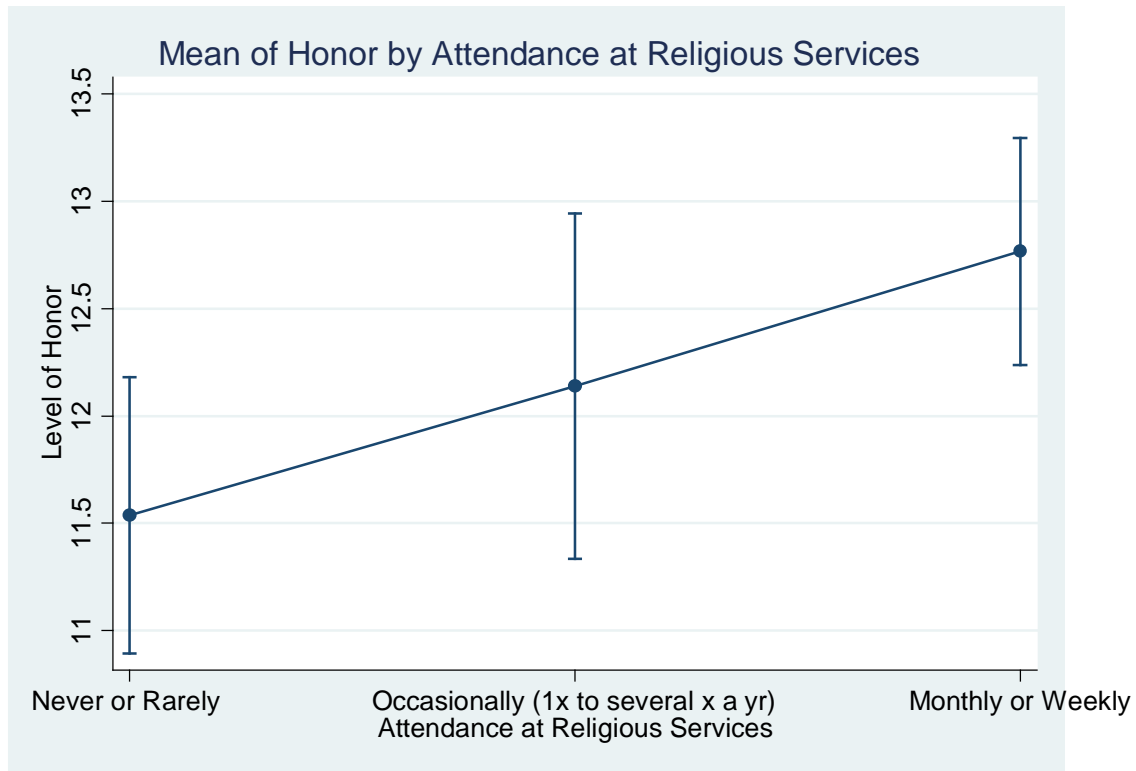


Figure 11. Mean of Honor by Attendance at Religious Services.

In testing the joint (simple) effects on Honor by years of participation in sports, the chi-square value of 12.73 ($df = 5$) was significant ($p < .05$), so I proceeded to examine pairwise comparisons. As evident in Table 11, the differences in Honor exist between those recruits with no experience participating in organized sports and those with 2, 4, or 5 years.

Table 11

Pairwise Comparison of Mean of Honor by Years Participation in Sports

Years Participation in Sports	Mean	Contrast	SE	z	df	chi ²	$P > z $
0 years	10.969		0.403	27.19			0.000
1 year	12.387		1.144	10.92			0.000
2 years	12.778		0.461	27.72			0.000
3 years	12.224		0.564	21.68			0.000
4 years	12.458		0.438	28.45			0.000
5 or more years	12.563		0.328	38.22			0.000
1 year vs 0 years		1.519	1.218	1.25	1	1.56	0.212
2 years vs 0 years		1.810	0.605	2.99	1	8.95	0.003
3 years vs 0 years		1.255	0.711	1.76	1	3.11	0.078
4 years vs 0 years		1.489	0.583	2.56	1	6.53	0.011
5 years vs 0 years		1.594	0.528	3.02	1	9.13	0.003

It is worth noting that the number of recruits with one year ($n = 36$) or three years ($n = 66$) of sports experience was small; had there been more for comparison, it may be that they, too, may have been significantly different from recruits with zero sports experience. This pattern is seen in Figure 12 relative to the size of the standard errors around the means.

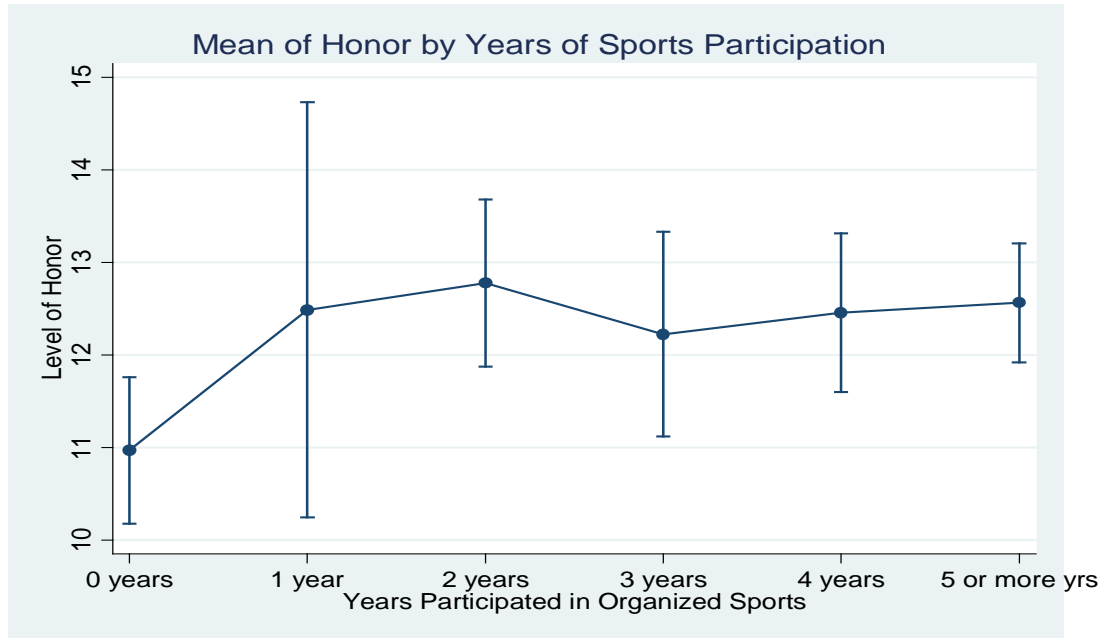


Figure 12. Mean of Honor by Years of Sports Participation.

I investigated potential interactions and retained significant ones in the final model. As part of the study, I intended to examine gender differences and their interactions for each of the four dependent variables. I first examined the joint (simple effect) of gender * time for significance, then applied Fisher's protected LSD test to identify significant differences in pairwise comparisons. For making unplanned pairwise comparisons for other sociodemographic categories where interactions were significant, I used the Scheffé test, explained previously, which is more conservative in identifying pairwise differences.

Gender * time. Previous analyses showed that Honor was higher among recruits in women's platoons than men's platoons. To examine whether Honor changed differently for men and women across the recruit training experience, I first examined the joint (simple) effect of platoon (recalling that they serve as a proxy for gender) by time: the chi-square value of 150.26 ($df = 16$) was significant at ($p < .05$), so I proceeded to examine pairwise comparisons. Presenting the full results in a table would be

cumbersome, so I included them as an appendix (see Appendix I), and excerpted the key findings in Table 12.

Table 12

Pairwise Comparison of Mean of Honor by Platoon by Time

Platoon ^{4,5} by Time	Contrast	SE	Z	df	chi ²	$P > z $
Platoon 1 at Processing Time 1 vs Pre-Crucible Time 2	-2.947	0.778	-3.79	1	14.38	0.000
Platoon 2 at Processing Time 1 vs Pre-Crucible Time 2	-2.447	0.621	-3.94	1	15.53	0.000
Platoon 4 at Processing Time 1 vs Pre-Crucible Time 2	-1.616	0.480	-3.37	1	11.33	0.001
Platoon 5 at Processing Time 1 vs Pre-Crucible Time 2	-1.869	0.945	-1.98	1	3.910	0.048
Platoon 7 at Processing Time 1 vs Pre-Crucible Time 2	-2.468	0.664	-3.71	1	13.79	0.000
Platoon 8 at Processing Time 1 vs Pre-Crucible Time 2	-3.421	0.560	-6.11	1	37.29	0.000
Platoon 1 at Post-Crucible Time 3 vs Pre-Crucible Time 2	1.275	0.485	2.63	1	6.910	0.009
Platoon 4 at Post-Crucible Time 3 vs Pre-Crucible Time 2	1.498	0.453	3.31	1	10.95	0.001
Platoon 1 at Post-Crucible Time 3 vs Processing Time 1	4.220	0.819	5.16	1		0.000

Table 12 (continued)

Pairwise Comparison of Mean of Honor by Platoon by Time

Platoon ^{4,5} by Time	Contrast	SE	Z	df	chi ²	P> z
Platoon 2 at Post-Crucible Time 3 vs Processing Time 1	2.434	0.736	3.31			0.001
Platoon 3 at Post-Crucible Time 3 vs Processing Time 1	1.881	0.584	3.22			0.001
Platoon 4 at Post-Crucible Time 3 vs Processing Time 1	3.114	0.678	4.59			0.000
Platoon 5 at Post-Crucible Time 3 vs Processing Time 1	2.382	0.658	2.46			0.014
Platoon 6 at Post-Crucible Time 3 vs Processing Time 1	2.712	0.658	4.12			0.000
Platoon 7 at Post-Crucible Time 3 vs Processing Time 1	1.847	0.834	2.21			0.027
Platoon 8 at Post-Crucible Time 3 vs Processing Time 1	3.720	0.688	5.41			0.000

Note. ⁴Platoons were randomly numbered to ensure anonymity of Drill Instructors;

⁵Platoon is a proxy for gender; platoons 2 and 7 are women's platoons.

The Table 12 shows that the mean of Honor significantly increases from T1 to T2 for platoons 2 and 7 (women's platoons) as well as for platoons 1, 4, 5, and 8 (men's platoons); the only platoons that did not see an increase in Honor from T1 to T2 are platoons 3 and 6 (men's platoons). From T2 (Pre-Crucible) to T3 (Post-Crucible), the mean of Honor significantly increases only for platoons 1 and 4 (men's platoons). In every platoon the mean of Honor is significantly higher at T3, after The Crucible, than it

is at T1. So, even though Honor does not significantly increase from T1 to T2 for platoons 3 and 6, they do increase cumulatively across the entirety of the recruit training program, since their mean Honor is significantly higher at T3 than at T1. The increases from T1 to T2 for platoons 2, 5, 7 remained after The Crucible, but did not increase from T2 and T3. Platoons 1 and 4, however, increased from T1 to T2 and from T2 to T3. So, while The Crucible, irrespective of the other covariates, did not increase the mean of Honor for all platoons, it did result in a higher degree of Honor for half of the platoons, and it did maintain or reinforce Honor for the other half of the platoons. Similarly, boot camp prior to The Crucible increased the mean of Honor for all platoons except one (platoon 6, a men's platoon). This pattern is evident in Figure 13.

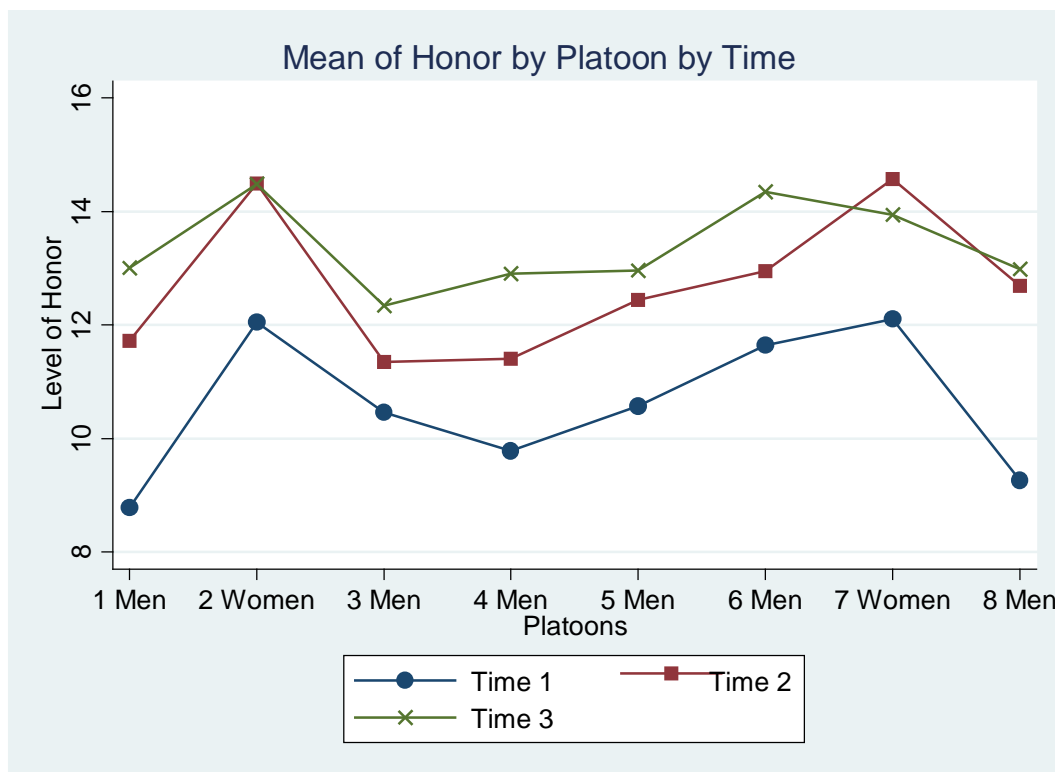


Figure 13. Mean of Honor by Platoon by Time.

For a more straightforward comparison of men and women on Honor by the course of recruit training, I aggregated the data by combining the data for women and comparing it with the combined data for men, rather than using the full range of data by platoon. This model, which is the same as earlier models but with the exception that platoon as a predictor variable is replaced with gender (0 = men, 1 = women) and the interaction term gender * time replaces platoon * time. The model is an appropriate fit to the data (chi-square = 203.55, $df = 26$, $p < .000$), and explains 20% of the variation of Honor ($R^2 = .200$). As expected, the coefficient of determination is slightly decreased, but the clarity for interpretation is greatly increased. As shown in Table 13, irrespective of the other covariates, the mean of Honor for women is significantly higher (by 1.86 points on the Honor Index) than for the mean of Honor for men.

Table 13

Contrast of Mean of Honor by Gender

Gender	Mean	Contrast	SE	z	$P > z $
Men	11.728		0.231	50.68	0.000
Women	13.587		0.292	46.48	0.000
Women vs Men		1.858	0.383	4.85	0.000

As shown in Figure 14, irrespective of the other covariates, the mean of Honor for women is significantly higher than for the mean of Honor for men.

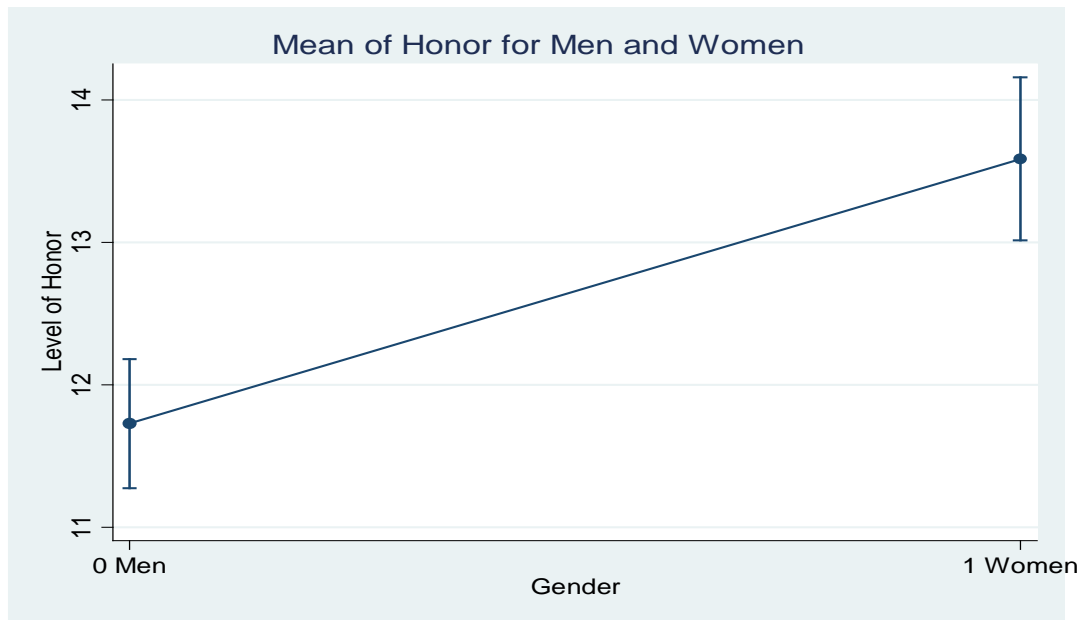


Figure 14. Mean of Honor by Gender.

Next, to examine the interaction of gender * time, I first examined the joint (simple) effect of gender * time: the chi-square value of 9.17 ($df = 2$) was significant at ($p < .01$), so I proceeded to examine pairwise comparisons. For greater clarity, I present excerpted results (see Appendix I for the full results) in Table 14 which shows that the mean of Honor for women increases significantly during recruit training from T1 to T2, but it does not change significantly in response to The Crucible, from T2 to T3. However, the overall positive effect of recruit training on women's Honor, from T1 to T3, does not erode as the total mean increase from T1 to T3 is 2.17 as measured on the Honor Index. For men, Honor increases both before and after The Crucible: the mean for men increases significantly from T1 to T2 (by 1.98 points on the Honor Index) and by 1.01 from Pre-

Crucible (T2) to Post-Crucible (T3), for a total increase across the entirety of recruit training of 2.99 from T1 to T3.

Table 14

Pairwise Comparisons of Mean of Honor by Men and Women by Time

Gender by Time	Contrast	SE	z	$P > z $
Women at Pre-Crucible Time 2 vs Women at Processing Time 1	2.455	0.455	5.40	0.000
Women at Post-Crucible Time 3 vs Women at Pre-Crucible Time 2	-0.287	0.364	-0.79	0.430
Women at Post-Crucible Time 3 vs Women at Processing Time 1	2.167	0.555	3.90	0.000
Men at Pre-Crucible Time 2 vs Men at Processing Time 1	1.977	0.291	6.80	0.000
Men at Post-Crucible Time 3 vs Men at Processing Time 1	2.990	0.305	9.80	0.000
Men at Post-Crucible Time 3 vs Men Pre-Crucible Time 2	1.130	0.224	4.51	0.000

Nonetheless, though average Honor among women does not change from T2 to T3 (before to after The Crucible), they still remain higher than men even after The Crucible, as evident in Figure 15.

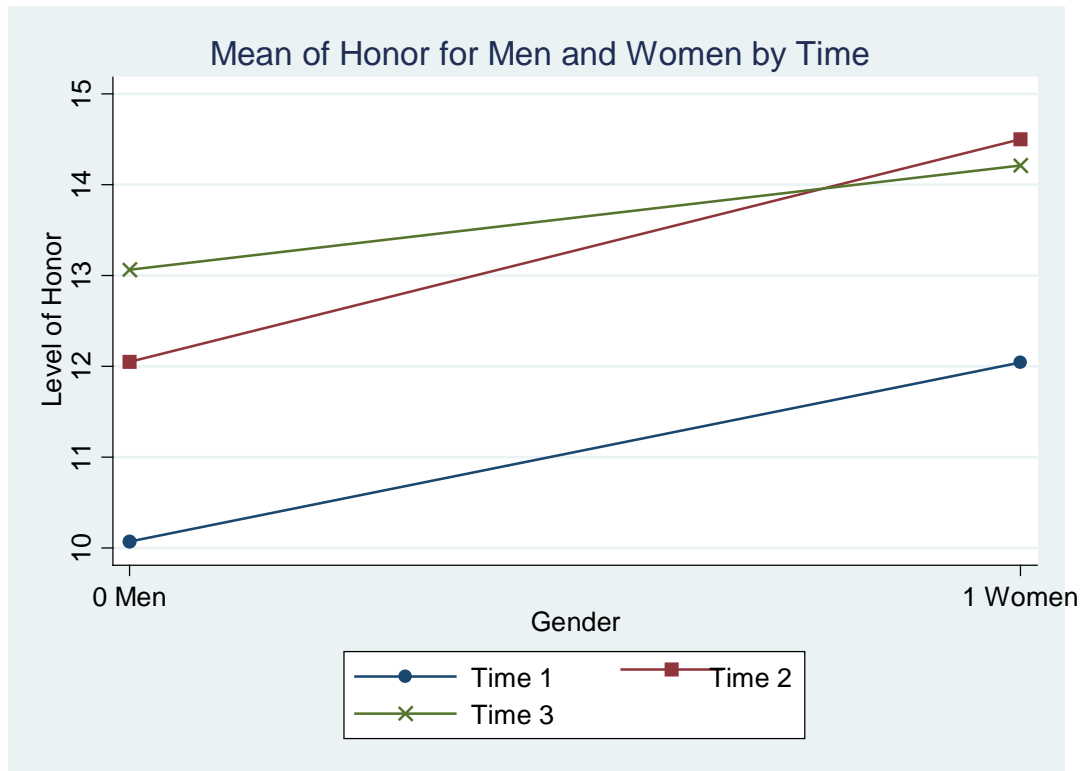


Figure 15. Mean of Honor by Gender *Time.

Finally, in regard to the gender * time interaction for Honor, the analysis shown in Table 15, indicates that at every “treatment level” (point of measurement in recruit training—Processing, Pre-Crucible, and Post-Crucible) the mean of Honor for women is greater than the mean of Honor for men.

Table 15

Pairwise Comparison of Mean of Honor for Men and Women by Time

Gender by Time	Mean	Contrast	SE	z	$P > z $
Men at Processing Time 1	10.072		0.291	34.66	0.000
Men at Pre-Crucible Time 2	12.049		0.281	42.8	0.000
Men at Post-Crucible Time 3	13.062		0.270	48.35	0.000
Women at Processing Time 1	12.045		0.425	28.35	0.000
Women at Pre-Crucible Time 2	14.499		0.359	40.35	0.000
Women at Post-Crucible Time 3	14.212		0.403	35.23	0.000
Women vs Men at Processing Time 1		1.972	0.519	3.80	0.000
Women vs. Men at Pre-Crucible Time 2		2.450	0.471	5.20	0.000
Women vs. Men at Post-Crucible Time 3		1.149	0.494	2.33	0.020

Figure 16 shows that the largest mean difference in Honor between women and men is at T2.

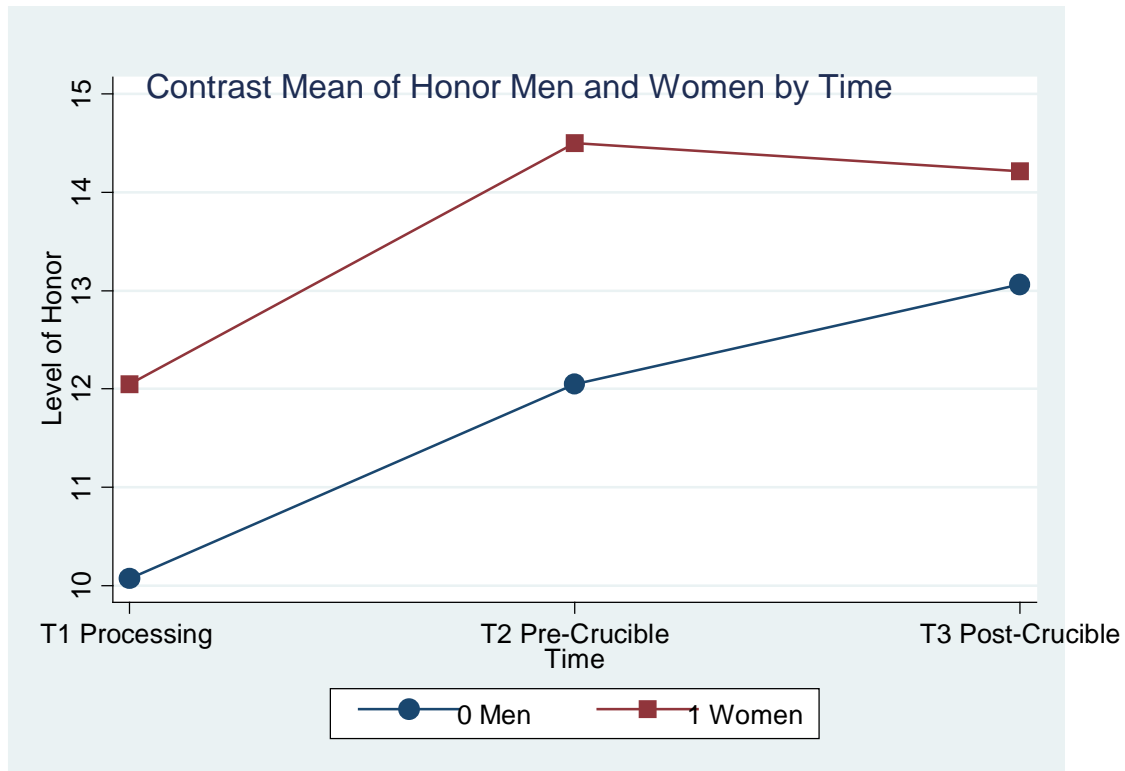


Figure 16. Contrast Mean of Honor for Men and Women by Time.

Previous analyses revealed a positive linear relationship between frequency of attending religious services and Honor. To examine whether there were changes in Honor over the course of recruit training that varied according to frequency of attending religious services I examined interactions between frequency of attending religious services and time (*religious service attendance * time*). First, I conducted pairwise comparisons of predicted margins and relied on the Scheffé test to detect significance differences. As reflected in Table 16, among recruits who never or seldom attend religious services, Honor significantly increases ($p < .000$) by 2.84 points on the index between T1 and T2. Although the increase in Honor from T2 to T3 is not significantly more for recruits who never or seldom attend religious services, by the end of recruit training, these recruits have a significantly higher level of Honor (by 3.32 points, $p < .000$)

than they had at the beginning of training (T1). Similarly, for recruits who regularly attend religious services Honor significantly increases ($p < .000$) by 2.26 points on the index between T1 and T2. Although the increase from T2 to T3 is not significantly more, by the end of recruit training, these recruits have a significantly higher level of Honor (by 3.01 points, $p < .000$) than they had at T1. Both for recruits who attend religious services least often and most often, recruit training, particularly T1 to T2, is associated with a significant positive change in score on the Honor Index.

Table 16

Pairwise Comparison of Mean of Honor by Attendance at Religious Services by Time

Honor and Attendance at Religious Services	Contrast	SE	z	$P > z $
Never at Pre-Crucible Time 2 vs Never at Processing Time 1	2.838	.0467	6.08	0.000
Never at Post-Crucible Time 3 vs Never at Processing Time 1	4.317	0.527	6.30	0.000
Occasionally at Pre-Crucible Time 2 vs Never at Processing Time 1	2.646	0.637	4.15	0.028
Occasionally at Post-Crucible Time 3 vs Never at Processing Time 1	3.367	0.688	5.04	0.001
Regularly at Post-Crucible Time 3 vs Occasionally at Processing Time 1	2.684	0.560	4.79	0.003
Regularly at Pre-Crucible Time 2 vs Regularly at Processing Time 1	2.263	0.385	5.88	0.000
Regularly at Post-Crucible Time 3 vs Regularly at Processing Time 1	3.006	0.401	7.49	0.000

However, the change in Honor by time is not significant for recruits who attend religious services sometimes or occasionally, but not regularly, monthly or weekly; nonetheless, Honor does appear to increase over time for these recruits, as seen in Figure 17.

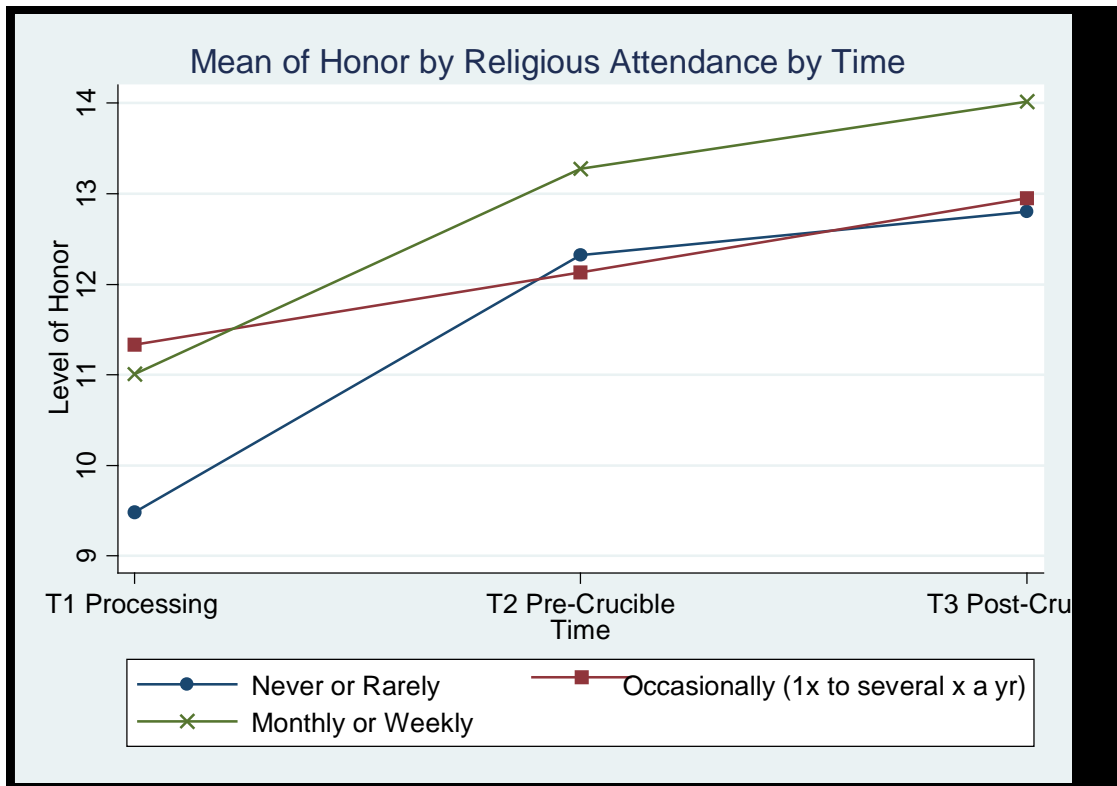


Figure 17. Mean of Honor by Religious Service Attendance * Time.

COURAGE: Multilevel Mixed-Effects Linear Regression Analyses

Basic model. Using a mixed-effects multilevel linear regression model, I regressed COURAGE on time, the sociodemographic control variables, and platoon, as well as significant interaction terms discovered in preliminary exploration of the data. These interactions included: platoon (as a proxy for gender since platoons are organized by gender) by time as well as participation in extra-curricular activities by time. This model produced a chi-square value of 274.39 ($df = 36, p < .000$), supporting the rejection of the null hypothesis that no relationships existed. I then proceeded to critique the model.

Critique of the model. First, I tested the model with and without a random intercept to examine whether or the model with the random intercept better fit the data. The likelihood ratio tests reflect that the model with the random intercept is significantly better than the model with a fixed intercept (chi-square = 143.14, $df = 1$, $p < .000$). Next, I explored the level-1 and level-2 residuals to check their distributions for normality. As show in Figures 18 and 19, the residual distributions show a slight negative skew for both the fixed (level 1) and random (level 2) components of the model. This indicates the presence of some negative outliers.

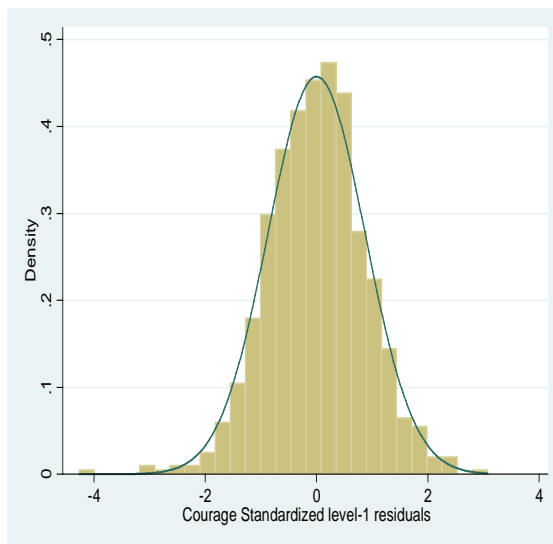


Figure 18. Distribution of Level 1 (Fixed) Residuals for Courage.

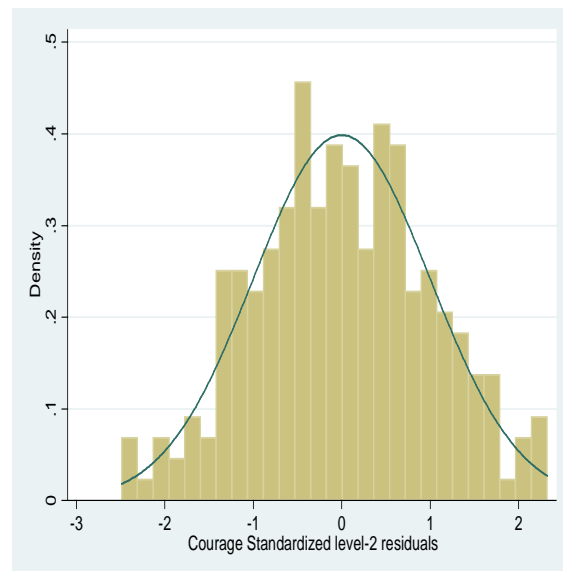


Figure 19. Distribution of Level 2 (Random) Residuals for Courage.

To adjust for this, I opted to use the “*sandwich estimator*” of the variance for better estimates of standard errors in light of the incorrectly specified model (Rabe-Hesketh & Skrondal, 2012). I further explored the level-1 residuals by looking at the random nature or pattern of standardized residuals for the fixed portion of the model relative to the predicted values of Courage. As evident in Figure 20, with the exception of one potential

outlier, the random error largely clusters around the mean of the error (zero), suggesting that there is no heteroskedasticity or unusual dispersion of error for which additional adjustments should be made before further analysis. Overall, Figure 20 suggests relatively normal i.i.d. level-1 errors.

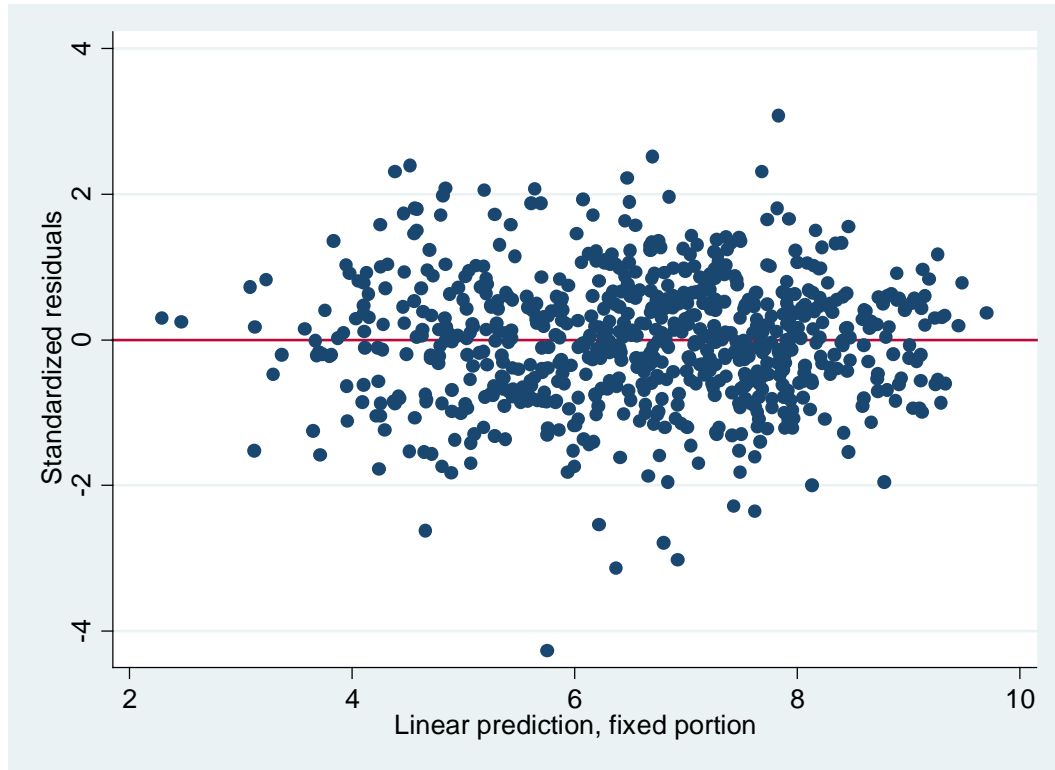


Figure 20. Scatterplot of Residuals for Fixed Portion of Courage Model.

Calculating Rho and the Coefficient of Determination (R^2)

Recalling the formula for Rho, $\rho = \frac{\hat{\psi}}{\hat{\psi} + \hat{\theta}}$, we can calculate $1.836122^2 / (1.836122^2 + 1.986621^2) = .46069915$. Thus, the percent of variance in Courage in the model that is due to random subject-specific characteristics is 46.1%. To calculate the proportion of Courage that is explained by the covariates in the model, R^2 I used the formula: $R^2 = \frac{\hat{\psi}_0 + \hat{\theta}_0 - (\hat{\psi}_1 + \hat{\theta}_1)}{\hat{\psi}_0 + \hat{\theta}_0}$, described earlier. Here, the values are:

$$\psi_0 = (1.9402155)^2 = 3.7644362$$

$$\theta_0 = (2.3497884)^2 = 5.5215055$$

$$\psi_1 = (1.8361218)^2 = 3.3713433$$

$$\theta_1 = (19866214)^2 = 3.9466646$$

$$\psi_0 + \theta_0 = 9.2859417$$

$$\psi_1 + \theta_1 = 7.3180079$$

$$R^2 = .21192614$$

Thus, 21.19% of the variation in Courage is accounted for by the variables in the model and “to what extent the responses can be predicted from the covariates” (Rabe-Hesketh & Skrondal, 2012, p. 137).

Final model. The final model takes into account the information gleaned from critiquing the basic model (discussed above) and incorporating significant interactions (only significant interactions were used in the final model to ensure parsimony). The only substantive difference between the final model and the basic model was the use of the sandwich estimator for standard errors (i.e., the vce robust option in Stata). The results are shown in Table 17. The model was significant with a chi-square value of 274.39 ($df = 36$) at $p < .000$.

Table 17

Multilevel Mixed-Effects Linear Regression of Courage

Courage	Coeff	SE	<i>z</i>	<i>df</i>	chi ²	<i>P</i> > <i>z</i>
Age	-0.064	0.074	-0.86			0.319
Non-White	-0.487	0.298	-1.63			0.102
Education	-0.426	0.297	-1.43			0.152
Military Family Member	-0.180	0.311	-0.58			0.563
Delayed Entry Program	0.085	0.319	0.27			0.790
Religious Attendance ¹						
Occasionally	-0.017	0.378	-0.05			0.724
Regularly	0.481	0.354	1.36			1.177
Time ² (Joint Effect)				2	139.0	0.000
Pre-Crucible Time 2 vs Processing Time 1		0.191	8.68	1	75.37	0.000
Post-Crucible Time 3 vs Processing Time 1		0.194	11.79	1	138.93	0.000
Extra Curricular Participants ³ (Joint Effect)				5	12.01	0.035
5 years vs 0 years		0.377	3.25	1	10.59	0.001
Platoon ^{4,5} (Joint Effect)				7	16.75	0.019
Model: <i>N</i> = 738; Number Groups = 246;				36	274.39	0.000

Table 17 (continued)

Multilevel Mixed Effects Linear Regression of Courage

Courage	Coeff	SE	z	df	chi ²	P > z
$R^2 = 21.19$ Level-1 Variance = 1.836 ² Level-2 Variance = 1.986 ²						

Note. ¹0 = never or seldom attends religious services is the omitted reference category; ²T1 = processing is the omitted reference category; ³0 = no years of participation is the omitted reference category; ⁴Platoons were randomly numbered to ensure anonymity of Drill Instructors; ⁵Platoon is a proxy for gender; platoons 2 and 7 are women's platoons.

I compared the means of Courage by time, controlling for the covariates, to test the research hypotheses to test the research hypotheses that (H₁) Courage is higher after The Crucible (T3) compared with beginning of recruit training (Processing T1), that (H₂) Courage is higher after The Crucible (T3) compared to before The Crucible (T2), and that (H₃) Courage is higher before The Crucible (T2) than at the beginning of recruit training (Processing T1). The null hypothesis (H₀) is that Courage does not vary at different times in the study. The chi-square value for the joint (simple) effect (139.3, *df* = 2) was significant at $p < .000$. Therefore, I rejected the null hypothesis and proceeded with pairwise comparisons, relying on Fisher's LSD to identify significant differences. Table 18 shows the results: Recruits are significantly ($p < .000$) higher, by 0.63 points, on the Courage Index after The Crucible than before this culminating event which supports H₁. The largest incremental change in Courage, though, takes place between T1 (Processing) and T2 (Pre-Crucible) when Courage increases, on average, by 1.65 points ($p < .000$)

which supports H₃. This time period constitutes the majority of the recruit training experience. As recruits' level of Courage increases from T1 to T2 and from T2 to T3, the net result is a significantly ($p < .000$) higher level of Courage (by 2.3 points, on average) at T3 (Post-Crucible) end of recruit training, than at the beginning of recruit training which supports H₁. From T2 to T3 the recruits' level of Courage increases, the net result is a significantly ($p < .000$) higher level of Courage (by 0.63 points, on average) at T3 which supports H₂.

Table 18

Pairwise Comparison of Mean of Courage by Time

Courage	Mean	Contrast	SE	z	df	χ^2	$P > z $
Time ² (Joint Effect)					2	139.0	0.000
Processing Time 1	5.310		0.184	28.89			0.000
Pre- Crucible Time 2	6.967		0.165	42.08			0.000
Post- Crucible Time 3	7.602		0.168	45.09			0.000
Pre- Crucible Time 2 vs Processing Time 1		1.658	0.191	8.68	1	75.37	0.00
Post- Crucible Time 3 vs Processing Time 1		2.292	0.194	11.79	1	38.93	0.00

Table 18

Pairwise Comparison of Mean of Courage by Time

Courage	Mean	Contrast	SE	z	df	χ^2	$P > z $
Post-Crucible Time 3 vs Pre-Crucible Time 2		0.634	0.149	4.24	1		0.00

Note. ² T1 = processing is the omitted reference category.

The pairwise comparisons in Table 18 shows that, all things being equal, the mean of Courage is higher at each time (T1 to T2, T2 to T3 and, of course, T1 to T3). This is to say that Courage, as measured, significantly increases at each of the two levels of “treatment” in this study and The Crucible plays a significant part in the increase of Courage among the recruits. This is reflected in Figure 21.

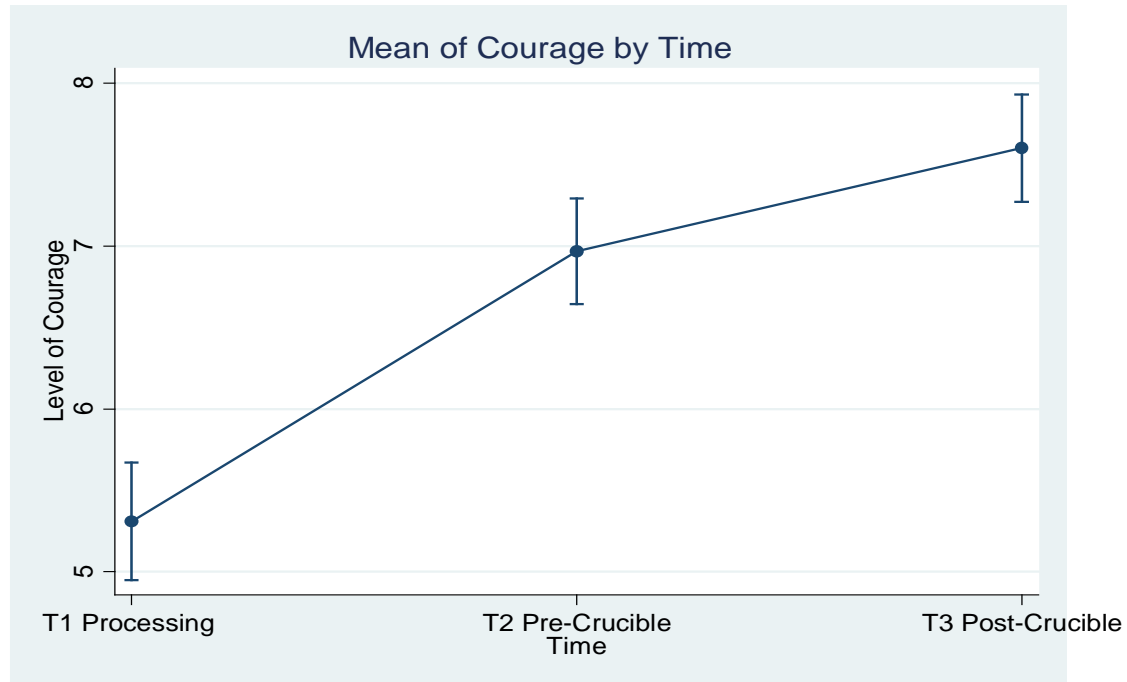


Figure 21. Mean of Courage by Time.

To test the hypothesis that Courage varies at different levels by gender, I compared variations by platoon, which served as a proxy for gender as women's platoons (randomly numbered 2 and 7) are separate from men's platoons (1, 3, 4, 5, 6, and 8). The chi-square value for the joint (simple) effect (16.75, $df = 7$) was significant at $p < .000$. Therefore, I rejected the null hypothesis and proceeded with pairwise comparisons, relying on Fisher's LSD test to identify significant differences between platoons. The results, shown in Table 19, indicate that, irrespective of the other covariates, the average woman recruit in platoon two, and the average man recruit in platoons five, six, seven, and eight score higher on the Courage Index than the average man recruit in platoons three and four. Women's platoons (2 and 7) are not significantly different from each other on the measure of Courage and both are higher than the men's platoons three and four.

Table 19

Pairwise Comparisons of Mean of Courage by Platoon

Platoon	Contrast	SE	z	df	χ^2	$P > z $
Platoon ^{4,5}				7	16.75	0.019
Platoon 2 vs Platoon 1				1	0.86	0.353
Platoon 3 vs Platoon 1				1	0.61	0.435
Platoon 4 vs Platoon 1				1	2.43	0.119
Platoon 5 vs Platoon 1				1	0.93	0.226
Platoon 6 vs Platoon 1				1	0.94	0.332
Platoon 7 vs Platoon 1				1	1.03	0.310
Platoon 8 vs Platoon 1				1	1.00	0.317
Platoon 4 vs Platoon 2	-1.422	0.532	-2.67			0.008
Platoon 5 vs Platoon 4	1.422	0.491	2.89			0.004
Platoon 6 vs Platoon 4	1.440	0.494	2.92			0.004
Platoon 7 vs Platoon 4	1.492	0.557	2.68			0.007
Platoon 8 vs Platoon 4	1.511	0.547	2.76			0.006

Note. ⁴Platoons were randomly numbered to ensure anonymity of Drill Instructors;

⁵Platoon is a proxy for gender; platoons 2 and 7 are women's platoons.

The results, shown in Figure 22, indicate that, irrespective of the other covariates, the average woman recruit in platoon two, and the average man recruit in platoons five, six, seven, and eight score higher on the Courage Index than the average man recruit in platoon four. The graph in Figure 22 provides a good picture of this.

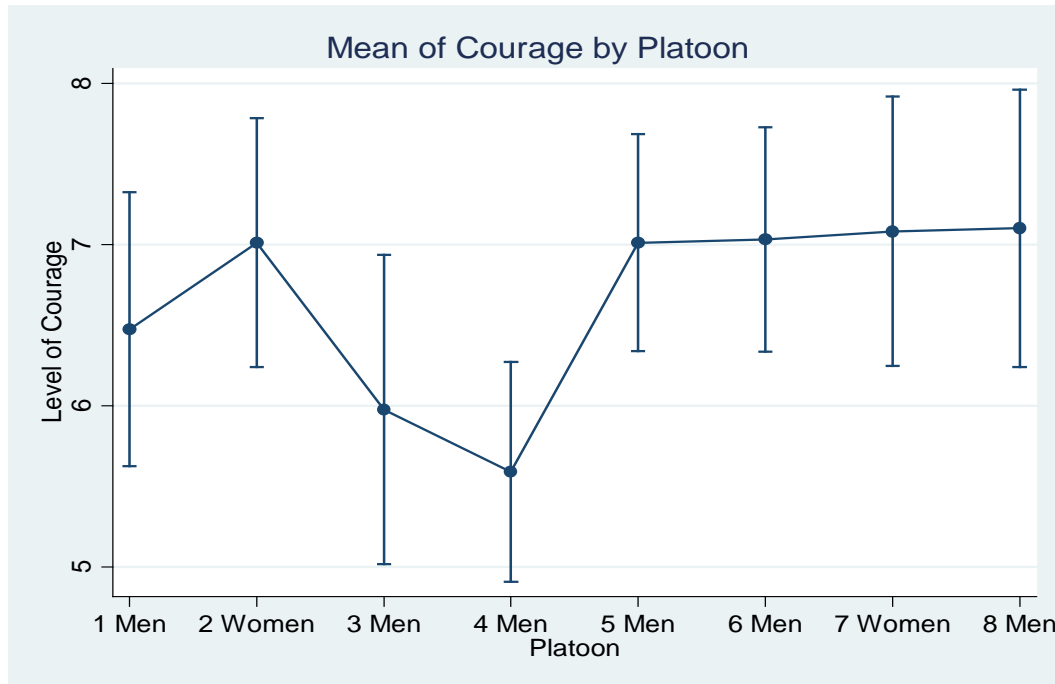


Figure 22. Mean of Courage by Platoon.

Differences in Courage also emerged by different levels of recruits' years of participation in extracurricular activities. In testing the joint (simple) effects on Courage and years of participation in extracurricular activities, the chi-square value of 12.73 ($df = 5$) was significant ($p < .05$), so I proceeded to examine pairwise comparisons. As evident in Table 20, the differences in Courage Index exist between those recruits with no experience participating in extracurricular activities and those with 2, 4, or 5 years.

Table 20

Pairwise Comparison of Mean of Courage by Years of Participation in Extra Curricular Activities

Years of Participation	Mean	Contrast	SE	<i>z</i>	<i>df</i>	chi ²	<i>P</i> > <i>z</i>
Extra Curricular Participation ³					5	12.01	0.035
0 years	6.280		0.221	28.34			0.000
1 year	6.105		0.461	13.23			0.000
2 years	6.684		0.458	14.60			0.000
3 years	6.433		0.544	11.81			0.000
4 years	6.962		0.476	14.61			0.000
5 years	7.507		0.299	25.08			0.000
5 years vs 0 years		1.228	0.377	3.250	1	10.59	0.001
5 years vs 1 year		1.402	0.570	2.460	1		0.014

Note. ³0 = no years of participation is the omitted reference category.

The graph in Figure 23 provides a good picture of the results indicating the differences in Courage Index exist between those recruits with two, four, or five years of extracurricular activity participation and those recruits with no participation.

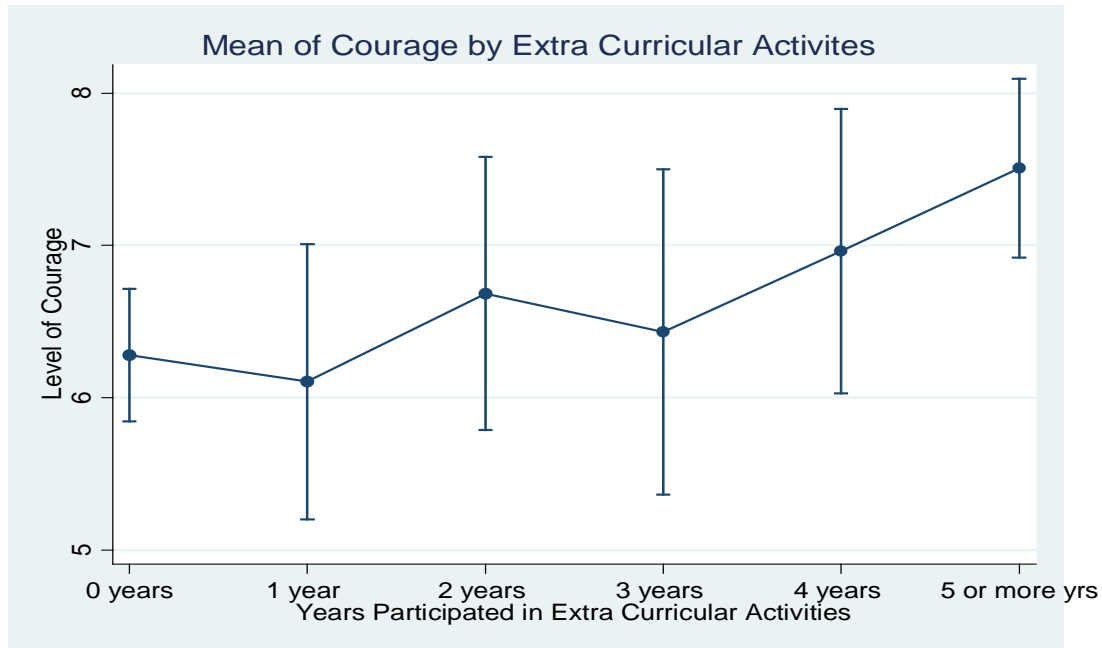


Figure 23. Mean of Courage by Participation in Extra Curricular Activities.

Because the interaction of time * years participation in extracurricular activities is significant, and because we know that we have thin cells for year groups 1, 2, 3, and 4; and because we know that extracurricular participation year groups 1 and 5 are significantly different, I chose to explore this interaction by setting years participation in extracurricular activities at levels 0 and 5 and comparing at all levels of time to explore high extracurricular involvement compared to low extracurricular involvement at different treatment levels (i.e., different times) based on the model.

Table 21

*Pairwise Comparison of Mean of Courage by Time and Years of Participation in
Extra Curricular Activities*

Time and Years of Participation	Mean	Contrast	SE	z	$P > z $
Processing Time 1 at 0 years	4.916		0.261	18.80	0.000
Processing Time 1 at 5 years	6.789		0.396	17.14	0.000
Pre-Crucible Time 2 at 0 years	6.524		0.259	25.10	0.000
Pre-Crucible Time 2 at 5 years	7.747		0.372	20.83	0.000
Post-Crucible Time 3 at 0 years	7.374		0.260	28.31	0.000
Post-Crucible Time 3 at 5 years	7.960		0.374	21.25	0.000
Processing Time 1 at 5 years vs Processing Time 1 at 0 years		1.864	0.484	3.87	0.010
Pre-Crucible Time 2 at 0 years vs Processing Time 1 at 0 years		1.608	0.275	5.83	0.000
Pre-Crucible Time 2 at 5 years vs Processing Time 1 at 0 years		2.831	0.462	6.12	0.000
Post-Crucible Time 3 at 0 years vs Processing Time 1 at 0 years		2.458	0.276	8.91	0.000
Post-Crucible Time 3 at 5 years vs Processing Time 1 at 0 years		3.044	0.463	6.57	0.000
Post-Crucible Time 3 at 0 years vs Processing Time 2 at 0 years		0.850	0.215	3.94	0.008

Where 0 = low involvement and 5 = high involvement: the average recruit with low involvement in extracurricular activities significantly increased in Courage from T1 (Processing) to T2 (Pre-Crucible), from T2 (Pre-Crucible) to T3 (Post-Crucible) and, as logically expected, T3 was significantly greater than T1. Conversely, the average recruit with high involvement in extracurricular activities did not significantly increase in Courage from T1 to T2, or from T2 to T3. Perhaps this is because at T1 the high involvement group was significantly higher on the Courage Index than the low involvement group. This changed at T2 and T3 such that no significant difference existed between the groups with different levels of participation in extracurricular activities at these time periods, indicating that the recruit training experience narrowed the gap between those recruits with low involvement and those with high involvement.

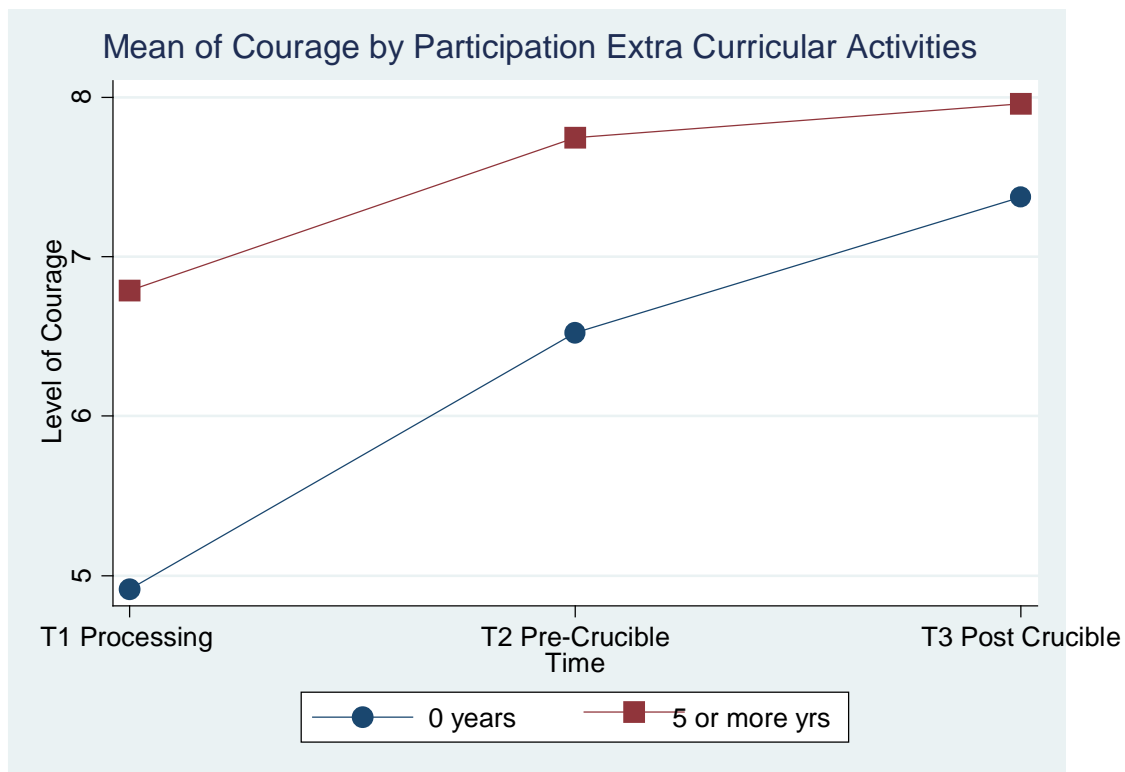


Figure 24. Mean of Courage by Zero Years & Five Years Participation in Extra Curricular Activities.

Figure 24 shows that, after controlling for the other variables, on average, boot camp had a positive effect on increasing Courage for recruits who have lower levels of involvement in extracurricular activities, but recruit training does not have a significant effect on recruits with high involvement.

CRITICAL THINKING: Multilevel Mixed-Effects Linear Regression Analyses

Basic model. Using a mixed-effects multilevel linear regression model, I regressed CRITICAL THINKING on time, the sociodemographic control variables, and platoon, as well as significant interaction terms discovered in preliminary exploration of the data. These interactions included time * education, time * frequency of attendance at religious services, and frequency of attendance at religious services * education. This model produced a chi-square value of 245.81 ($df = 44$, $p < .000$) supporting the rejection of the null hypothesis that no relationships existed. I then proceeded to critique the model.

Critique of the model. First, I tested the model with and without a random intercept to examine whether the model with the random intercept better fit the data. The likelihood ratio tests reflects that the model with the random intercept is significantly better than the model with a fixed intercept (chi-square = 175.82, $df = 1$, $p < .000$). Next, I explored the level-1 and level-2 residuals to check their distributions for normality. As show in Figures 25 and 26, the residual distributions show a slight negative skew for both the fixed (level 1) and random (level 2) components of the model. This indicates the presence of some negative outliers.

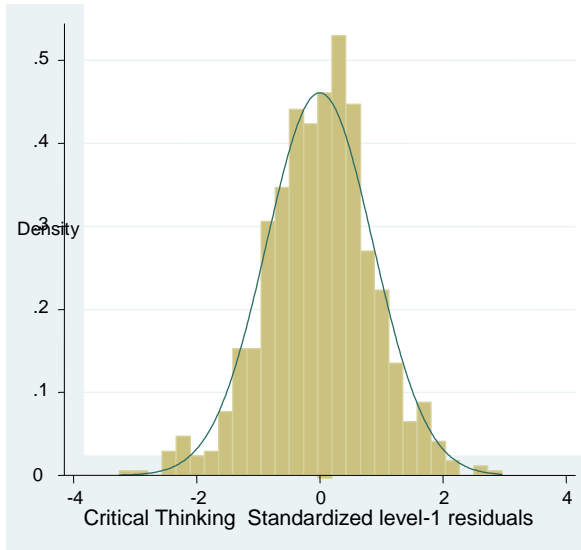


Figure 25. Distribution of Level 1 (Fixed) Residuals for Critical Thinking.

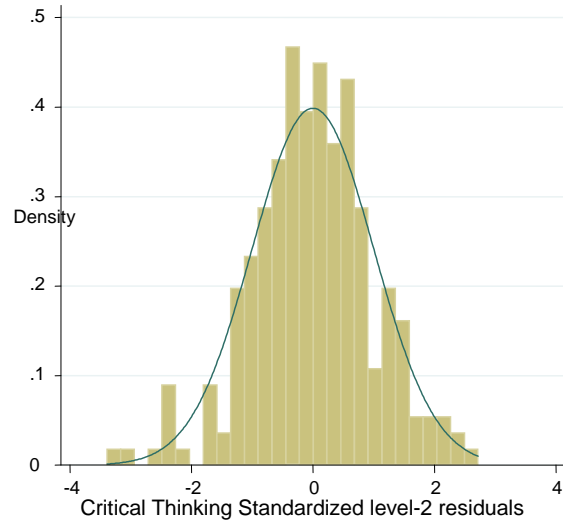


Figure 26. Distribution of Level 2 (Random) Residuals for Critical Thinking.

To adjust for this, I opted to use the “*sandwich estimator*” of the variance for better estimates of standard errors in light of the incorrectly specified model (Rabe-Hesketh & Skrondal, 2012). I further explored the level-1 residuals by looking at the random nature or pattern of standardized residuals for the fixed portion of the model relative to the predicted values of Critical Thinking. As evident in Figure 27, the random error largely clusters around the mean of the error (zero), suggesting that there is no heteroskedasticity or unusual dispersion of error for which additional adjustments should be made before further analyses. Overall, Figure 28 suggests relatively normal i.i.d. level-1 errors.

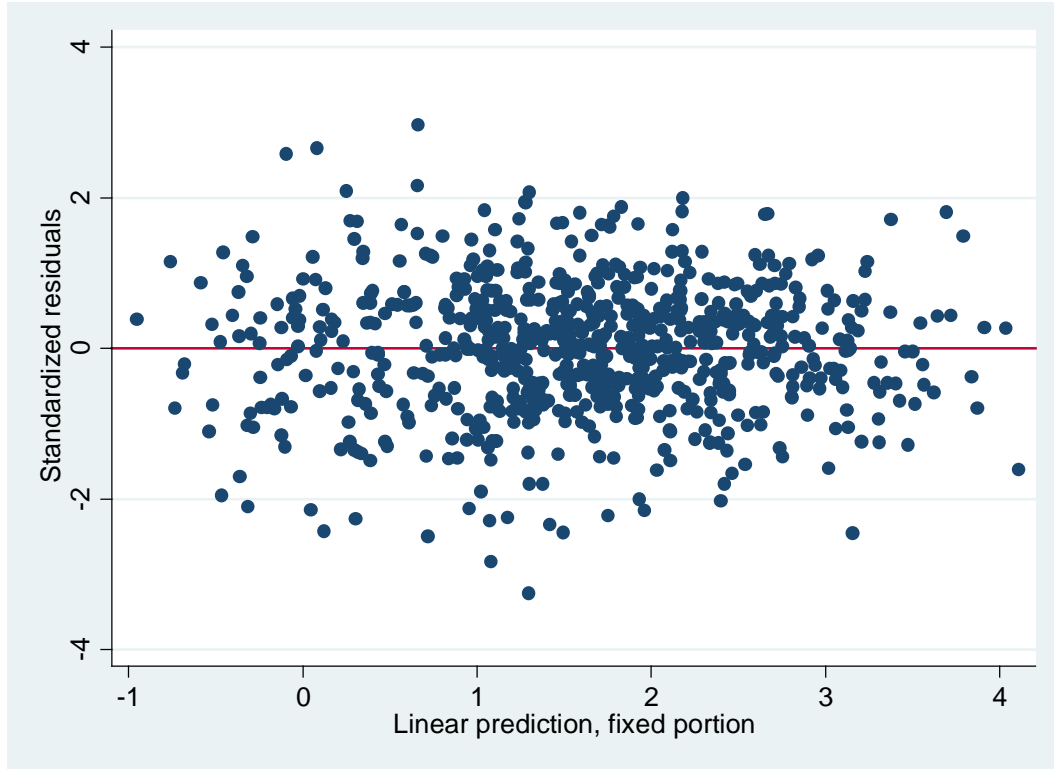


Figure 27. Scatterplot of Residuals for Fixed Portion of Critical Thinking Model.

Calculating Rho and the Coefficient of Determination (R^2)

Recalling the formula for Rho, $\rho = \frac{\hat{\psi}}{\hat{\psi} + \hat{\theta}}$, we can calculate $1.8974329^2 / (1.8974329^2 + 1.8706344^2) = .50711165$. Thus, the percent of variance in Critical Thinking in the model that is due to random subject-specific characteristics is 50.71%. To calculate the proportion of Critical Thinking that is explained by the covariates in the model, R^2 I used the formula: $R^2 = \frac{\hat{\psi}_0 + \hat{\theta}_0 - (\hat{\psi}_1 + \hat{\theta}_1)}{\hat{\psi}_0 + \hat{\theta}_0}$, described earlier. Here, the values are:

$$\psi_0 = (2.0899271)^2 = 4.3677953$$

$$\theta_0 = (1.8933244)^2 = 3.5846773$$

$$\psi_1 = (1.8974329)^2 = 3.6002516$$

$$\theta_1 = (1.8706344)^2 = 3.4992731$$

$$\psi_0 + \theta_0 = 7.9524726$$

$$\psi_1 + \theta_1 = 7.0995247$$

$$R^2 = .10725569$$

Thus, 10.73% of the variation in Critical Thinking is accounted for by the variables in the model, which indicates “to what extent the responses can be predicted from the covariates” (Rabe-Hesketh & Skrondal, 2012, p. 137).

Final model. The final model takes into account the information gleaned from critiquing the basic model (discussed above) and incorporating significant interactions (only significant interactions were used in the final model to ensure parsimony). The only substantive difference between the final model and the basic model was the use of the sandwich estimator for standard errors (i.e., the vce robust option in Stata). The results are shown in Table 22. The model was significant with a chi-square value of 59.43 ($df = 28$) at $p < .000$.

Table 22

Multilevel Mixed-Effects Linear Regression of Critical Thinking

Variable	Coeff	SE	z	df	χ^2	$P > z $
Age	-0.032	0.068	-0.47			0.638
Non-White	-0.341	0.333	-1.02			0.307
Education	1.025	0.456	2.25			0.025
Military Family Member	-0.239	0.305	-0.79			0.432
Delayed Entry Program	0.087	0.346	0.25			0.800

Table 22 (continued)

Multilevel Mixed-Effects Linear Regression of Critical Thinking

Variable	Coeff	SE	<i>z</i>	<i>df</i>	chi ²	<i>P</i> > <i>z</i>
Religious Attendance ¹						
(Joint Effect)				2	14.38	0.001
Occasionally	0.078	0.472	0.17			0.869
Regularly	-1.390	0.467	-2.97			0.003
Time ²						
(Joint Effect)				2	13.71	0.001
Platoon						
(Joint Effect)				7	4.31	0.743
Model: N = 738:						
Number						
Groups = 246				28	59.43	0.001
$R^2 = 59.423$						
Level-1						
Variance = 1.897 ²						
Level-2						
Variance = 1.870 ²						

Note. ¹0 = never or seldom attends religious services is the omitted reference category;

²T1 = processing is the omitted reference category.

I compared the means of Critical Thinking by time, controlling for the covariates, to test the research hypotheses that (H₁) Critical Thinking is higher after The Crucible (T3) compared with beginning of recruit training (Processing T1), that (H₂) that Critical Thinking is higher after The Crucible (T3) compared to before The Crucible (T2), and that (H₃) Critical Thinking is higher before The Crucible (T2) than at the beginning of recruit training (Processing T1). The null hypothesis (H₀) is that Critical Thinking does not vary at different times in the study. The chi-square value for the joint (simple) effect (13.71, *df* = 2) was significant at *p* < .000. Therefore, I rejected the null hypothesis and

proceeded with pairwise comparisons, relying on Fisher's LSD to identify significant differences. Table 23 shows the results: Recruits are significantly ($p < .000$) higher, by 0.41 points, the largest incremental change on the Critical Thinking Index, after The Crucible than before this culminating event which supports H₂. Between T1 (Processing) and T2 (Pre-Crucible) Critical Thinking increases, on average, by .22 points ($p < .000$) which supports H₃. This time period constitutes the majority of the recruit training experience. As recruits' level of Critical Thinking increases from T1 to T2 and then from T2 to T3, the net result is a significantly ($p < .000$) higher level of Critical Thinking (by .63 points, on average) at T3 (Post-Crucible), the end of recruit training, than at the beginning of recruit training. This result supports H₁.

Table 23

Pairwise Comparison of Mean of Critical Thinking by Time

Time	Mean	Contrast	SE	z	df	χ^2	$P > z $
Time ² (Joint Effect)					2	13.71	0.001
Processing Time 1	1.312		0.179	7.34			0.000
Pre-Crucible Time 2	1.536		0.162	9.50			0.000
Post-Crucible Time 3	1.952		0.169	11.54			0.000
Pre-Crucible Time 2 vs Processing Time 1		0.219	0.174	-1.26	1	1.59	0.207

Table 23 (continued)

Pairwise Comparisons of Mean of Critical Thinking by Time

Time	Mean	Contrast	SE	z	df	χ^2	$P > z $
Post-Crucible Time 3 vs Processing Time 1		0.634	0.186	3.40	1		0.001
Post-Crucible Time 3 vs Pre-Crucible Time 2		0.414	0.144	2.88	1	8.32	0.001

Note. ²T1 = processing is the omitted reference category.

The mean of critical thinking is significantly increased after The Crucible.

Interestingly, it does not increase with boot camp alone. Rather, it is The Crucible event which seems to play the significant part in the increase in Critical Thinking among the recruits. This is reflected in Figure 28.

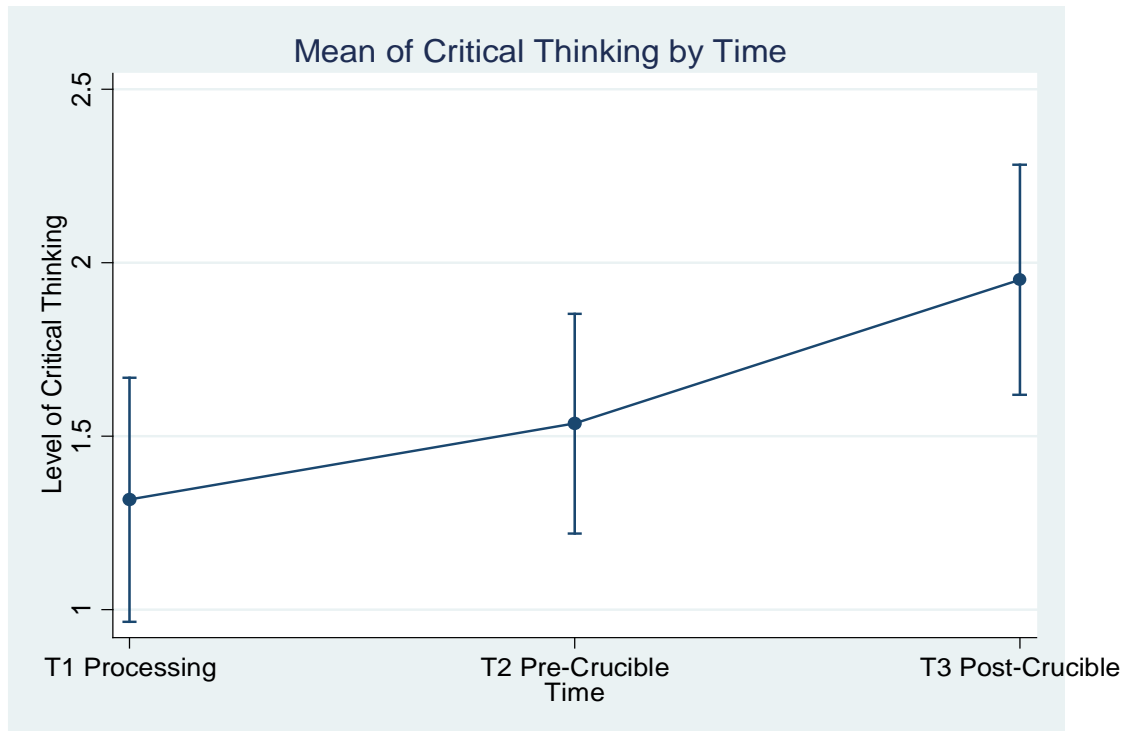


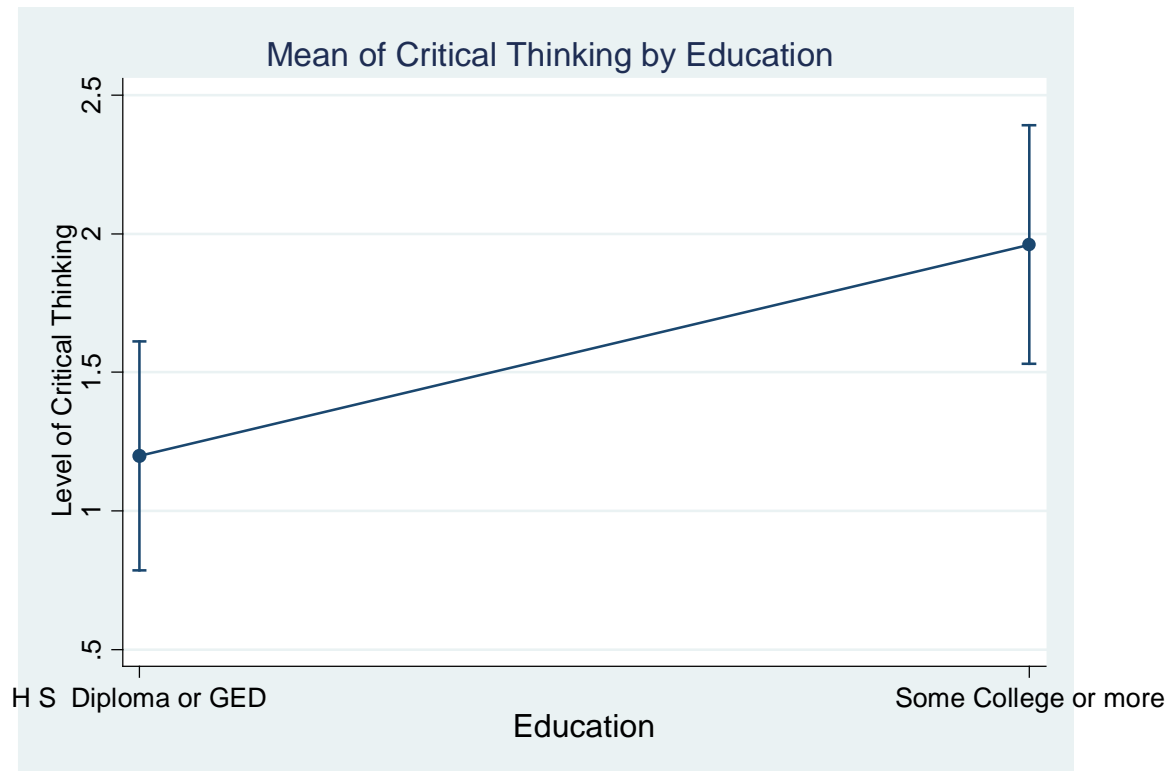
Figure 28. Mean of Critical Thinking by Time.

Differences in Critical Thinking also emerged by different levels of recruits' education. To test the hypothesis that Critical Thinking varies at different levels by education, I compared variations in Critical Thinking using a dichotomous coding of education: high school (0) and some college or more (1). As evident in Table 24 and Figure 29, the average recruit with at least some college education has a significantly higher score on the Critical Thinking Index than the average recruit with a high school diploma or GED. Therefore, I rejected the null hypothesis that there is no difference in Critical Thinking by level of education.

Table 24

Mean of Critical Thinking by Education

Education	Mean	SE	z	df
High School Diploma or GED	1.198	0.211	5.67	0.000
Some College or more	1.961	0.220	8.92	0.000

*Figure 29. Mean of Critical Thinking by Education.*

Differences in Critical Thinking also emerged by different levels of recruits' attendance at religious services. In testing the joint (simple) effects for religious service attendance, the chi-square value of 14.38 ($df = 2$) was significant ($p < .001$), so I proceeded to examine pairwise comparisons. As evident in Table 25, the only significant

difference in Critical Thinking, as measured in this study, by attendance at religious services is between recruits who never or rarely attend religious services and those who attend religious services regularly (weekly or monthly): on average, recruits who regularly attend religious services have a lower score on the Critical Thinking Index than recruits who never or rarely attend.

Table 25

Pairwise Comparison of Mean of Critical Thinking by Attendance at Religious Services

Attendance at Religious Services	Mean	Contrast	SE	<i>z</i>	<i>df</i>	chi ²	<i>P</i> > <i>z</i>
(Joint Effect)							
Never	2.246		0.219	10.27			0.000
Occasionally	1.632		0.297	5.50			0.000
Regularly	0.962		0.239	4.03			0.000
Religious Attendance					2	14.38	0.001
Occasionally vs Never		-0.613	0.365	-1.68	1	2.82	0.093
Regularly vs Never		-1.283	0.339	-3.79	1	14.37	0.000
Regularly vs Occasionally		-0.670	0.378	-1.77	1		0.076

As shown in Figure 30, Critical Thinking, as measured via the index, is significantly higher, on average, for recruits who never or rarely attend religious services than for recruits who do so regularly.

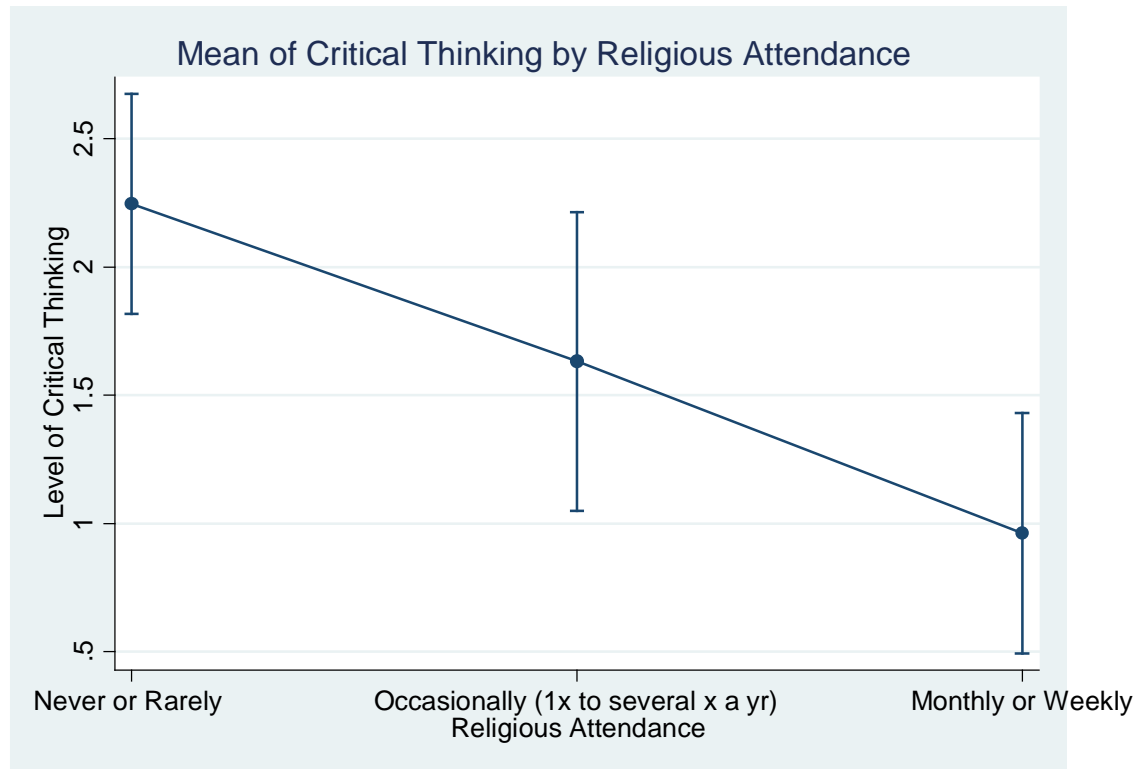


Figure 30. Mean of Critical Thinking by Frequency of Attendance at Religious Services.

Overall, irrespective of the other covariates, for recruits with a high degree of attendance at religious services (weekly or monthly), Critical Thinking is significantly lower than no attendance. It is noticeable that occasional attendance is not any difference from either never/rarely attending or regularly attending religious services

Previous analyses revealed a positive linear relationship between frequency of attending religious services and Critical Thinking. To examine whether there were changes in Critical Thinking over the course of recruit training that varied according to frequency of attending religious services and education, I examined the interaction frequency of attending religious services * education. First, I conducted pairwise comparisons of predicted margins and relied on the Scheffé test to detect significance differences. As reflected in Table 26, there is only one significant interaction: on average,

recruits with a high school diploma or equivalent and who regularly (weekly or monthly) attended religious services scored significantly lower ($-2.42, p < .001$) on the Critical Thinking Index than recruits with at least some college education and who never or rarely attends religious services.

Table 26

Pairwise Comparison of Mean of Critical Thinking by Education and Attendance at Religious Services

Education and Frequency of Attendance at Religious Services	Contrast	SE	z	$P > z $
High School Graduate and Occasionally Attends vs Some College and Never Attends	-2.416	0.518	-4.67	0.001

When looking at frequency of attendance at religious services alone, regular attendees scored lower on Critical Thinking, on average, than those who did not attend. However, as shown in Figure 31 and Table 26, the only significant contrast is between recruits with high school education who regularly attends religious services, who scores significantly lower (bottom right corner of Figure 31) on the Critical Thinking Index compared with recruit with at least some college who does not attend religious services (upper left corner on graph). It appeared, when looking at attendance at religious services alone, that those recruits who regularly attended religious services scored lower than those who did not attend. However, the interaction of education * frequency of religious service attendance tells us that education makes a difference by buffering or exacerbating the main effects of frequency of religious service attendance on Critical Thinking. The

combination of lower education with regular religious service attendance (compared with the combination of having higher education and never or rarely attending) exacerbates the effects, whereas the effects are otherwise tempered or balanced by the other various combinations of frequency of religious service attendance and education (i.e., the points between the lines). Although regular religious service attendance tends to reduce Critical Thinking as noted in Figure 30, higher education tends to increase Critical Thinking, as seen in Figure 29 and in the main effect of education as seen in Figure 31 and Table 26.

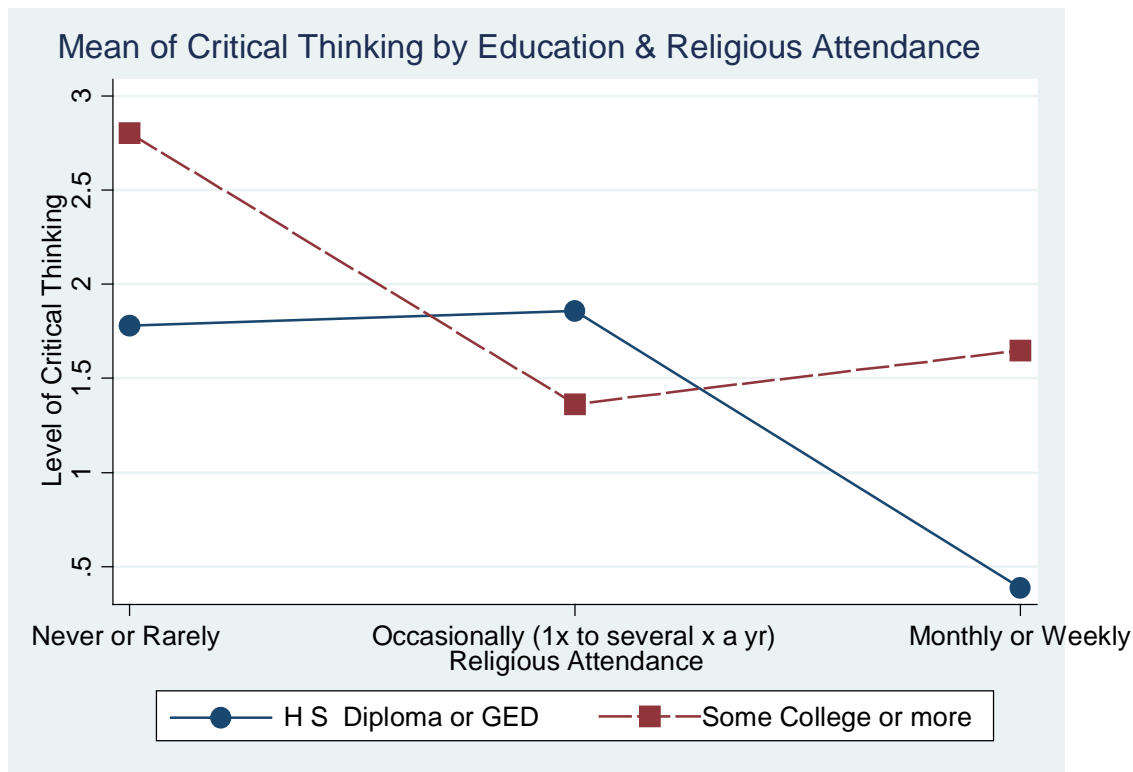


Figure 31. Mean of Critical Thinking by Education * Frequency of Attendance at Religious Services.

MARINE IDENTITY: Multilevel Mixed-Effects Linear Regression Analyses

Basic model. Using a mixed-effects multilevel linear regression model, I regressed Marine Identity on time, the sociodemographic control variables, and platoon, as well as six significant interaction terms discovered in preliminary exploration of the

data. These interactions included platoon (as a proxy for gender since platoons are organized by gender) by time, age, age * time, years participation in sports, years participation in sports * age, years participation in sports * age * time. This model produced a chi-square value of 190.53 ($df = 26, p < .000$) supporting the rejection of the null hypothesis that no relationships existed. I then proceeded to critique the model.

Critique of the model. First, I tested the model with and without a random intercept to examine whether the model with the random intercept better fit the data. The likelihood ratio tests reflects that the mode with the random intercept is significantly better than the model with a fixed intercept (chi-square = 93.20, $df = 1, p < .000$). Next, I explored the level-1 and level-2 residuals to check their distributions for normality. As show in Figures 32 and 33, there is a slight negative skew for both the fixed (level 1) and random (level 2) components of the model.

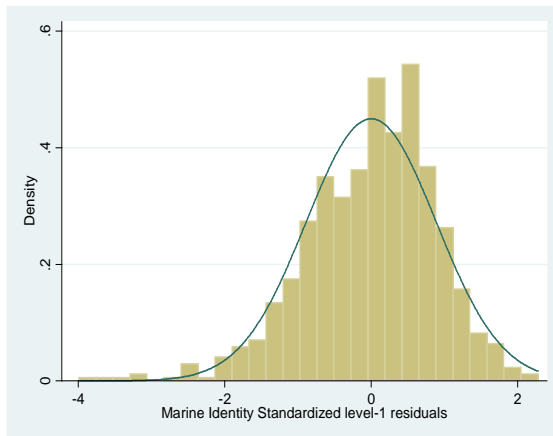


Figure 32. Distribution of Level 1 (Fixed) Residuals for Marine Identity.

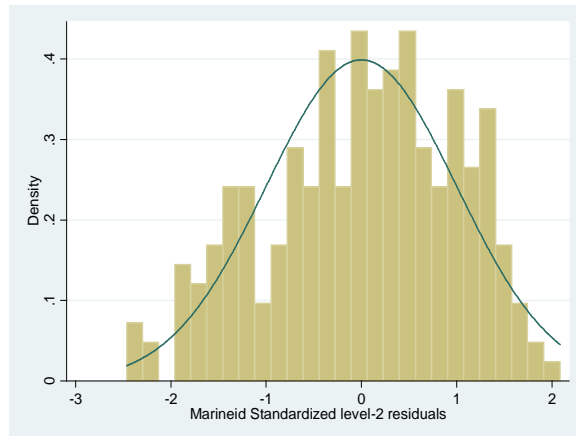


Figure 33. Distribution of Level 2 (Random) Residuals for Marine Identity.

This indicates the presence of some negative outliers. To adjust for this, I opted to use the “*sandwich estimator*” of the variance for better estimates of standard errors in light of the incorrectly specified model (Rabe-Hesketh & Skrondal, 2012). I further explored the

level-1 residuals by looking at the random nature or pattern of standardized residuals for the fixed portion of the model relative to the predicted values of Marine Identity. As evident in Figure 34, with the exception of five potential outliers, the random error largely clusters around the mean of the error (zero), suggesting that there is no heteroskedasticity, or unusual dispersion of error, for which additional adjustments should be made before further analyses. Overall, Figure 34 suggests relatively normal i.i.d. level-1 errors.

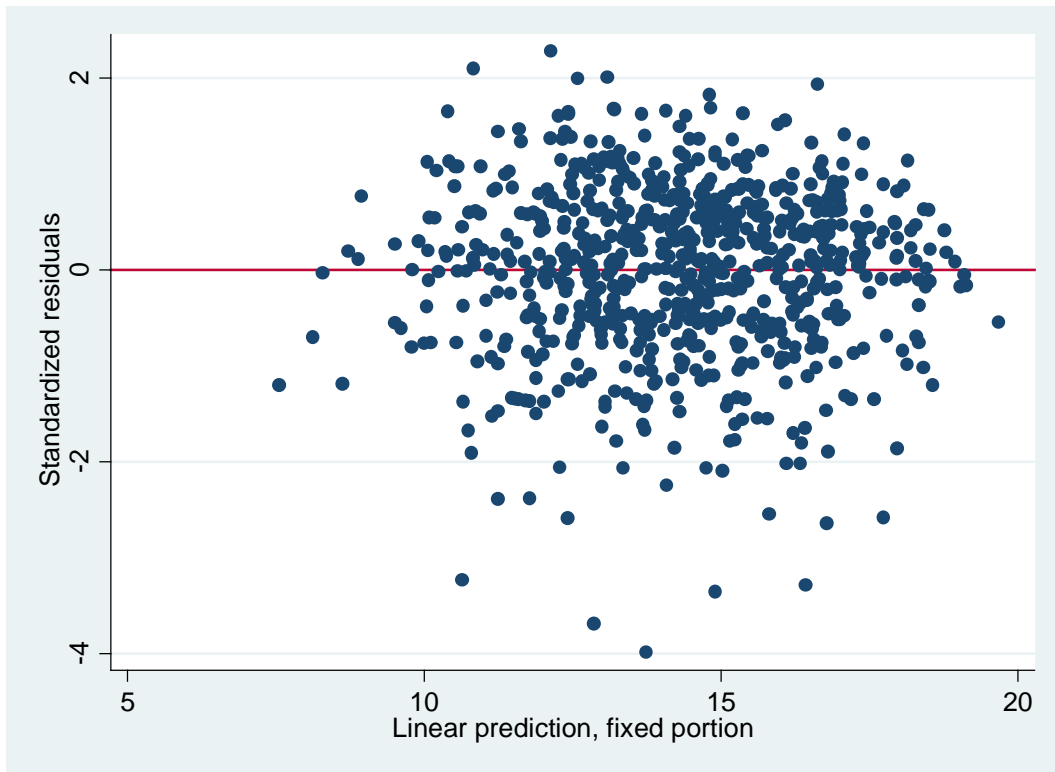


Figure 34. Scatterplot of Residuals for Fixed Portion of Marine Identity Model.

Calculating Rho and the Coefficient of Determination (R^2)

Recalling the formula for Rho, $\rho = \frac{\hat{\psi}}{\hat{\psi} + \hat{\theta}}$, we can calculate $2.6724431^2 / (2.6724431^2 + 3.4555467^2) = .3742621$. Thus, the percent of variance in Marine Identity in the model that is due to random subject-specific characteristics is 37.43%. To calculate

the proportion of Marine Identity that is explained by the specified model, R^2 .² I used the

formula: $R^2 = \frac{\hat{\psi}_0 + \hat{\theta}_0 - (\hat{\psi}_1 + \hat{\theta}_1)}{\hat{\psi}_0 + \hat{\theta}_0}$, described earlier. Here, the values are:

$$\psi_0 = (2.8849823)^2 = 8.3231229$$

$$\theta_0 = (3.9020259)^2 = 15.225806$$

$$\psi_1 = (2.6724431)^2 = 7.1419521$$

$$\theta_1 = (3.4555467)^2 = 11.940803$$

$$\psi_0 + \theta_0 = 23.548929$$

$$\psi_1 + \theta_1 = 19.082755$$

$$R^2 = .18965508$$

The coefficient of determination is low-moderate (Hamilton, 1996, p. 318). Thus, 18.97 percent of the variation in Marine Identity is accounted for by the variables in the model which indicates “to what extent the responses can be predicted from the covariates” (Rabe-Hesketh & Skrondal, 2012, p. 137).

Final model. Taking into account the information gleaned from critiquing the basic model (discussed above) and incorporating significant interactions (only significant interactions were used in the final model to ensure parsimony). The only substantive difference between the final model and the basic model was the use of the sandwich estimator (i.e., the vce robust option in Stata). The results are shown in Table 27. The model was significant with a chi-square value, 192.53 ($df = 26$) at $p < .000$.

Table 27

Multilevel Mixed-Effects Linear Regression of Marine Identity

Variable	Coeff	SE	z	df	chi ²	P> z
Age	-0.348	0.106	-3.27			0.001
Non-White	-0.233	0.454	-0.51			0.061
Education	-0.363	0.464	-0.78			0.434
Military						
Family Member	-0.042	0.464	-0.09			0.927
Delayed Entry						
Program	-0.766	0.504	-1.52			0.128
Religious						
Attendance ¹						
Occasionally	-0.545	0.601	-0.91			0.364
Regularly	-0.481	0.524	-0.92			0.358
Time ² (Joint						
Effect)				2	113.73	0.000
Pre-Crucible						
Time 2		0.320	6.08			0.000
Post-Crucible						
Time 3		0.348	10.52			0.000
Sports						
Participation						
(Joint Effect)				5	24.28	0.000
1 year		1.239	2.69			0.007
2 years		0.698	4.12			0.000
3 years		0.989	2.34			0.019
4 years		0.722	3.71			0.000
5 years		0.602	2.89			0.004
Platoon ^{4,5} (Joint						
Effect)				7	17.05	0.017

Table 27 (continued)

Multilevel Mixed-Effects Linear Regression of Marine Identity

Variable	Coeff	SE	z	df	chi ²	P> z
Model: N = 738; Number Groups = 246 R ² = 18.97 Level-1 Variance = 2.672 ² Level-2 Variance = 3.455 ²				26	192.53	0.000

Note. ¹0 = never or seldom attends religious services is the omitted reference category; ²T1 = processing is the omitted reference category; ³0 = no years of participation is the omitted reference category; ⁴Platoons were randomly numbered to ensure anonymity of Drill Instructors; ⁵Platoon is a proxy for gender; platoons 2 and 7 are women's platoons.

I compared the means of Marine Identity by time, controlling for the covariates, to test the research hypotheses that (H₁) Marine Identity is higher after The Crucible (T3) compared with beginning of recruit training (Processing T1), that (H₂) that Marine Identity is higher after The Crucible (T3) compared to before The Crucible (T2), and that (H₃) Marine Identity is higher before The Crucible (T2) than at the beginning of recruit training (Processing T1). The null hypothesis (H₀) is that Marine Identity does not vary at different times in the study. The chi-square value for the joint (simple) effect (113.7, *df* = 2) was significant at *p* < .000. Therefore, I rejected the null hypothesis and proceeded with pairwise comparisons, relying on Fisher's LSD to identify significant differences. Table 28 shows the results: Recruits are significantly (*p* < .000) higher, by 1.72 points, on the Marine Identity Index after The Crucible than before this culminating event which

supports H₂. The largest incremental change in Marine Identity though, comes between T1, Processing, and T2, pre-Crucible, which constitutes the majority of the recruit training experience, when Marine Identity increases, on average, by 1.95 points ($p < .000$) and supports H₃. As recruits' level of Marine Identity increases from T1 to T2 and from T2 to T3, the net result is a significantly ($p < .000$) higher level of Marine Identity (by 3.67 points, on average) at T3, post-Crucible-end of recruit training, than at the beginning of recruit training which supports H₁.

Table 28

Pairwise Comparison of Mean of Marine Identity by Time

Marine Identity	Mean	Contrast	SE	z	df	χ^2	$P > z $
Time ² (Joint Effect)					2	113.73	0.000
Processing Time 1	12.460		0.304	40.99			0.000
Pre-Crucible Time 2	14.407		0.282	50.96			0.000
Post-Crucible Time 3	16.126		0.248	65.10			0.000
Pre-Crucible Time 2 vs Processing Time 1		1.947	0.320	6.08	1	36.95	0.000
Post-Crucible Time 3 vs Processing Time 1		3.666	0.348	10.52	1		0.000
Post-Crucible Time 3 vs Pre-Crucible Time 2		1.719	0.261	6.58	1	43.30	0.000

Note. ²T1 = processing is the omitted reference category.

The pairwise comparisons table shows that, all things being equal, the mean of Marine Identity is higher at each time (T1 to T2, T2 to T3, and of course T1 to T3). This is to say that Marine Identity, as measured, significantly increases at each of the two levels of “treatment” in this study. The Crucible plays a significant part in the increase of Marine Identity among the recruits, accounting for nearly half (47%); in other words the three day Crucible event alone nearly doubles the gains that the recruits have made in developing a Marine Identity over 11 weeks of recruit training. This is reflected in Figure 35.

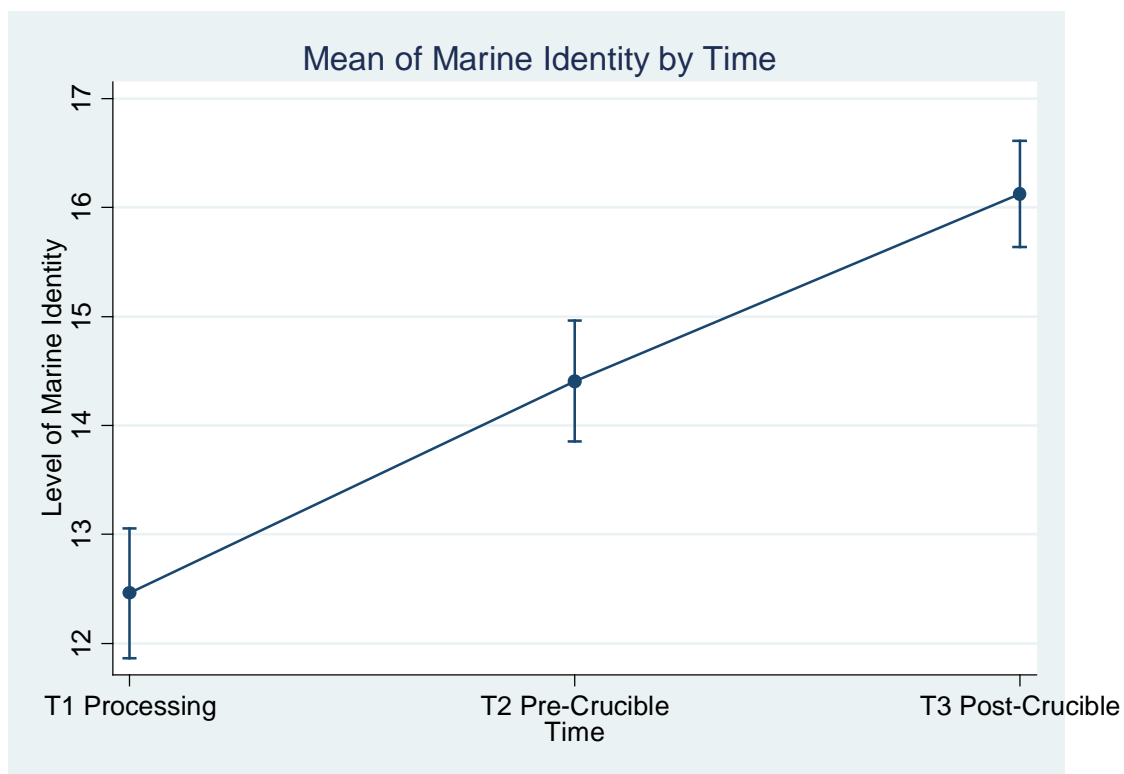


Figure 35. Mean of Marine Identity by Time.

To test the hypothesis that Marine Identity varies at different levels by gender, I compared variations by platoon, which served as a proxy for gender as women’s platoons (randomly numbered 2 and 7) are separate from men’s platoons (1, 3, 4, 5, 6, and 8). The chi-square value for the joint (simple) effect (17.1, $df = 7$) was significant at $p < .000$.

Therefore, I rejected the null hypothesis and proceeded with pairwise comparisons, relying on Fisher's LSD test to identify significant differences between platoons. The results, shown in Table 29, indicate that there is some variation among the platoons relative to the development of Marine Identity. Presenting the full results in a table would be cumbersome, so I included them as an appendix (see Appendix I), and excerpted the key findings in Table 29.

Table 29

Pairwise Comparison of Mean of Marine Identity by Platoon

Platoon	Mean	Contrast	SE	z	df	χ^2	$P > z $
Platoon ^{4,5}					7	17.05	0.017
Platoon 1	14.098		0.628	22.44			0.000
Platoon 2	13.983		0.529	26.44			0.000
Platoon 3	12.775		0.738	17.32			0.000
Platoon 4	15.047		0.592	25.42			0.000
Platoon 5	15.915		0.524	30.34			0.000
Platoon 6	13.846		0.724	19.11			0.000
Platoon 7	15.205		0.627	24.40			0.000
Platoon 8	13.777		0.679	20.27			0.000
Platoon 2 vs							
Platoon 1		-0.114	0.821	-0.14	1	0.02	0.889
Platoon 3 vs							
Platoon 1		-1.322	0.942	-1.40	1	1.97	0.160
Platoon 4 vs							
Platoon 1		0.949	0.866	1.10	1	1.20	0.273
Platoon 5 vs							
Platoon 1		1.817	0.822	2.21	1	4.89	0.027
Platoon 6 vs							
Platoon 1		-0.251	0.968	-0.26	1	0.07	0.795
Platoon 7 vs							
Platoon 1		1.197	0.883	1.35	1	1.84	0.175
Platoon 8 vs							
Platoon 1		0.320	0.960	-0.33	1	0.11	0.738

Table 29 (continued)

Pairwise Comparison of Mean of Marine Identity by Platoon

Platoon	Mean	Contrast	SE	z	df	χ^2	$P > z $
Platoon 5 vs Platoon 2		1.931	0.757	2.55			0.011
Platoon 7 vs Platoon 2		1.311	0.800	1.64			0.101
Platoon 4 vs Platoon 3		2.272	0.959	2.37			0.018
Platoon 5 vs Platoon 3		3.139	0.928	3.38			0.001
Platoon 7 vs Platoon 3		2.519	0.983	2.56			0.010
Platoon 6 vs Platoon 5		-2.068	0.912	-2.27			0.023
Platoon 8 vs Platoon 5		-2.137	0.869	-2.46			0.014

Note. ¹Platoons were randomly numbered to ensure anonymity of Drill Instructors;

²Platoon is a proxy for gender; platoons 2 and 7 are women's platoons.

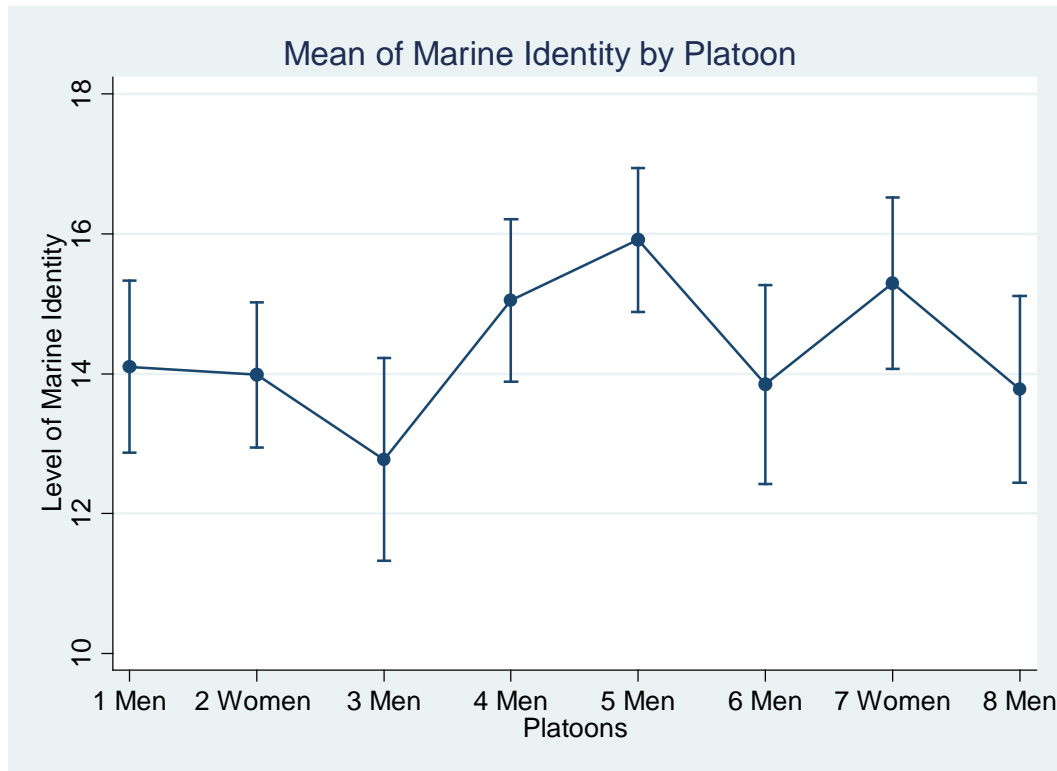


Figure 36. Mean of Marine Identity by Platoon.

Differences exist among the platoons in terms of measured Marine Identity as seen in Figure 36. The mean of Marine Identity for platoon 5 is significantly greater than for platoons 1, 2, 3, 4, 6, and 8. Similarly, women platoons 2 and 7 are each greater than platoon 3.

Differences in Marine Identity also emerged for recruits of different years of age. Controlling for the other covariates, age has a significant negative relationship with Marine Identity: For every one year increase in age, recruits Marine Identity Index scores decrease by $-.3483396$ points.

Table 30

Pairwise Comparison of Mean of Marine Identity by Age

Age	Mean	SE	z	$P > z $
18	15.084	0.310	48.65	0.000
19	14.736	0.244	60.44	0.000
20	14.387	0.213	67.44	0.000
21	14.039	0.233	60.24	0.000
22	13.691	0.293	46.72	0.000
23	13.342	0.374	35.64	0.000
24	12.994	0.466	27.88	0.000
25	12.645	0.563	22.46	0.000
26	12.297	0.663	18.55	0.000
27	11.949	0.765	15.63	0.000
28	11.600	0.867	13.37	0.000

Figure 37 depicts a negative relationship of Marine Identity and Age. While the standard error of the mean increases as age increases, this may be due to the smaller sample size in higher age categories.

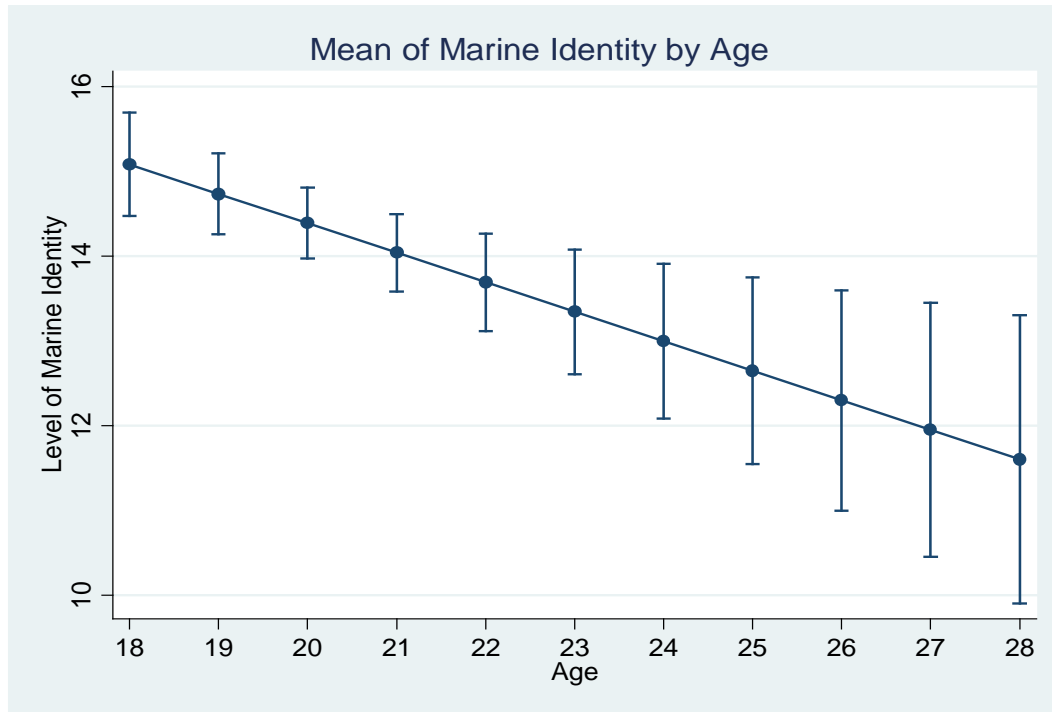


Figure 37. Mean of Marine Identity by Age.

Another area in which differences in Marine Identity emerged was in recruits' years of participation in sports. In testing the joint (simple) effects on Marine Identity of years of participation in sports, the chi-square value of 24.28 ($df = 5$) was significant ($p < .05$), so I proceeded to examine pairwise comparisons. As evident in Table 31, on average, Marine Identity is significantly higher among recruits who played sports than for recruits who did not play sports. Any length of time participating in sports, at least one year, as long as the recruit was involved in sports, is associated with a significantly higher Marine Identity score.

Table 31

Pairwise Comparison of Mean of Marine Identity by Years of Participation in Sports

Years	Mean	Contrast	SE	z	$P > z $
0	12.513		0.454	27.55	0.000
1	15.851		1.155	13.72	0.000
2	15.390		0.542	28.38	0.000
3	14.825		0.858	17.24	0.000
4	15.191		0.561	27.09	0.000
5	14.251		0.372	38.31	0.000
1 year vs 0 years		3.337	1.239	2.69	0.007
2 years vs 0 years		2.876	0.698	4.12	0.000
3 years vs 0 years		2.312	0.989	2.34	0.019
4 years vs 0 years		2.677	0.722	3.71	0.000
5 years vs 0 years		1.737	0.601	2.89	0.004

Figure 38 shows the mean of Marine Identity for the different levels of years recruits played sports. The number of recruits with one year ($n = 36$) or three years ($n = 66$) of sports participation experience was small. If the sample size in these response categories had been greater for comparison, it may be that they, too, may have been significantly different from recruits with zero sports experience as seen in pattern in Figure 38.

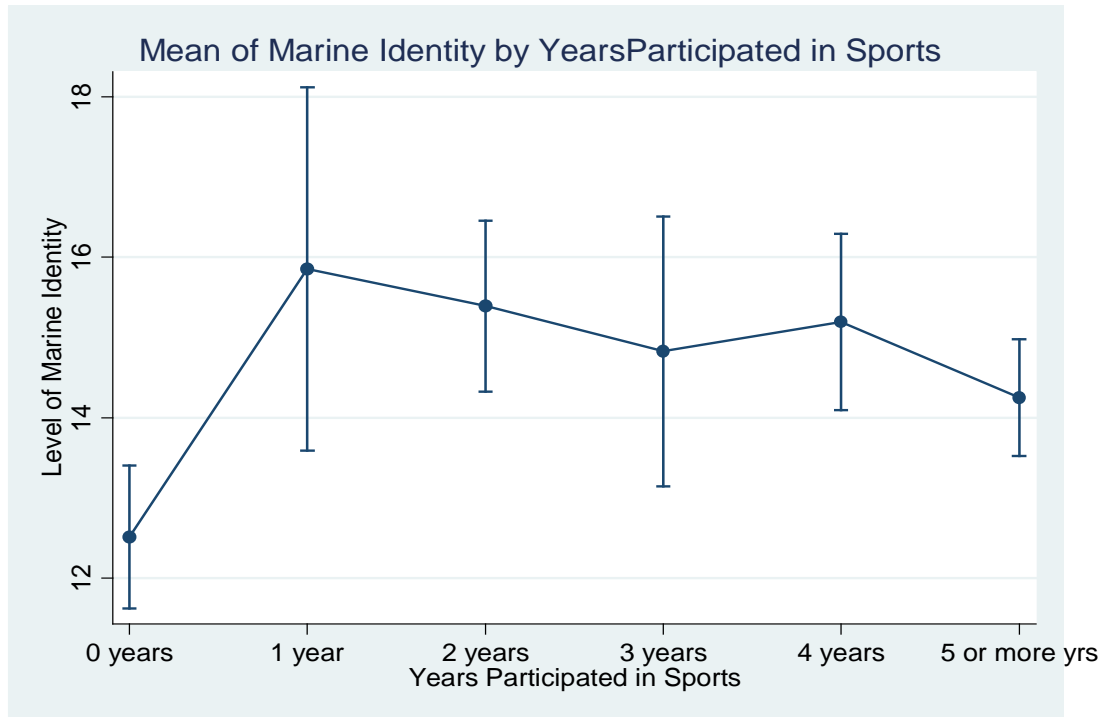


Figure 38. Mean of Marine Identity by Years of Participation in Sports.

Differences in Marine Identity also emerged by different levels of recruits' age * years of participation in sports as seen in Table 32. Because the main effect of age and the main effect of participation in sports are both significant, I performed a margins command for sports at different ages thereby producing MER (Marginal Effects at Representative Values) similar to a conditional effects plot.

Table 32

Pairwise Comparison of Mean of Marine Identity by Age and Years of Participation in Sports

Age and Years of Sports Participation	Mean	SE	z	$P > z $
18 and 0 years	13.267	0.476	27.85	0.000
18 and 1 year	16.604	1.182	14.04	0.000
18 and 2 years	16.143	0.598	26.98	0.000
18 and 3 years	15.579	0.913	17.05	0.000
18 and 4 years	15.944	0.588	27.07	0.000
18 and 5 years	15.004	0.442	33.88	0.000
19 and 0 years	12.981	0.452	28.59	0.000
19 and 1 year	16.256	1.164	13.96	0.000
19 and 2 years	15.795	0.561	28.13	0.000
19 and 3 years	15.231	0.881	17.29	0.000
19 and 4 years	15.596	0.564	27.63	0.000
19 and 5 years	14.656	0.395	37.08	0.000
20 and 0 years	12.570	0.452	27.82	0.000
20 and 1 year	15.907	1.156	13.76	0.000
20 and 2 years	15.446	0.543	28.43	0.000
20 and 3 years	14.882	0.860	17.30	0.000
20 and 4 years	15.247	0.559	27.25	0.000
20 and 5 years	14.307	0.373	25.38	0.000
21 and 0 years	12.222	0.476	25.66	0.000
21 and 1 year	15.559	1.157	13.45	0.000
21 and 2 years	15.098	0.545	27.66	0.000
21 and 3 years	14.534	0.852	17.05	0.000
21 and 4 years	14.899	0.575	25.92	0.000
21 and 5 years	13.959	0.380	26.73	0.000
22 and 0 years	11.873	0.521	22.76	0.000
22 and 1 year	15.211	1.168	13.02	0.000
22 and 2 years	14.750	0.568	25.94	0.000
22 and 3 years	14.185	0.858	16.53	0.000
22 and 4 years	14.541	0.608	23.91	0.000
22 and 5 years	13.611	0.415	32.75	0.000

Table 32 (continued)

Pairwise Comparison of Mean of Marine Identity by Age and Years of Participation in Sports

Age and Years of Sports Participation	Mean	SE	z	$P > z $
23 and 0 years	11.525	0.583	19.75	0.000
23 and 1 year	14.862	1.188	12.50	0.000
23 and 2 years	14.402	0.609	23.63	0.000
23 and 3 years	14.837	0.876	15.78	0.000
23 and 4 years	14.202	0.658	21.58	0.000
23 and 5 years	13.262	0.472	28.02	0.000
24 and 0 years	11.177	0.657	17.02	0.000
24 and 1 year	14.514	1.218	11.91	0.000
24 and 2 years	14.053	0.665	21.13	0.000
24 and 3 years	13.489	0.907	14.86	0.000
24 and 4 years	13.854	0.720	19.24	0.000
24 and 5 years	12.914	0.545	23.68	0.000
25 and 0 years	10.828	0.738	14.67	0.000
25 and 1 year	14.166	1.256	11.27	0.000
25 and 2 years	13.705	0.732	18.72	0.000
25 and 3 years	13.141	0.949	13.84	0.000
25 and 4 years	13.506	0.792	17.06	0.000
25 and 5 years	12.566	0.627	20.02	0.000
26 and 0 years	10.480	0.825	12.70	0.000
26 and 1 year	13.817	1.302	10.61	0.000
26 and 2 years	13.356	0.808	16.54	0.000
26 and 3 years	12.792	1.001	12.78	0.000
26 and 4 years	13.157	0.870	15.11	0.000
26 and 5 years	12.217	0.716	17.06	0.000
27 and 0 years	10.132	0.917	11.05	0.000
27 and 1 year	13.469	1.354	9.94	0.000
27 and 2 years	13.008	0.889	14.62	0.000
27 and 3 years	12.444	1.060	11.73	0.000
27 and 4 years	12.809	0.954	13.42	0.000
27 and 5 years	11.869	0.809	14.67	0.000

Table 32 (continued)

Pairwise Comparison of Mean of Marine Identity by Age and Years of Participation in Sports

Age and Years of Sports Participation	Mean	SE	z	$P > z $
28 and 0 years	9.783	1.011	9.68	0.000
28 and 1 year	13.121	1.413	9.28	0.000
28 and 2 years	12.660	0.976	12.97	0.000
28 and 3 years	12.095	1.127	10.73	0.000
28 and 4 years	12.461	1.043	11.95	0.000
28 and 5 years	11.521	0.905	12.73	0.000

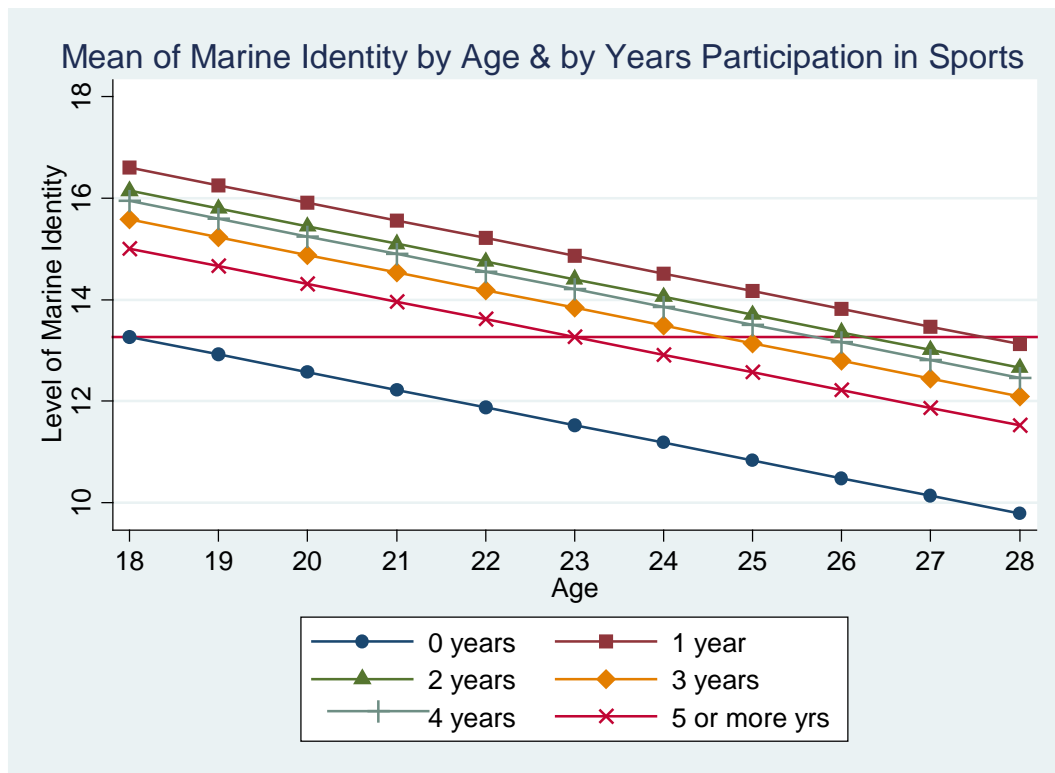


Figure 39. Mean of Marine Identity by Age and by Years of Participation in Sports.

Placing a y-line at the lowest margin (margin for age 18 and no sports, 13.26705), highlighted in Table 32 and seen in Figure 39, indicates that regarding older recruits, irrespective of other characteristics (i.e., as measured by the other covariates), the opportunity of developing Marine Identity in older recruits, if they played at least one year of organized sports diminishes after age 23 compared to an 18 year old recruit and no sports. As Marine Identity has a negative relationship with age, a Marine Identity equivalency is apparent to exist between 18 year old recruits who did not play sports and 23 year old recruits who did play sports. Assuming that recruits of age 18 who have not participated in sports will result in a reasonable acceptable amount of Marine Identity, then this value (13.26705) on the Marine Identity Index can serve as a benchmark for looking at the other years. Figure 39 indicates that once an applicant is about 23 years of age, the Marine Corps might want to consider more seriously recruiting persons who were involved in organized sports.

Since the main effect of time and the main effect of age are both significant, a margins command for time “at” different ages was performed, thereby producing MER (Marginal Effects at Representative Values) as seen in Table 33. This is like a conditional effects plot.

Table 33

Pairwise Comparison of Mean of Marine Identity by Age and Time

Age and Time	Mean	SE	z	$P > z $
18 at Time 1	13.212	0.3834	34.46	0.000
18 at Time 2	15.159	0.366	41.38	0.000
18 at Time 3	16.879	0.323	52.19	0.000
19 at Time 1	12.874	0.329	39.05	0.000
19 at Time 2	14.811	0.309	47.83	0.000
19 at Time 3	16.531	0.267	61.87	0.000
20 at Time 1	12.516	0.305	41.09	0.000
20 at Time 2	14.463	0.283	51.04	0.000
20 at Time 3	16.182	0.246	65.57	0.000
21 at Time 1	12.167	0.316	38.51	0.000
21 at Time 2	14.115	0.296	47.73	0.000
21 at Time 3	15.834	0.270	58.53	0.000
22 at Time 1	11.819	0.359	32.84	0.000
22 at Time 2	13.766	0.342	40.19	0.000
22 at Time 3	15.486	0.329	47.08	0.000
23 at Time 1	11.470	0.427	26.89	0.000
23 at Time 2	13.418	0.412	32.55	0.000
23 at Time 3	15.137	0.407	37.16	0.000
24 at Time 1	11.122	0.507	21.93	0.000
24 at Time 2	13.069	0.495	26.39	0.000
24 at Time 3	14.789	0.496	29.79	0.000
25 at Time 1	10.774	0.596	18.08	0.000
25 at Time 2	12.721	0.586	21.71	0.000
25 at Time 3	14.441	0.591	24.42	0.000
26 at Time 1	10.425	0.689	15.11	0.000
26 at Time 2	12.373	0.681	18.16	0.000
26 at Time 3	14.092	0.689	20.44	0.000
27 at Time 1	10.077	0.787	12.81	0.000
27 at Time 2	12.025	0.779	15.42	0.000
27 at Time 3	13.744	0.790	17.40	0.000
28 at Time 1	9.729	0.886	10.98	0.000
28 at Time 2	11.676	0.879	13.27	0.000
28 at Time 3	13.395	0.892	15.02	0.000

The graph in Figure 40 and the highlighted values in Table 33 were used for y-lines. The y-lines provide some awareness of measured Marine Identity equivalencies. The top y-line indicates that, irrespective of the other covariates, The Crucible for the average recruit of age 23 will only increase Marine Identity to a level equivalent to the average 18 year old recruit after ten weeks of boot camp and before The Crucible. Similarly, the lower y-line indicates that the average 28 year old recruit who completes The Crucible will only increase Marine Identity to a level equivalent to the average 23 year old recruit who completes ten weeks of boot camp before The Crucible. This is approximately equivalent to the average 18 year old recruit prior to undergoing recruit training.

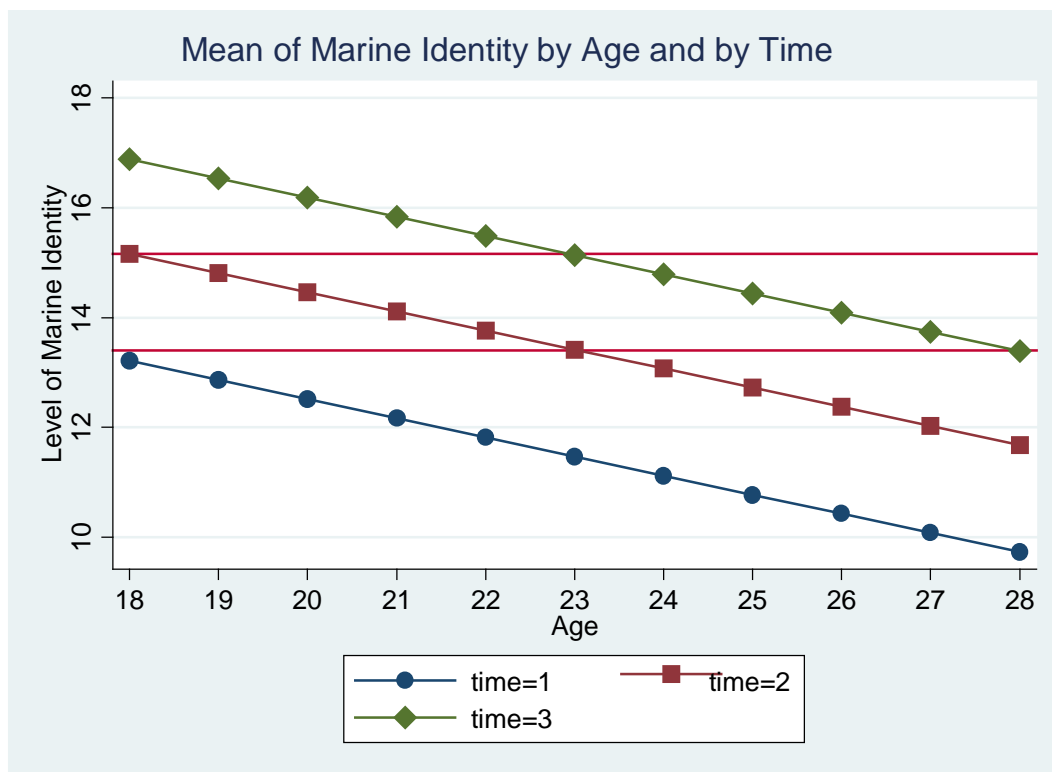


Figure 40. Mean of Marine Identity by Age * Time.

In view of the fact that the main effects of time, age, and years of participation in sports are all significant, I ran a margins command for time “at” different ages and for the lowest number of years of participation in sports (this created a played versus did not play sports setting; the lowest years of participation in sports values were at 5 or more years, but there is no significant difference between 1, 2, 3, 4, or 5 or more years of sports participation, thereby producing MER (Marginal Effects at Representative Values). This is like a conditional effects plot in the Table 34.

Table 34

*Pairwise Comparison of Mean of Marine Identity by Age * Years of Participation in Sports * Time*

Age and Years of Sports Participation by Time	Mean	SE	z	$P > z $
18 and 0 years at Processing Time 1	11.395	0.524	21.75	0.000
18 and 0 years at Pre-Crucible Time 2	13.343	0.513	26.01	0.000
18 and 0 years at Post-Crucible Time 3	15.062	0.491	30.70	0.000
18 and 5 years at Processing Time 1	13.133	0.500	26.26	0.000
18 and 5 years at Pre-Crucible Time 2	15.080	0.482	31.26	0.000
18 and 5 years at Post-Crucible Time 3	16.799	0.451	37.27	0.000
19 and 0 years at Processing Time 1	11.047	0.499	22.10	0.000
19 and 0 years at Pre-Crucible Time 2	12.994	0.488	26.59	0.000
19 and 0 years at Post-Crucible Time 3	14.714	0.470	31.28	0.000

Table 34 (continued)

*Pairwise Comparison of Mean of Marine Identity by Age * Years of Participation in Sports * Time*

Age and Years of Sports Participation by Time	Mean	SE	z	$P > z $
19 and 5 years at Processing Time 1	12.784	0.456	28.01	0.000
19 and 5 years at Pre-Crucible Time 2	14.731	0.437	33.70	0.000
19 and 5 years at Post-Crucible Time 3	16.451	0.408	40.30	0.000
20 and 0 years at Processing Time 1	10.699	0.498	21.48	0.000
20 and 0 years at Pre-Crucible Time 2	12.646	0.487	25.92	0.000
20 and 0 years at Post-Crucible Time 3	14.365	0.474	30.30	0.000
20 and 5 years at Processing Time 1	12.436	0.435	28.59	0.000
20 and 5 years at Pre-Crucible Time 2	14.383	0.415	34.66	0.000
20 and 5 years at Post-Crucible Time 3	16.103	0.391	41.19	0.000
21 and 0 years at Processing Time 1	10.350	0.518	19.96	0.000
21 and 0 years at Pre-Crucible Time 2	12.297	0.508	24.21	0.000
21 and 0 years at Post-Crucible Time 3	14.017	0.500	27.99	0.000
21 and 5 years at Processing Time 1	12.088	0.439	27.52	0.000
21 and 5 years at Pre-Crucible Time 2	14.035	0.419	33.45	0.000
21 and 5 years at Post-Crucible Time 3	15.754	0.402	39.17	0.000

Table 34 (continued)

*Pairwise Comparison of Mean of Marine Identity by Age * Years of Participation in Sports * Time*

Age and Years of Sports Participation by Time	Mean	SE	z	$P > z $
22 and 0 years at Processing Time 1	10.002	0.559	17.89	0.000
22 and 0 years at Pre-Crucible Time 2	11.949	0.549	21.75	0.000
22 and 0 years at Post-Crucible Time 3	13.669	0.547	24.97	0.000
22 and 5 years at Processing Time 1	11.739	0.468	25.06	0.000
22 and 5 years at Pre-Crucible Time 2	13.686	0.450	30.40	0.000
22 and 5 years at Post-Crucible Time 3	15.406	0.439	35.02	0.000
23 and 0 years at Processing Time 1	9.654	0.616	15.68	0.000
23 and 0 years at Pre-Crucible Time 2	11.601	0.607	19.11	0.000
23 and 0 years at Post-Crucible Time 3	13.321	0.609	21.86	0.000
23 and 5 years at Processing Time 1	11.391	0.518	21.98	0.000
23 and 5 years at Pre-Crucible Time 2	13.338	0.502	26.57	0.000
23 and 5 years at Post-Crucible Time 3	15.058	0.497	30.24	0.000
24 and 0 years at Processing Time 1	9.306	0.684	13.60	0.000
24 and 0 years at Pre-Crucible Time 2	11.252	0.676	16.63	0.000
24 and 0 years at Post-Crucible Time 3	12.972	0.682	19.01	0.000

Table 34 (continued)

*Pairwise Comparison of Mean of Marine Identity by Age * Years of Participation in**Sports * Time*

Age and Years of Sports Participation by Time	Mean	SE	z	$P > z $
24 and 5 years at Processing Time 1	11.043	0.583	18.93	0.000
24 and 5 years at Pre-Crucible Time 2	12.990	0.569	22.82	0.000
24 and 5 years at Post-Crucible Time 3	14.709	0.570	25.80	0.000
25 and 0 years at Processing Time 1	8.957	0.761	11.76	0.000
25 and 0 years at Pre-Crucible Time 2	10.904	0.754	14.45	0.000
25 and 0 years at Post-Crucible Time 3	12.624	0.763	16.54	0.000
25 and 5 years at Processing Time 1	10.694	0.659	16.21	0.000
25 and 5 years at Pre-Crucible Time 2	12.641	0.647	19.53	0.000
25 and 5 years at Post-Crucible Time 3	14.361	0.651	22.03	0.000
26 and 0 years at Processing Time 1	8.609	0.845	10.18	0.000
26 and 0 years at Pre-Crucible Time 2	10.556	0.839	12.58	0.000
26 and 0 years at Post-Crucible Time 3	12.275	0.850	14.44	0.000
26 and 5 years at Processing Time 1	10.346	0.743	13.92	0.000
26 and 5 years at Pre-Crucible Time 2	12.293	0.732	16.79	0.000
26 and 5 years at Post-Crucible Time 3	14.013	0.740	18.94	0.000

Table 34 (continued)

*Pairwise Comparison of Mean of Marine Identity by Age * Years of Participation in Sports * Time*

Age and Years of Sports Participation by Time	Mean	SE	z	$P > z $
27 and 0 years at Processing Time 1	8.260	0.933	8.85	0.000
27 and 0 years at Pre-Crucible Time 2	10.207	0.928	11.00	0.000
27 and 0 years at Post-Crucible Time 3	11.927	0.940	12.68	0.000
27 and 5 years at Processing Time 1	9.998	0.832	12.01	0.000
27 and 5 years at Pre-Crucible Time 2	11.945	0.822	14.52	0.000
27 and 5 years at Post-Crucible Time 3	13.664	0.832	16.41	0.000
28 and 0 years at Processing Time 1	7.912	1.025	7.71	0.000
28 and 0 years at Pre-Crucible Time 2	9.859	1.020	9.66	0.000
28 and 0 years at Post-Crucible Time 3	11.579	1.034	11.19	0.000
28 and 5 years at Processing Time 1	9.649	0.924	10.43	0.000
28 and 5 years at Pre-Crucible Time 2	11.596	0.916	12.66	0.000
28 and 5 years at Post-Crucible Time 3	13.316	0.928	14.35	0.000

In Figure 41 and Table 34, the top y-line (15.06244) indicates that the average 18 year old who never played sports (0 years participation), but who completed The Crucible (T3), has a Marine Identity value equivalent to the average 23 year old who played sports for 5 years. The middle y-line indicates that, at T2 (Pre-Crucible), the average 18 year old that never played sports has a Marine Identity value equivalent to the average 23 year old

that played sports. However, at T3 (Post-Crucible) the average 28 year old that played sports has a Marine Identity equivalent to the average 18 year old with no sports experience. Without The Crucible, anyone 23 or older has a Marine Identity equal to or less than the average non-sports playing 18 year old recruit. As shown in Figure 41, the role of organized sports in older aged recruits becomes a more important consideration when desiring to develop Marine Identity.

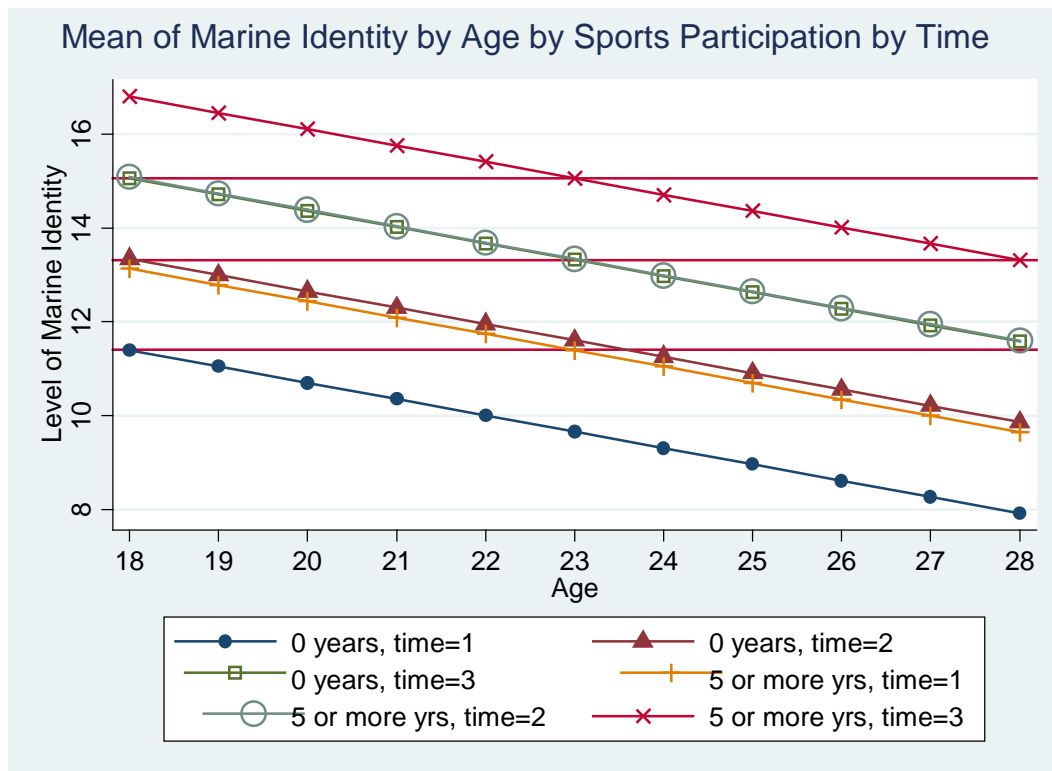


Figure 41. Mean of Marine Identity by Age at Zero and Five Years of Sports Participation.

Summary of Quantitative Results

Honor

Honor increases across the recruit training experience for virtually all recruits. Study hypotheses concerning Honor are supported, with a few caveats as noted:

On average, Honor increases for both men and women during the primary recruit training experience (T1 to T2) and overall (T1 to T3), though the increase is greater men than for women. Perhaps this is because women start higher in Honor to begin with: women have higher average Honor than men at every measurement point in the study. The Crucible (T2 to T3) is associated with a significant increase in Honor for men but not women.

Honor is positively associated with frequency of attending religious services. Change in Honor across the recruit training experience (T1 to T2 and T2 to T3) is greatest among recruits who never or rarely attend religious services, who start with the lowest average level of Honor on the index, compared with recruits who Occasionally attend and those recruits who regularly attend. Regular attendees of religious services also see significant gains in Honor across recruit training (T1 to T2 and T2 to T3). However, recruits who report that they sometimes or occasionally attend religious services start with the highest average level of Honor, but they experience no significant increase in Honor during recruit training.

On average, Honor is higher among recruits who have participated in sports than among those who have not. It appears that participating in sports for two or more years is associated with higher Honor.

Honor is not associated with other sociodemographic or background characteristics included in this study (age, ethnicity, education level, having military family members, participation in extracurricular activities) or length of time in the delayed entry program.

Courage

Courage increases across the recruit training experience for virtually all recruits. Study hypotheses concerning Courage are supported, with a few conditions as noted:

On average, Courage increases for both men and women during the primary recruit training experience (T1 to T2) and overall (T1 to T3), though the increase is greater from T1 (Processing) to T2 (Pre-Crucible) than from T2 (Pre-Crucible) to T3 (Post-Crucible). On average women (platoons 2 and 7) score higher on the Courage Index than men in platoons 3 and 4.

Courage is positively associated with participation in extracurricular activities. Change in Courage across the recruit training experience (T1 to T2 and T2 to T3) increased significantly for the average recruit who had few years of involvement in extracurricular activities. Conversely, on average, for recruits with more years of involvement in extracurricular activities, Courage did not significantly increase from T1 to T2 or from T2 to T3. However, the recruits with more years of involvement in extracurricular activities scored significantly higher on the Courage Index than recruits with few years of extracurricular activities.

Courage is not associated with other sociodemographic or background characteristics included in this study (age, ethnicity, education, attending religious

services, having military family members, participation in sports, or length of time in the delayed entry program).

Critical Thinking

Critical Thinking increases across the recruit training experience for virtually all recruits, and The Crucible event alone nearly doubles recruits' score on this measure. Study hypotheses concerning critical thinking are supported, with a few qualifications as noted:

On average, Critical Thinking increases for recruits during the primary recruit training experience (T1 to T2) and overall (T1 to T3). The Crucible (T2 to T3) is associated with a larger incremental increase in Critical Thinking than the incremental increase associated with the time period which constitutes the majority of the recruit training experience, T1 (Processing) to T2 (Pre-Crucible).

Women, irrespective of the other covariates, have higher Critical Thinking scores than men. Women's platoons (2 and 7) are not significantly different from each other on the measure of Critical Thinking and are not statistically different from men's platoons.

The average recruit with at least some college education has a significantly higher score on the Critical Thinking Index than the average recruit with a high school diploma.

Critical thinking is negatively associated with frequency of attending religious services. Critical Thinking for recruits with weekly or monthly attendance is significantly lower than recruits with no attendance. The mean change in Critical Thinking across the recruit training experience (T1 to T2 and T2 to T3) is greatest among recruits who never or rarely attend religious services.

While recruits who had regular attendance at religious services tended to score lower on the Critical Thinking Index, those recruits with some college or more tended to have a higher score on the Critical Thinking Index.

Critical thinking is not associated with other sociodemographic characteristics such as age, ethnicity, having military family members, participation in sports, participation in extracurricular activities, or length of time in the delayed entry program.

Marine Identity

Marine Identity increases across the recruit training experience for virtually all recruits. Study hypotheses concerning marine identity are supported, with a few caveats as noted:

On average, Marine Identity increases for both men and women during the primary recruit training experience T1 to T2, T2 to T3, and overall T1 to T3. While the increase is greater from T1 to T2 than from T2 to T3, Marine Identity significantly increases at each of the two levels.

Women have higher Marine Identity scores than men. Perhaps this is because women start higher in Marine Identity to begin with: women have higher average Marine Identity than men at every measurement point in the study. The Crucible (T2 to T3) is associated with a significant increase in Marine Identity for men, but not women.

Marine Identity is negatively associated with age as Marine Identity scores decrease for every year increase in age.

On average, Marine Identity is higher among recruits who have participated in sports than among those who have not. It appears that participating in sports for at least one year is associated with higher Marine Identity. The opportunity for developing

Marine Identity in older recruits is greater if they played at least one year of organized sports. After The Crucible, the average 18 year old recruit who never played sports has a Marine Identity value equivalent to the average 23 year old recruit who participated in sports for five years.

Marine Identity is not associated with other sociodemographic or background characteristics included in this study (ethnicity, education level, having military family members, participation in extracurricular activities, or length of time in the delayed entry program).

Results of Qualitative Data Analysis

This study also involved a qualitative component which consisted of three open ended questions presented at the end of the third questionnaire. The use of open-ended questions to collect data is a common method used in qualitative research. Patton (2002) writes that qualitative methods facilitate an in-depth and detailed study of the issues. Qualitative research draws on a method that respects the humanity of the participants in the study (Patton, 2002). The qualitative research used in this study builds on the foundation established by the quantitative research and provides a richer understanding of the role of The Crucible in recruit training

As described earlier, an additional section was included on the survey questionnaire at the third wave of data collection (T3, Post-Crucible) that contained three open-ended questions that allowed the respondent to express opinions on the topic of The Crucible in their own words based upon their personal experience. To reiterate, the three questions that were designed to garner qualitative data on the recruits' experiences were:

1. What did *The Crucible* experience mean to you?
2. How did *The Crucible* experience impact your commitment to being a Marine and upholding Marine Corps values?
3. How did *The Crucible* experience reinforce what you had already learned during Basic Training?

Qualitative methods, such as posing open-ended questions about lived experiences, help answer questions not easily answered by other methods of inquiry. Qualitative methods are research methods that are used to find out what people know and how they think (Patton, 2002) and to add depth to a quantitative study (Mertens, 1998). Given that *The Crucible* experience is personal and permits reflection, open-ended questions at the end of the primarily quantitative survey questionnaire proved invaluable in gaining a greater understanding of *The Crucible* as experienced by the respondents. The decision to include an open-ended qualitative portion of the study's final questionnaire was based on the belief that capturing the self-reported perceptions of participants would provide beneficial insights beyond those indicated by responses to Likert-type scales and to help determine the meaning attached to the numerical ratings. This data collection process accomplished the goal of providing rich data that otherwise would have been difficult to obtain. Additionally, the data from this qualitative inquiry provides some directions to explore in regard to other aspects of organization socialization and values in future research.

In responding to the open-ended questions, respondents indicated the importance, in varying degrees, of the values of honor, courage, and commitment and supported with examples of situations where these values were important. Lastly, the various examples

and definitions of honor, courage, commitment gleaned from this group add to the literature on values which is replete with thoughts on the topic, but not from this population of people.

Content and Inductive Analysis

A grounded theory approach was used in this qualitative analysis. The researcher immersed, or “grounded” himself in the data, identifying themes and categories in an inductive analytic process (Patton, 2002). The researcher first analyzed the content of the answer to a question to identify an overarching pattern. To facilitate this process, codes were used to systematically examine the narrative data. The use of codes is a commonly accepted step in qualitative analysis and provides a systematic way to make sense of large tracts of textual data (Patton, 2002). The coding involved reading a passage of text and indexing particular words, phrases, sentences, or sections that provided specific insight in to the research topic. The process was iterative and codes were modified or added as new information emerged from the analysis (Patton, 2002). The intent of the coding process was to help the researcher look for commonalities or patterns that revealed insights into the effects of *The Crucible*. Emergent themes from the coding exercise were then used to frame a more detailed analysis of the data from the open-ended questions, focusing on different facets of *The Crucible* experience.

I used content analysis to search for recurring words and themes. According to Patton (2002), content analysis is used to refer to any qualitative data reduction and sense-making effort that takes a volume of qualitative material and attempts to identify core consistencies and meanings. In addition, I employed an inductive analysis. Patton states that inductive analysis involves discovering patterns, themes, and categories in

one's data. Findings emerge out of the data through the analyst's interactions with the data.

The method of analysis for this qualitative section was careful and thorough. The researcher focused on the identification of words and phrases that represented patterns and emerging themes through a series of reflective activities. The data segments comprising similar words and phrases were organized into a system that was predominately derived from the data, color coded, and tabulated for use in the analysis. The main analytic process was comparison to build and refine categories, define conceptual similarities, and discover patterns (Mertens, 1998). The unit of analysis was the word, then phrase or meaning. The following section provides the results of an analysis of the three questions in the order presented on the survey questionnaire of the factors identified.

Question One

The first question of the third administration of the survey questionnaire asked the open ended question, "What did *The Crucible* experience mean to you?" This question received 296 responses resulting in a 93.6% response rate. For this question, the response rate was 98.8% for women and 91.8% for men. Seventy-seven percent of the women and 49.5% of the men used one of the four word patterns found in Table 35 to respond to what *The Crucible* meant to them.

Table 35

Frequencies by Gender and Theme in Responses to “What did The Crucible experience mean to you?”

Theme	Women (N = 82)	Men (N = 214)	Total (N = 296)
Honor	4.8% (n = 4)	3.3% (n = 7)	3.7% (n = 11)
Courage	36.6% (n = 30)	37.4% (n = 80)	37.2% (n = 110)
Critical Thinking	6.1% (n = 5)	1.0% (n = 2)	2.4% (n = 7)
Marine Identity	46.3% (n = 38)	21.0% (n = 45)	28.0% (n = 83)

Based on word count and patterns, the theme of courage necessary to overcome the physical and mental challenge during The Crucible, commitment to, and sense of belonging to the Marine Corps were predominant themes. Following are sample quotes from recruits to illustrate each theme in Table 35.

Honor:

The Crucible meant putting the core values . . . into play . . . humbling and motivating.

It put things in a different perspective. The Crucible was one of the hardest things I’ve ever had to do. It meant pure TEAMWORK. It meant Honor, Courage, and Commitment. Honor your seniors and every Marine that has given their life for your life now. Courage to get through every obstacle no matter how hard or scary it is, and commitment, stay with your sisters beside you and never leave anyone behind.

Courage:

The Crucible was a challenge of pushing yourself past your limits

It also tested your mind set and established whether you had the mental state under pressure to complete an objective.

Critical Thinking:

a colossal paradigm shift...to think outside the box and to be effective as a team.

. . . tested what I had learned, but with less guidance from the Drill Instructors which made us critically think.

It reinforced teamwork . . . and how to think outside of the box.

To think outside the box . . . to be effective as a team. That experience was different than any other physical and mental obstacles I have had to overcome so far.

It reinforced teamwork . . . and how to think outside of the box.

. . . a test of strength, endurance, and quick rational thinking

I can't explain it in words . . . the impact it had . . . a colossal paradigm shift . . . to think outside the box and to be effective as a team.

The Crucible tested what I had learned, but with less guidance from the Drill Instructors which made us critically think.

It reinforced teamwork through everything that you did and how to think outside of the box.

Marine Identity:

The Crucible planted the Eagle, Globe, and Anchor on my heart.

The Crucible to me was like King Arthur pulling the sword from the stone.

. . . you could tell something changed in us and it's imprinted forever.

The Crucible was a test of strength, endurance, and quick rational thinking . . . I cried, I wanted to quit, but I didn't. Somewhere, inside me, a Marine was born.

The full personal transformation during the 54 hours of Crucible is impossible to express completely. It felt, at first disorienting and confusing and starting at lights at 0200 on training day 63, it seemed like the day and entire experience were going to be impossible but after completing the first event, it was almost a complete turnaround. Unit cohesion and morale greatly improved as we became more confident as a team from there as a team we began growing stronger mentally and emotionally. On the personal level, I felt as if my confidence was the greatest improved trait during the crucible . . . in the 54 hours of the Crucible, my Confidence was super charged . . . I feel like a completely different person . . . and the Marine I had wanted to become.

The teamwork used during the Crucible really opened my eyes. The Corps is all about brotherhood. It doesn't matter if you don't know the girl/guy beside you during when executing your objectives, the only thing that matters is mission accomplished. Our team, one common goal, and no one left behind. All I had out there were those recruits and we all were going through the same thing. Nobody allowed anyone to quit. As our connection grew so did we as Marines. Before we even stepped foot on the parade deck for our Eagle, Globe, and Anchor you could tell something changed in us and it's imprinted forever.

The Crucible was the turning point of all my feelings of not belonging.

I saw the Crucible as a finish line as well as the starting line. It meant the end of Recruit Training and the start of my new life as a basically trained Marine. It affected me not only physically and emotionally as well. The Crucible meant putting the core values, instilled, from day 1 stepped on the yellow foot prints, into play. To display the commitment to keep pushing even when I wanted to quit, the courage (mental & physical) to do something through fear and honor of not letting my team down. It meant being put in a situation that you had no choice but to make split decision find teamwork and get something done.

Made me respect the Corps even more because there really is an application of Honor, Courage, and Commitment even when no one is watching and I admire that.

Women's responses to "What did *The Crucible* mean to you?" while calling attention to the Honor, Courage, Critical Thinking, and Marine Identity, also emphasized the leadership role of the drill instructor during The Crucible as seen in sample quotes.

It meant a lot to me, seeing my Drill Instructors as mentors taking the teams through areas of simulated combat and helping the Recruits self evaluate on how they executed the various missions. Certain events had historical citations that taught us how the Marines of the past demonstrated the Marine Corps values.

It meant a lot because it's when you start to see the other side of the Drill Instructors; you realize that they actually want to help you be the best Marine.

The Crucible showed me how much of a family the Marine Corps is, The Drill Instructors who had been so strict with us, and who most of us had been nervous or afraid to talk to at some point became mentors. That, to me, meant the most

because instead of just being Drill Instructors, they were being sergeants and staff sergeants leading their troops.

It was also a really rewarding experience in the way that our DI's helped us and really took on a mentoring roll [sp] in ways we never had seen before in recruit training

Core values with the Drill Instructors was humbling and motivating.

Men's responses to "What did *The Crucible* experience mean to you?" were more succinct and generally limited to one or two sentences. Responses tended to emphasize the depth of emotion experienced during The Crucible, and the physical and mental challenges that the event posed. Sample quotes from men recruits are presented to illustrate the physical and mental challenge presented during The Crucible to male recruits that resulted in a personal transformation:

The Crucible drains you of your senses to see how tempered the Corp Values are within yourself.

The Crucible was a very emotional mental & physically demanding experience. It changed the way I view the Corps.

It was the best worst time of my life.

It was a complete eye opener, from the start of The Crucible to 54 hours later, I feel like a completely different person.

It meant to me that it was the opening to the tunnel that was recruit training and going through it made me learn that I am stronger and can do more than I thought I could.

It was a pivotal physical experience that will forever stand as a bench mark for what I know I am capable of in the future.

It put mind over matter.

Summary of Question One

Themes common among both men and women include Honor, Courage, Critical Thinking, Marine Identity, the physical and mental challenge of The Crucible, as well as the leadership role of the drill instructor. Critical thinking and commitment to the organization was evident in responses among both men and women.

Question Two

“How did *The Crucible* experience impact your commitment to being a Marine and upholding Marine Corps values?” This question received 296 responses resulting in a 93.6% response rate. For this question, the response rate was 98.8% for women recruits and 91.8% response rate for men. Of the 296 respondents, 85.3%, 82 of the women and 157 of the men used one of the four themes found in Table 36.

Table 36

Frequencies by Gender and Theme in Responses to “How did The Crucible experience impact your commitment to being a Marine and upholding Marine Corps values?”

Theme	Women (N = 82)	Men (N = 214)	Total (N = 296)
Marine Identity	60.9% (n = 50)	47.7% (n = 102)	51.4% (n = 152)
Strengthened Core Values	39% (n = 32)	17.8% (n = 38)	23.6% (n = 70)

Table 36 (continued)

Frequencies by Gender and Theme in Responses to “How did The Crucible experience impact your commitment to being a Marine and upholding Marine Corps values?”

Theme	Women (N = 82)	Men (N = 214)	Total (N = 296)
Honor	14.6% (n = 12)	7.9% (n = 17)	9.5% (n = 29)
Challenge	3.7% (n = 3)	25.2% (n = 54)	19.2% (n = 57)

Responses to “How did *The Crucible* experience impact your commitment to being a Marine and upholding Marine Corps values?” emphasized honor, courage, commitment, and pride of belonging to the Marine Corps. Based on word count and patterns, the themes of Marine Identity and strengthened core values were predominant themes. I present some sample quotes from recruits to illustrate each theme in Table 36.

Marine Identity:

Semper Fidelis was just a word people said, but now there is a message behind it.

The Crucible experience impacted my commitment to being a Marine and upholding the Marine Corps values by placing that “something” inside me.

All of us knew what commitment means but the Crucible showed us how...

The Crucible experience impacted my commitment to being a Marine by making it stronger and actually have meaning. Semper Fidelis was just a word people said, but now there is a message behind it.

The Crucible experience impacted my commitment to being a Marine and upholding the Corps

The Crucible experience impacted my commitment to being a Marine and upholding the Marine Corps values by placing that “something” inside me. After the Crucible I see things differently and with more pride than before. It’s hard to explain the feeling or dedication you have after completing the Crucible unless you go through it yourself. I now feel like I am part of the family and will live the rest of my life upholding honor, courage, and commitment.

The Crucible experience gave me a stronger sense of pride in being a part of the “few” and a stronger sense of Semper Fidelis. Honor, courage, commitment is everything.

All of us knew what commitment means but the Crucible showed us how to demonstrate it, we had to put others before ourselves to help them out. It didn’t matter how tired you were, how scared you were or anything because the other Marine behind you is pretty much going to be just as scared and tired trying to survive. Going back and staying with them to help each other out is showing how commitment to the Corps and each other.

Core values:

The three traits work as a tripod with each other each as important as the next.

And values that build a strong successful character . . . everything we think and do, everything we believe in and help us with effective organization, teamwork, and mission accomplishment.

It showed that I have HONOR; to have responsibility and respect to my fellow Marines. COURAGE: to do what it is right even though people will be against you. COMMITMENT; to keep going even though sometimes you might have challenges that you feel you might not surpass

It showed me that honor, courage, and commitment isn't just an overused phrase, it's in EVERYTHING we do, as Marines. If you hold the Corps' values in your heart, you'll be effective and successful because they are everything we do . . . at the Crucible I learned the true meaning of Honor, Courage and commitment.

I had to be committed to my fellow recruits in order to finish the mission.

Courage played a big role also because I needed courage to perform some of the tasks we were directed to do.

Honor:

I could have taken an MRE [Meal Ready to Eat] at night when I was on fire watch. Before I came to boot camp, I would not have thought twice about stealing that food, but now I have honor.

The biggest factor that impacted my commitment to Corps Values was the food. We were all hungry and all tired. Many people wanted more food ...but we dealt with it because no matter how hungry you were you needed to remember Marines never cheat or steal.

I found myself not even trying to cheat reverting to what was taught when I was too tired to think.

For the first time I had to do the right thing when a Drill instructor wasn't blasting me, not cuz it was just the right thing to do, but because my squad needed me to,

or otherwise we would fail. Now it is clear that ever after recruit training I have to uphold the core values at all times, not just when someone is around.

I had to use Honor on the missions that wasn't supervised even though I was tired

I had to execute the mission with Honor and integrity.

While men respondents did use some noteworthy phrases to respond to Question Two, their responses again were more succinct and generally limited to one or two sentences. These phrases emphasize the physical and mental challenges of The Crucible reinforced commitment and teamwork to men recruits.

Challenge:

. . . a matter of heart not strength.

. . . none of them could be done alone. When I wanted to give up I kept going because the people to my left and right . . . you need teamwork to succeed.

. . . it was the hardest, most stressful, demanding, and painful experience of my life . . . but it was worth it.

Summary of Question Two

Themes common among both men and women include emphasized honor, courage, commitment, and pride of belonging to the Marine Corps. Based on word count and patterns, the themes of Marine Identity and strengthened core values were predominant themes. Food deprivation was connected with Honor by recruits.

Question Three

“How did *The Crucible* experience reinforce what you had already learned during Basic Training?” For this question the response was 279 resulting in an 88.2% response rate. Of the 279 respondents, 88.5% of them used one of the four themes found in Table

37 to respond to what *The Crucible* meant to them. For this question, the response rate was 98.8% for women and 84.6% for men. Ninety point four percent of the women and 97% of the men used one of the four themes found in Table 37 to respond to what *The Crucible* meant to them.

Table 37

Frequencies by Gender and Theme in Responses to “How did The Crucible experience reinforce what you had already learned during Basic Training?”

Word Pattern	Women (N = 82)	Men (N = 214)	Total (N = 296)
Everything I was Taught	53.7% (n = 44)	34.0% (n = 67)	39.8% (n = 111)
Marine Identity	31.7% (n = 26)	24.9% (n = 49)	26.9% (n = 75)
Reinforced My Core Values	39.1% (n = 32)	19.3% (n = 38)	25.1% (n = 70)
Challenge	12.2% (n = 10)	20.3% (n = 40)	17.9% (n = 50)

Reinforced what had previously been taught in boot camp:

The Crucible reinforced everything I learned through boot camp by instilling in me that teamwork, leadership, loyalty, courage, and knowledge are all important traits needed not only to be a Marine, but to complete the missions.

Everything we did in boot camp had a reason or a meaning behind it. A lot of the time nobody knew why, how, or what we were doing, but after a while and at *The Crucible*, it all tied together and everything had a purpose, hence, reinforcing everything I’ve learned.

It reinforced . . . teamwork through everything that you did, the concepts of taking care of fellow Marine, placing the team above the individual and giving 100% in everything you do

It brought teamwork, strength, and faith together

Marine Identity:

The Crucible ironed the Eagle, Globe, and Anchor on my heart.

The Crucible planted the Eagle, globe, and Anchor on my heart. We had to come together and work as a team. Persistence and determination were key!

I felt like I “signed” my contract with the Corps by doing The Crucible. After I finished, I truly am a part of the Marine Corps.”

In some ways, the Crucible was a contract of its own...From the very first pen stroke of a Signature on a dotted line, a man or woman’s journey through the Marine Corps recruit training is fraught with difficulties. Learning, having, and practicing the Marine Corps core values is the best way to overcome these thousands of challenges. As you finish The Crucible, a metaphorical load is lifted off you (sp) shoulders. Its significance is on par with standing on those famous yellow footprints.

It was like an iron being pressed into me. Those values are now etched into my being.

Throughout The Crucible I wanted to quit so many times, but when I reached the end and the Drill Instructor shook my hand and gave me my Eagle, Globe, and Anchor, I had an unexplainable emotion overwhelm my body. It was one of the greatest moments of my life.

The Crucible to me meant just like the definition of the word, the melting pot, where the unfinished pieces of metal go and Marine Corps steel comes out.

We hiked with the determination of a thunderstorm to finish what we began.

Reinforced core values:

It took the values from words on paper. It allowed the time and testing for me to prove the Core values to myself.

It made me respect the Corps because there really is an application of honor, courage, and commitment even when no one is watching.

The Crucible is the ultimate test of your Honor, your Courage, and your Commitment.

Challenge:

The Crucible to me was a test of not so much physical powers, but mental strength and fortitude. It was about believing in yourself, not quitting when you felt your insides getting weaker and weaker, not looking back when you failed, noting your mistakes and improving, thinking fast and especially with logic, and most of all working TOGETHER as a team of brothers instead of individuals, what it meant to me is that I have what it takes to be Semper fidelis.

The Crucible was a push me to the limit and beyond experience to me. It was the hardest but one of the most humbling experiences of my life. It will be a marking point to me for the rest of my life.

Summary of Question Three

Phrases from recruits tended to emphasize identity as a Marine, pride of belonging and commitment to the organization, the personalization of the core values,

and that The Crucible reinforced everything that had been learned previously in boot camp were themes evident in the responses of recruits.

Qualitative Summary

The qualitative aspect of this study involved responses to three open-ended questions that were designed to allow the respondents an opportunity to express meanings of The Crucible experience in their own words. These three questions provided data about how the respondents viewed The Crucible experience and how they believed it affected them as individuals, what they learned in boot camp, their commitment to the Corps, and the core values of the Marine Corps.

Summary

This chapter presented the findings from both the quantitative data produced from the participant's responses to the survey questionnaires and also from qualitative responses to questions provided by respondents. Broadly, the Marine Corps expects that completion of recruit training and The Crucible to improve (a) value orientations of recruits (Kindsvatter, 2003; Krulak, 1984; Ricks, 1997), and (b) identity as a Marine, as reflected by aspects of commitment to the organization (Wyatt & Gal, 1990) and identity with the organization (Franke, 1997). I hypothesized that changes in the values orientations and identity of recruits as a result of the recruit training socialization process from Processing Day One (T1) to Post-Crucible (T3) would be measurable (i.e., significant).

The data from the quantitative analysis portion of the study found the Marine Corps values of Honor and Courage, Critical Thinking, and Marine Identity increases across the recruit training experience, and The Crucible significantly contributes to these

gains for virtually all recruits both men and women. Study hypotheses concerning Honor, Courage, Critical Thinking, and Marine Identity are supported.

The data from the qualitative responses revealed themes common among both men and women include: the physical and mental challenge of The Crucible: The Crucible as a culminating event serving as a rite of passage; pride of belonging to the Marine Corps; the strengthening of their core values; the experience of thinking critically; and commitment to the organization. Phrases from men emphasized: organizational commitment; pride of belonging; the personalization of the core values; food deprivation; honor; integrity; and commitment. Phrases from women emphasized the pride of belonging and that The Crucible reinforced everything that had been learned previously in boot camp. Moreover, the qualitative responses indicated that participant's experience during The Crucible caused a greater sense of commitment to the Marine Corps and a reinforcement of the Corps' core values.

The data from the quantitative and the qualitative responses were presented in this chapter without significant comment or interpretation. Chapter Five will further analyze, interpret the findings, draw conclusions, discuss limitation of the research, and present recommendation for further research.

CHAPTER FIVE

DISCUSSION

This study sought to determine whether The Crucible, considered by the Marine Corps as the culminating event of boot camp, had an impact on recruits' values and identity as part of the broader organizational socialization process that occurs during recruit training. A symbolic interactionist framework, with its explanation of newcomer socialization in an organization guided this study on the effects of organizational socialization on recruits' values orientation. This framework applies to the daily activities within Marine Corps boot camp and the interaction between drill instructors and recruits. The primary research question addressed in this study is: What effect, if any does The Crucible, referred to by the Marine Corps as the culminating experience of recruit training, have on individual identification with the U. S. Marine Corps values of Honor, Courage, Critical Thinking, and Identity as a U. S. Marine? Based on a review of literature addressing values, identity, and military socialization, three hypotheses were formulated for testing.

The results of the study indicate that The Crucible is associated with a significant positive change in the core values that the Marine Corps strives to instill in recruits: Honor and Courage, as well as Critical Thinking. Further, the evidence from this study suggests that The Crucible is associated with a significant positive change in recruits' Identity as a Marine. In response to the broad research question as to whether The Crucible makes a difference in recruits' values and identity, the answer appears "yes" according to the findings of this study. However, there are some variations and nuances in findings which are discussed.

To briefly review, the research design used in this study produced cross-sectional time series data with many more subjects than occasions (i.e., many more clusters as each recruit provides a cluster of responses at different time points). To address the research questions, hierarchical linear modeling (HLM) was used to test hypotheses because, according to Rabe-Hesketh & Skrondal (2012), the approach allows examination of the data as both multiple point repeated observations and also as data nested within organizational units such as platoons. Specifically, I used a Multilevel Mixed-Effects Linear Regression Model to explore the research questions using the following predictor variables: platoons, gender, age, race (white/non-white), education (high school versus some college or more), whether the recruit had family members who served in the military, frequency of religious attendance, years of sports or extracurricular participation, and time in the delayed entry program.

The main hypothesis leading to this study was that there would be measurable and statistically significant gains in the values orientations and identity of recruits as a result of the recruit training socialization process from Processing (T1) to Post-Crucible (T3). However, a principle hypothesis of interest in this study was that there would be measurable and statistically significant gains in the values orientations and identity of recruits from before The Crucible (T2) to after this event (T3). The third hypothesis of this study was that there would be measurable and statistically significant gains in the values orientations and identity of recruits as a result of the recruit training socialization process from Processing (T1) to Pre-Crucible (T2). For this study, the minimum threshold for findings to be considered significant is a p value < 0.05 .

This final chapter begins with a discussion of the results of quantitative and qualitative analysis of the data collected from participants related to the specific hypotheses. This is followed by a discussion of the relationship between findings in this study and the theoretical frameworks and research found in the review of the literature. An interpretation of findings is presented, as well as the contribution this research makes to the literature on the topic of values and identity. This chapter concludes with a discussion of limitations to the research and findings and suggestions for future research.

Honor

Honor increased across the recruit training experience for virtually all recruits, both men and women providing support of the study hypotheses concerning Honor. Honor for Marines entails an identification with and sense of obligation to a common good that includes oneself, but stretches beyond one's person interests to have a sense of duty to the group in question, pull their own weight as group members, not because of external circumstances force them, but because they regard it is what a group member should do.

Recruits scored significantly higher on the Honor Index after The Crucible than just prior to the culminating event. The largest incremental change however, occurs during the majority of the recruit training experience (T1 to T2). Irrespective of other covariates, the mean of Honor was higher at each interval measured in this study and The Crucible played a significant part in increases of Honor among recruits.

These findings provide important information and new evidence to the Marine Corps on how women and men respond to boot camp socialization and experience The Crucible. Marine Corps recruit training provides a culture and organization with a strong,

visible value system that advances the development of Honor, Courage, and where the drill instructor serve as role models for recruits, leading by example. The results for Honor provide important information on how women and men respond to boot camp socialization and change in values orientation during boot camp and after The Crucible.

Gender and honor. Honor, as measured, significantly increased at each level of treatment for men. Of most interest to this study, Honor for men was significantly higher after The Crucible than prior to The Crucible. While the largest incremental increase in Honor for men was during the primary boot camp experience T1 to T2, the increase in Honor after participation in The Crucible was also significant.

Although women begin recruit training with higher Honor scores than men, Honor still increases for women across the recruit training experience, but not significantly after The Crucible, as it does for men. Results show that while controlling for all variables, the mean of Honor for women was higher than men at each time (T1 to T2, T2 to T3, and T1 to T3). While increases in Honor after participation in The Crucible were not observed among women, the mean of Honor for women after The Crucible was higher than the mean for men.

Gender differences in values at the beginning of recruit training (T1) may be understood as part of a larger social matrix shaped by many intervening social factors before the recruits arrive at boot camp. But the gender differences may be an artifact of anticipatory socialization in newcomers that this research could not fully identify. The Crucible was constructed (Appendix F) on impartiality regardless of gender. These results provide new evidence on how men and women experience recruit training and The Crucible.

For both men and women qualitative responses regarding *The Crucible* reflected a strengthening of core values and Honor. Men seemed to personalize the value of Honor, expressing this theme through the food deprivation aspect of *The Crucible*. On the other hand, women conveyed putting others before themselves, cited a new understanding of the Marine Corps motto *Semper fidelis* (Always Faithful), implied a greater sensitivity to others who were physically struggling, and referred to their relationship with their drill instructors.

One possible explanation for these gender differences may be found in the literature on empathic disposition. Meta-analytic research has shown that women, in general, may have more empathic awareness and responsiveness than men (Eagly & Crowley, 1986). Heightened empathic awareness and empathic responses to others may limit the benefits of rigor in developing Honor through the severity of *The Crucible*. Also, the quality of the relationship with the drill instructor may have had bearing on the development of Honor for women.

There are contradictory findings in research on gender differences in values orientations. Most findings on value differences by gender have shown a lack of consistency and small gender effects (Unger, 1992). However, Peterson and Seligman (2004) indicate that gender differences have been documented in several studies that support factors on the Honor Index as well as its behavioral and attitudinal correlates. They go on to say that with fair consistency women are more likely than men to exhibit qualities of altruism (Beutel & Marini, 1995), social responsibility, and teamwork which are sub-component items of the Honor Index. Gender differences in persistence, another sub-component item have been studied, but the results are neither clear nor consistent

according to Peterson and Seligman. Therefore, findings from the present study may help to inform this literature on gender difference in value orientations, particularly in the development of Honor, which had different trajectories for men and women recruits.

Religiosity and honor. Honor was positively associated with frequency of attending religious services (a widely used proxy for religiosity). Controlling for other sociodemographic and background characteristics, change in Honor across the recruit training experience (T1 to T2 and T2 to T3) was greatest among recruits who never or rarely attend religious services and started with the lowest average level of Honor on the index, compared with other recruits. Regular attendees of religious services also saw significant gains in Honor across recruit training both from T1 to T2 and T2 to T3. However, recruits who reported that they sometimes or occasionally attended religious services and started boot camp with the highest average level of Honor, experienced no significant increase in Honor during recruit training.

Attendance at religious services may instill values consistent with Honor. It is understandable that recruits with some attendance report higher levels of Honor initially. It is important new information that recruits who had not previously experienced religion and may have had little or no opportunity to observe, understand, and integrate into their lives values consistent with Honor prior to attending boot camp had gains in Honor after boot camp.

Participation in sports and honor. On average, Honor is higher among recruits who previously participated in sports than among those recruits who had not. Recruits with two years of sports participation and four and five or more years of sports participation showed more increase than recruits with no sports involvement. This finding

may reflect somewhat the natural break between junior varsity sports participation and varsity level sports. Stopping sports after two years might be due to the way athletic programs are structured for different levels of competition. Simon (1991) explains that participation in competitive sports provide an “important source of moral values” (p. 189) which are consistent with the development of Honor because “cheating is unacceptable because it violates standards of fair play” (p. 219).

Qualitative comments by recruits mentioned honor, stealing, and cheating, themes common to values learned through participation as a member of a sports team. Comments by recruits support the sub-components of the Honor Index such as social responsibility, teamwork, and loyalty (Peterson & Seligman, 2004). Recruit comments suggest that individuals who participated in sports had a sense of duty and responsibility to the common good, an unwavering commitment to the group, and were willing to sacrifice their own immediate gratification for the interests of the group. Marine Corps recruit training provides a culture and organization with a strong, visible value system that advances the development of Honor.

Courage

Courage increased across the recruit training experience for virtually all recruits providing support of the study hypotheses concerning Courage. This value for Marines entails “not an absence of fear; rather it is the strength to overcome fear” (FMFM 1, 1989, p. 12). Worline (2002) studied an organization with members who are refuted to have said they would not work with anyone who was not afraid, emphasizing the interrelationship between fear and courage. This view of courage allows this value to be applied beyond the domain of the battlefield to saying or doing the unpopular, but correct

thing. Courage is the strength engrained in Marines to carry them through the challenges of combat; to adhere to a higher standard of conduct; and to make difficult decisions under stress.

On average, Courage increased for both men and women during the primary recruit training experience (T1 to T2) and overall (T1 to T3), though the incremental increase is greater from T1 (Processing) to T2 (Pre-Crucible) than from T2 (Pre-Crucible) to T3 (Post-Crucible). These findings are consistent with Finfgele (1999) who explored factors that foster the development of courage, citing a strong value system, self-confidence, and a role model which can help to foster courage. Furthermore, the power of social groups to sustain courage is supported by the research of Hill (1987). Marine Corps recruit training in like fashion provides a culture and organization with a strong, visible value system that advances the development of Courage and where drill instructors serve as role models for recruits, leading by example.

Gender and courage. The study's findings regarding gender differences in Courage are mixed. For the most part, women and men do not differ, except that some men's platoons are lower on Courage than the remaining men's and both women's platoons. The empirical literature on Courage, although sometimes including both male and female participants, does not specifically address the discourse on Courage as gendered. Few empirical studies specifically examine the role of gender differences in relation to the construct of Courage, and thus little is known about gender differences on this particular value. Oppenheim's (1996) major premise posited that men are often rewarded and praised for their demonstrations of active, assertive Courage, while women are often positively reinforced for demonstrating a quieter, endurance-based, self-

sacrificing form of Courage. Nonetheless, Courage increased across the recruit training experience as well as after The Crucible for all recruits. These findings suggest that gender differences in the development of Courage, are minimal in relation to boot camp and The Crucible which is information of value to the Marine Corps because every Marine is a rifleman.

Extracurricular activity participation and courage. Courage was positively associated with participation in extracurricular activities. Among recruits with more years of involvement in extracurricular activities, Courage did not significantly increase from T1 to T2 or from T2 to T3; still, the overall pattern was in a positive direction. Recruits with the greatest number of years of participating in extracurricular activities began and remained significantly higher on the Courage Index than their counterparts with few years of involvement. Nonetheless, recruit training, including The Crucible, closed the gap to a large extent between these two groups. Simon (1991) suggests that “along with the performing arts . . . perhaps the only areas . . . where students can have the experience of achieving and . . . demonstrating excellence in achievement” (p. 161) within a framework of understood rules. Facing failure, sometimes in a very public manner, is a part of participation in extracurricular activities.

Qualitative comments by recruits mentioned teamwork and commitment, themes common to values bolstered by participation as a member of a team or extracurricular activity. Researchers have suggested that as youth participate in extracurricular activities they are influenced both by the culture of an activity and the experiences they have as a part of that activity. Activities can be regarded as a mutual quest for excellence through challenge undertaken within a framework of understood rules that hold participants

accountable to certain standards (Marsh, 1992). Participating in such activities brings forth the challenge to secure the desired result while the freedom of expression is subject to control. The social environment of these activities influences a youth's values and how he/she perceives things. In the case of most extracurricular activities, the environment is a prosocial one which encourages values. These findings suggest that recruit training has a positive effect on increasing Courage for those recruits that had lower levels of involvement in extracurricular activities prior to boot camp.

Critical Thinking

Critical Thinking increased across the recruit training experience for virtually all recruits and was largely associated with The Crucible experience. These results supported the study hypotheses concerning this value. Critical Thinking may be considered “inherently tied to combat: knowing, suspecting, assessing risk . . . in situations of fundamental value conflict . . . in outcomes [that] are uncertain. Not knowing . . . in an instant whether or not to pull the trigger” (Tortorello, 2009). Ennis (1985) defined critical thinking as thinking that focuses on deciding what to do.

On average, Critical Thinking increased for recruits during the primary recruit training experience (T1 to T2) and overall (T1 to T3). The Crucible (T2 to T3) was associated with a larger incremental increase in Critical Thinking than the time period which constitutes the majority of the recruit training experience, T1 (Processing) to T2 (Pre-Crucible). This is important information to the Marine Corps as The Crucible aids in making Marines who must adapt to the complexities inherent in the “three block war.”

Gender and critical thinking. The results of this study suggest no clear, consistent gender differences in critical thinking, although gender has been hypothesized

to have an impact on critical thinking elsewhere (Yeazel, 2008). Brookfield (1991) cited Belenky, Clinchy, Goldberger, and Tarule (1986) who note the prevalence of positive triggers to critical thinking in their research on women. However, according to West and Stanovich (2003), regardless of how open-mindedness and critical thinking is measured, there is little evidence of gender differences. Whereas some studies (Clifford, Boufal, & Kurz, 2004; Facione, Giancarlo, & Facione, 1994) found no statistically significant differences in critical thinking between genders, others have found an association. Giancarlo and Facione (2001) found that women have statistically higher scores than men on the California Critical Thinking Disposition Inventory total score and open-mindedness. Giancarlo and Facione interpreted those scores as meaning that women were more predisposed in to critical thinking in general and receptive to new ideas. However, the findings here are consistent with the literature that reports no gender differences in critical thinking. Overall, the literature suggests that the findings of no difference in critical thinking across genders is not unusual.

Education and critical thinking. As might be expected, the average recruit with at least some college education had a significantly higher score on the Critical Thinking Index than the average recruit with a high school diploma. McPeck (1981) argued that there is a logical relationship between the concept of critical thinking and education as critical thinking is a necessary condition for education. Moreover, Hayes, and Devitt (2008) have contended “generally, critical thinking strategies are not extensively developed or practiced during primary or secondary education” (p. 65). Bronson (2008) concluded that resident higher education students show a statistically significant difference in critical thinking and internet-based distance learning students in higher

education generally improve their critical thinking skills after participating in courses with critical thinking as a core element. Attainment or enhancement of critical thinking skills requires instructors who challenge students analyze, synthesize, and evaluate ideas in order for students to become more critical thinkers (Siegel, 1988).

Religiosity and critical thinking. In this study, critical thinking was inversely related with frequency of attending religious services. Critical Thinking for recruits with weekly or monthly attendance was significantly lower than recruits with no attendance. The mean change in Critical Thinking across the recruit training experience (T1 to T2 and T2 to T3) was greatest among recruits who never or rarely attend religious services.

Several researchers, Alcot and Otis (1998), Merla-Ramos (1999), Morgan and Morgan (1998) found that [religious] belief correlates negatively with certain critical thinking skills such as inference, induction, and deduction. Research by Kirby (2008) and Follman (2002) found participants who endorsed a higher level of religious orientation performed more poorly on a test of critical thinking than those with lower levels of religious orientation. In addition, these researchers found higher levels of extrinsic religious orientation were predictive of lower levels of critical thinking skills such as deductive reasoning. Religious attendance in this study may be more a measure of extrinsic religiosity and thereby shows a similar association with critical thinking.

Education may be an intervening factor: recruits with a high school diploma only who had regular attendance at religious services tended to score significantly lower on the Critical Thinking Index than the average recruit with some college education who never or rarely attended religious services. While those recruits who regularly attended religious services scored lower than those who did not attend, the interaction of education

and frequency of attendance at religious services tells us that education makes a difference by buffering the main effects of frequency of attendance. Less education with more attendance tends to lessen Critical Thinking scores while more education tends to increase Critical Thinking for those who never or regularly attend religious services.

Marine Identity

Marine Identity increased across the recruit training experience for virtually all recruits providing support for hypotheses concerning Marine Identity. There were no gender differences to report: on average, Marine Identity increased for both men and women during the primary recruit training experience (T1 to T2), The Crucible (T2 to T3), and overall from T1 to T3. Although the increase was slightly greater from T1 to T2 than from T2 to T3, Marine Identity significantly increased at each interval.

Sports participation and Marine identity. On average, Marine Identity was higher among recruits who had participated in sports than among those who had not. Participating in sports for at least one year was associated with higher Marine Identity. The focus and intensity of competitive athletics has been viewed in the literature as a form of “self-discovery.” Sports participation is thought to influence identity development by bringing the individual in contact with a particular set of values and skills with a concentration and intensity not found in other extracurricular activities (Simon, 1991). In time, these values may be adopted as one’s own. Involvement in sports may also allow individuals to learn ways of interacting with the social world in a safe and predictable environment. According to Locke (2010), athletes receive support and feedback from coaches, teammates, and referees that help to influence the development

of their identities. In effect, social interaction messages received from these sources appears to have a significant role in the athlete's identity formation.

In many ways the feedback received by athletes in the context of sports participation appears to mirror the feedback process provided by drill instructors in the boot camp environment. Thus, it is understandable that Marine recruits who had the experience of high school athletics, may be "primed" for receiving critical, constructive feedback from drill instructors necessary for the development of values that are consistent with Marine Identity.

Age and Marine identity. Age was inversely related to Marine Identity as Marine Identity scores decreased for every one year increase in age. This may reflect the tendency for identity to solidify in late adolescence as discussed by Erickson in his classic 1980 study *Identity and the Life Cycle*. Developmental psychologists and sociologists assert there is a lengthened transition to adulthood by the majority of youth in Western contemporary societies. Whether there has been an extension of adolescence is difficult to assess because the bulk of the literature on identity formation and its correlates focuses on college students approximately 18-22 years old (Cote, 2005). It is not known how much (additional) identity formation actually takes place in the twenties age period. Contemporary patterns of self-sufficiency that show longer and longer trajectories and extensions in each of education, job acquisition, marriage, and childrearing may warrant a new measure that captures what takes place during the extended transition to adulthood. In any case, in this study it appears that there is more opportunity to forge a Marine Identity with younger recruits than those well into their twenties.

In the qualitative responses for men and women, strengthening identity as a Marine was evident in comments regarding The Crucible. Marine Identity was personalized through words such as “The Crucible planted the Eagle, Globe, and Anchor on my heart,” “The Crucible to me was like King Arthur pulling the sword from the stone” and gaining “a new understanding of the Marine Corps motto *Semper fidelis*, Always Faithful.”

A central concept in identity theory is commitment and through internalized values, it has been shown to shape behavior (Hitlin, 2003; Stryker & Burke, 2000). Stryker (1990) states that the more committed one is to an identity associated with an organization, the more likely an individual will express orientations congruent to the institutional values and norms. His emphasizes was on the identification of the individual with the group which explains the processes of role identity formation in recruits and the effects of organizational socialization of boot camp at Parris Island. Additionally, Hitlin (2003) may be understood to provide in the context of identity theory and social identity theory (Gecas, 1990; Hogg, Terry, & White, 1995) a theoretical link between individual role and group identity and commitment by suggesting a common thread between identity theory and social identity theory is the concept of a values-based personal identity. Results indicate that The Crucible accomplishes the goal for which it was designed, to increase a recruit’s Marine Identity and identification with the Marine Corps.

One of the unanticipated findings in this study was the difference between platoons on some value indices and their changes over time. Systemic differences among both recruits and drill instructors may contribute to these variations in values. Based on the researcher’s familiarity with recruiting duty and recruit training, there are two

practices at Marine Corps boot camp that may interact in this phenomenon. First, the most experienced senior drill instructor (SDI) is usually assigned the first recruits that arrive at Parris Island. These recruits have had the most time in the Delayed Entry Program (DEP) to prepare for their boot camp experience. Second, some recruits who may have been “moved forward” from their previously assigned shipping date to fill unanticipated shipping slot vacancies may be less prepared physically and mentally than those recruits that shipped as scheduled. The least experienced SDI is generally assigned these recruits. This systemic situation sets for a more favorable socialization experience between the most experienced SDI and the recruits with the most seamless arrival at boot camp. It is conceivable that these systemic variations between recruits and their drill instructors account for some of the observed differences among platoons. Because platoon numbers were randomly assigned in this study to ensure the anonymity of both recruits and drill instructors, I was unable to test this speculation, but future research might examine whether the timing of the arrival of recruits at boot camp, the level of experience of the senior drill instructor and any interactions between the two factors make a difference in the outcomes among recruits.

Limitations

It is important to note certain limitations. First, for this research, data were collected from only about one percent of recruits undergoing training at Parris Island in a given year. The decision to collect data from one training company of men and one training series of women was a limitation based on the researcher’s time available for travel and time granted by the research site. However, this sample is adequate for

generalizations because it is not selected with any biases. It is potentially a closer to ideal sample because it includes an over-representation of women and non-white minorities than is the general population of recruits arriving at recruit training. The large percentage of women and non-white minorities taking part in the study were more than is proportional to the women and non-white population in the Marine Corps. Since men and women were analyzed separately and I had an adequate sample of women for analysis that I might not have had if the sample had been taken at a different time, this limitation may also be considered to add strength of the study.

Second, I did not collect data from any recruits at MCRD, San Diego. While the training Program of Instruction (POI) between Parris Island and San Diego is identical, the training sites differ considerably with the isolation of Parris Island compared to the urban locale of San Diego. The research could have been better informed had I collected data at MCRD, San Diego for comparison. There may be regional differences, too, in the background characteristics of the recruits trained in each location: Parris Island serves recruits east of the Mississippi River, and MCRD, San Diego serves recruits west thereof.

In addition, data were collected from recruits who shipped to boot camp in February 2011 and had graduated from high school no sooner than seven months prior to arriving at boot camp. Recruits arriving at boot camp during June-July-August-September (JJAS) are more recent high school graduates and would have a somewhat younger average age than the recruits sampled in this study. Again, a potential strength of this study is that older recruits were better represented in the sample than they might have been otherwise.

Measures of the dependent variables are imperfect tools for tapping complex values, like Honor and Courage, processes like Critical Thinking, and the development and assimilation of a new Identity as a Marine. Although I took pains to ensure their face and statistical validity and their reliability, certainly other measures of the same constructs may produce different results.

This study was confined to self-report measures. This may have introduced social desirability biases, as intelligent young men and women who had the benefit of leadership from their drill instructors and may have “recognized the right answer” on the questionnaires presented. Another factor affecting self disclosure speaks to military culture, where privacy is often more loosely defined than in the civilian sector. Despite assurances of anonymity, the thought of their answers remaining in a data base may have influenced participants’ responses.

Finally, the primary limitation of this study is that, although it documents positive changes in recruits’ values and identity, it does not provide any insight into whether these changes are lasting or whether these changes decrease the likelihood of the problematic behavior that inspired the development of The Crucible. There is no doubt such incidents continue to occur, such as recent embarrassing episodes in Afghanistan. The issue of sustaining the change in values orientation continues to be magnified considering the extent of Marine Corps involvement in high risk, high stress environments as Marines continue to move toward the sounds of chaos around the globe.

Directions for Future Research

While this dissertation is an important step in exploring the relationship between changes in recruits’ value orientation through the intensive socialization process of

recruit (basic) training, it is advisable to conduct this research over an extended period, capturing the progression and maturation of recruits as their experience in the Marine Corps increases, and as they have exposures beyond recruit training. To determine lasting influences, if any, of these value orientations beyond recruit training, it would be necessary to collect data that accounts for their Fleet Marine Force experiences.

In addition, more research is needed on recruits' values orientations and their identity as Marines change. To fully understand the socialization phenomena of recruit training, further research should be directed to determining how recruit training socialization tactics change the values orientations of recruits.

Also, Culp (2012) in his recent Marine Corps Gazette article discusses Rest's four component model and moral schema theory that allowed for changes to the character education methodology to the Program of Instruction (POI) used by The Basic School (TBS) to train new Marine Corps lieutenants. The Defining Issues Test, a valid and reliable instrument for over 20 years, has been used to measure general moral reasoning among new Officers of Marines at TBS. Consideration for utilizing the Defining Issues Test at recruit training would provide consistency in measures among Marine Corps entry training programs.

Training programs utilizing social learning theory have been demonstrated as effective in helping to socialize new members to engender commitment to the organization (Bandura, 1997). Further research regarding the interactive behaviors between drill instructors and recruits might help drill instructors develop behaviors to socialize new members in ways to engender commitment to the Corps and the Corps' core values.

Most women in the sample (67.1%) used for this study shipped to boot camp within 60 days of signing their enlistment contract, compared to a much smaller number (24.2%) of men. Based on the researchers personal experience as a Commanding Officer assigned to recruiting duty, accelerated commitment of recruits to the Marine Corps has often implied greater anticipation and readiness to embark on the path to become a Marine. This may be especially the case among women as they may have confronted other obstacles to pursue what, for many, is a nontraditional woman's role. Therefore, proportionally more women than men in this sample may already have been inclined toward the personal values and characteristics that are consistent with being a Marine. Further research to determine whether there are differences in motivations, attitudes, and other characteristics between men and women recruits that drive their enlistment and experiences during boot camp are needed and may be beneficial to informing recruitment and training of recruits.

Another area of potential influence in values inculcation that I have observed in my 28 years of experience as a Marine is the final screening conducted in Processing, the Initial Strength Test (IST). The IST is a shortened form of the Physical Fitness Test (PFT) to assess if a recruit is physically fit enough to begin training. To pass, a male recruit must complete at least two pull-ups, 44 crunches in two minutes, and run 1.5 miles in 13:30 minutes or less. The female recruits must hold a "flexed arm hang" (hanging on a bar with their arms bent) for at least 12 seconds, complete 44 crunches in two minutes, and run 1.5 miles in 15 minutes. A recruit who scores just meets minimum standards must participate in remedial physical training (PT) program which brings generally unwanted attention from the drill instructor. Recruits who score well on the IST are more

prepared to begin training, have no need for this remedial PT intervention, and are less likely to receive unwanted attention from the drill instructor. Thus, performance on the IST at the onset of recruit training may serve as either a positive or negative foundation for the social learning and the socialization process of becoming a Marine. Further exploration of the impact of the IST on Marine recruit values may be warranted as it would help to clarify whether these initial experiences have any sustained effects.

Another area of potential influence in values inculcation that I have observed in my 28 years of experience as a Marine is the final screening conducted in Processing, the Initial Strength Test (IST). The IST is a shortened form of the Physical Fitness Test (PFT) to assess if a recruit is physically fit enough to begin training. To pass, a male recruit must complete at least two pull-ups, 44 crunches in two minutes, and run 1.5 miles in 13:30 minutes or less. The female recruits must hold a “flexed arm hang” (hanging on a bar with their arms bent) for at least 12 seconds, complete 44 crunches in two minutes, and run 1.5 miles in 15 minutes. A recruit who scores the minimum standard must participate in a remedial physical training (PT) program, which brings generally unwanted attention from the drill instructor. Recruits who score well on the IST are more prepared to begin training, have no need for this remedial PT intervention, and are less likely to receive unwanted attention from the drill instructor. Thus, performance on the IST at the onset of recruit training may serve as either a positive or negative foundation for the social learning and the socialization process of becoming a Marine. Further exploration of the impact of the IST on Marine recruit values may be warranted as it would help to clarify whether these initial experiences have any sustained effects.

Again, based on my experience as a Commanding Officer assigned to recruiting duty, the allocations for infantry slots (one of the Marine Corps' occupational fields) are highly coveted by applicants for enlistment. It has been my observation that the public mystique of Marines as modern day "warriors," and the ethos of the Marine Corps that "every Marine is a rifleman," coupled with the "challenge" of being a Marine that is broadcast in Marine Corps advertising, attracts those young people who are more inclined to the duties associated with Marine infantry. Nonetheless, recruits can be assigned to one of 32 different occupational fields. Assignments to vacancies in the different occupational fields are allocated by the Marine Corps based upon Armed Services Vocational Aptitude Battery (ASVAB) test scores, moral screening, and the needs of the Marine Corps. Thus, future research may consider how the values of Marine recruits interact with the military occupational fields aspired to and / or assigned.

Finally, the attitudes, motivations, and experiences that inspire an individual to enlist in the Marine Corps were not examined as part of this study. Therefore, future research may want to explore these "intra-individual" variables and their impact on values orientation.

One effort to understand the influence of attitudes, motivations, and experiences of military members can be found in Franke's exploration of the concept of "warriorism" (1999). Franke developed a "warriorism scale" that was used to examine dispositions toward areas like the military's warfighting, humanitarian, and peacekeeping roles, expectation to fight in a war, and the personal satisfaction one expects to gain from participating in either warfighting, humanitarian, or peacekeeping missions. Given that Marines will be faced with values-laden decision making—found in the ambiguous

situations that are often part of the “three block war,” future research might expand on how similar attitudes and motivations impact the recruit training experience as a mechanism to instill appropriate values and behaviors, and to inhibit inappropriate conduct.

Implications for Policy and Practice

Findings in this study related to Honor provides important information on how women and men respond to boot camp socialization and change in values orientation during boot camp and after The Crucible. The Crucible was constructed (see Appendix F) with impartiality regarding gender. Therefore, these results provide previously non-existent information on how diverse recruits experience recruit training.

Courage increased across the recruit training experience for all recruits and it also increased after The Crucible for both men and women. The findings regarding gender differences in Courage are mixed in this study: for the most part, women and men do not differ. Women’s platoons are not significantly different from each other on the measure of Courage and both are higher than two of the men’s platoons. These findings provide support for current Marine Corps practices in Marine Corps recruit training and The Crucible experience given that differences in the development of the value of Courage across genders were unremarkable.

Boot camp has a positive effect on increasing Courage for recruits with lower levels of involvement in extracurricular activities and The Crucible narrows the gap between those recruits with low involvement and those with high involvement. Such findings suggest that the Marine Corps need not necessarily consider previous

participation in extracurricular activities as a key background component that the Marine Corps should screen for when enlisting both men and women.

Critical Thinking increased across the recruit training experience for virtually all recruits and it is largely associated with The Crucible experience. Unlike the majority of recruit training, The Crucible requires recruits to solve specific problems with specific resources in a limited amount of time. Individual recruits serve as leaders of problem solving situations where they are required to analyze information, determine relevance, identify assumptions, and form conclusions. This information is important for the Marine Corps to consider enhancing opportunities so as to provide for recruits with training opportunities to learn to analyze, synthesize, and evaluate ideas in order to become a more critical thinker, particularly for recruits with less education and little previous attendance at religious services.

Platoons comprised of more high school graduates (versus recruits with some college or more education) may need more practice and exercises that enhance Critical Thinking. Drill instructors might be trained on teaching techniques that challenge recruits to analyze, synthesize, and evaluate ideas in order for recruits to become more critical thinkers as the drill instructors lead the discussions regarding core values.

Based on the evidence in this study and consistent with previous studies the opportunity for developing Marine Identity as well as Honor is significantly higher in recruits who participated in sports than for recruits who did not play sports. The Marine Corps should consider that competition in sports provide an “important source of moral values” (Simon, 1991, p. 189) and a pattern of demonstrated excellence in achievement. The Marine Corps might give preferential consideration to enlistment applications of

both men and women who have previous participation in sports compared to applicants with no previous participation in sports.

Based on the results of this study, the opportunity of developing Marine Identity in older recruits is greater if they played at least one year of organized sports than if they have no such experience. In addition, because Marine Identity has an inverse relationship with age, the Marine Corps might want to consider participation in organized sports as a key component when recruiting applicants 23 years of age or older.

Conclusion

Overall, the results showed significant value differences in Honor and Courage, Critical Thinking, and Marine Identity from the beginning of boot camp (Processing T1) to prior to The Crucible (T2), from prior to The Crucible (T2) to after The Crucible (T3), and from Processing (T1) to after The Crucible (T3). On average, Honor, Courage, Critical Thinking, and Marine Identity increases for virtually all recruits across the recruit training experience.

A symbolic interactionist framework was used to guide this study on the effects of organizational socialization during The Crucible on Marine recruit values orientation. Symbolic interactionism (Blumer, 1969; Mead, 1967) is the process of verbal and social interaction through which meaning and identity arise. This general theoretical framework explains the specifics of newcomer socialization in an organization. As such, an interactionist approach was beneficial to understanding the daily activities within Marine Corps boot camp, the interaction between drill instructors and recruits, the influence the group has over individual Marines, and the collective products such as roles and values internalized by the Marine recruits in this study (Blumer, 1969; Mead, 1934). In symbolic

interaction theory the social construction of self (Franke, 1999) is thought to occur through gestures like group socialization, training, performance feedback, and the response to the meaning of those gestures whereby newcomers make sense of and come to understand their role in the organization. From this perspective, socialization is a learning process in which newcomers acquire a variety of information and behaviors to become effective organizational members.

Findings in this study provide ample support for the theory of symbolic interaction. Marine recruits, viewed here as “newcomers” to the organization (U. S. Marine Corps), showed significant gains in Honor, Courage, Critical Thinking, and Marine Identity through group socialization in boot camp, training, performance feedback from drill instructors, and the social learning process. All of these values are considered necessary by the U. S. Marine Corps to become an effective member (FMFM 1-0, 1995). Therefore, this study provides a unique contribution to the literature by expanding the explanatory scope of symbolic interactionism to the organizational socialization of Marines.

This study, along with Klinger’s Naval Postgraduate School Thesis (1999), reviewed in Chapter Two that used structured interviews and discussions with drill instructors and officers to analyze The Crucible at MCRD San Diego based on current training methods, offers empirical support that The Crucible is an effective training event and its methods sound.

Second, the results of this study suggest a significant positive change in values of Honor, Courage, Critical Thinking, and Marine Identity for recruits. Results indicate significantly higher levels of Honor, Courage, Critical Thinking, and Marine Identity

after the effects of the socialization process of boot camp and after The Crucible compared to prior to The Crucible. This pattern of results provides empirical support for the theoretical model of The Crucible put forth by Krulak (1995).

Third, a methodological contribution of this study is the use of Multi-Level Mixed Effects Linear Regression Model for examining the multi-time point nested data on patterns of change among recruits during boot camp. Studies that look at change in recruits without using techniques that account for multiple levels of data may produce misleading results. If we disaggregate all the higher order variables to the individual level, demographic characteristics are all assigned to the individual recruit and the analysis is done on the individual level. The other alternative is to aggregate the individual level variables to the higher level (platoon) and do the analysis at the platoon level. We waste information and we distort interpretation if we try to interpret an aggregate analysis on the individual level. Thus, aggregating and disaggregating are both unsatisfactory methods and a multilevel model is needed.

Fourth, the main contribution of the present research is the identification of a changes in professional values during a particular aspect of military training. The results of this study suggest that this culminating event in recruit training, The Crucible, contributes to the socialization of professional values, consistent with the model proposed by Schein (1984). The findings here take into account that positive changes in values and identity may occur both across recruit training, from Processing, but also in response to a significant culminating event, like The Crucible, that occurs just before receiving the eagle, globe, and anchor and being called Marines for the first time. These results are particularly consistent with one of Van Maanen and Schein's (1979) findings that

socialization has a greater impact “just before or after a particular boundary event” (p. 224).

Finally, evidence obtained among recruits has implications and supports theories of relation between age and identity. As Guimond (1995) points out, identity among young adults is much less stable and would argue that young people are inherently more impressionable to open or change than older people.

Applying these theoretical frameworks to the organizational socialization of recruits at Parris Island, three basic conclusions come forward from the research. First, newcomers to an organization like the Marine Corps, where the values of the organization are very visible, but the process of entry to the organization is challenging, at the time of their arrival, may have already adopted the established organizational values and identity to some degree. Second, the organizational socialization process at Parris Island enhances and has an impact on the values and identity of recruits. Third, The Crucible training exercise accomplishes what it was designed to do by increasing recruits’ Marine Corps values of Honor, Courage, Critical Thinking, and their Marine Identity.

The measures developed here offer the Marine Corps a simple, but powerful way to track the change in value orientations and Marine Identity for recruits without further development. These measures may function as viable indicators of the individual Marine’s behavior, but this requires further research to establish. This pattern of results provides empirical support for the theoretical model of The Crucible put forth by Krulak (1995).

The Crucible makes a difference, above and beyond the rest of recruit training, in shaping the core values of Honor and Courage, in enhancing Critical Thinking, and of solidifying recruits' Identities as Marines. More research is needed to examine how long its effects last in terms of contributing to desired behaviors and preventing undesired behaviors among United States Marines.

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APPENDICES

APPENDIX A

Original Items and Adaptations	
<p>Wisdom Original items from VIA-IS (Seligman, 2002; Peterson and Seligman, 2004)</p>	<p>Honor - adaptation</p>
1. I tend to make snap judgments.	1. I tend to make snap judgments.
2. If a problem arises during an activity, I am good at figuring out why it happened.	2. If a problem arises during a game or activity with friends, I am good at figuring out why it happened.
3. Changing your mind is a sign of weakness.	3. I believe that changing your mind is a sign of weakness.
4. People should always take into consideration evidence that goes against their beliefs.	4. I take into consideration evidence that goes against my beliefs.
5. When the topic calls for it, I can be a highly rational thinker.	5. When the topic calls for it, I can be a highly rational thinker.
6. It bothers me if my friends cheat.	6. It bothers me if my friends cheat.
7. Beliefs should always be revised in response to new evidence.	7. I believe that beliefs should be revised in response to new evidence.
8. I should disregard evidence that conflicts with my established beliefs.	8. I disregard evidence that conflicts with my beliefs.
9. Abandoning a previous held belief is a sign of strong character.	9. I believe that abandoning a previous held belief is a sign of strong character.
10. It's ok if my friends steal.	10. It's ok if my friends steal.
<p>Original item</p> <p>Valor and Bravery Original Items from VIA-IS (Seligman, 2002; Peterson and Seligman, 2004)</p>	<p>Adaptation</p> <p>Courage – adaptation</p>
1. I stick up for myself, even when I am afraid.	1. I stick up for myself, even when I am afraid.
2. Even if I might get teased for it, I do what I think is right.	2. Even if I might get teased for it, I do what I think is right.
3. Better safe than sorry is one of my favorite mottoes.	3. I believe it is better to be safe than sorry.
4. I always speak up in protest when I hear someone say mean things.	4. I always speak up in protest when I hear someone say mean things.
5. I always avoid activities that are physically dangerous.	5. I avoid activities that are physically dangerous.

Original Questions and adaptations

6. I never hesitate to publicly express an unpopular opinion.
7. I have taken frequent stands in the face of strong opposition.
8. I always stand up for my beliefs.
9. Pain and disappointment often get the better of me.
10. My friends believe that I make smart choices about what I say and do.

6. I never hesitate to publicly express an unpopular opinion.
7. I frequently take stands in the face of strong opposition.
8. I always stand up for my beliefs.
9. Pain and disappointment often get the better of me.
10. My friends believe that I make smart choices about what I say and do.

Original Item

Citizenship, teamwork, loyalty Original Items from VIA-IS (Seligman, 2002; Peterson and Seligman, 2004)

Adaptation

Commitment – adaptation

1. I really enjoyed being part of a group.
2. I work at my very best when I am in a group.
3. It is important to me personally to improve the world in which I live.
4. At school, I was able to work really well with a group.
5. I hesitate to sacrifice my self-interest for the benefit of the groups I am in.
6. Without exception, I support my teammates or fellow group members.
7. It is important to me personally that I help others who are in difficulty.
8. It is important to me personally to be involved in programs that clean up the environment.
9. I never bad-mouth my group to outsiders.
10. I am an extremely loyal person.

1. I really enjoyed belonging to a club or after school group.
2. I work at my very best when I am in a group.
3. I have a responsibility to improve the world in which I live.
4. At school, I was able to work really well with a group.
5. I place my own interests above the benefit of the group I am in.
6. I support my teammates or fellow group members.
7. It is important to me personally that I help others who are in a difficult situation.
8. It is important to me personally to be involved in programs that clean up the environment.
9. I do not bad-mouth my group to outsiders.
10. I am an extremely loyal person.

Original items and Adaptation

Original items	Adaptations
Occupational Identity Original items from Kielhofner, Mallinson, Crawford, Nowak, Rigby, Henry, and Walens The Occupational Performance History Interview version 2.0, (1998) <ol style="list-style-type: none"> 1. Do you ever set goals for yourself or plan for the future? 2. Extremely confident about overcoming obstacles / limitations and failures. 3. Have trouble identifying with or has lost enthusiasm for current meaningful occupation. 4. What kind of responsibilities do you have in your work? 5. I am extremely committed to my current lifestyle. 6. I felt effective in the past in my work or as a student. 7. I accept reasonable responsibility for my personal actions. 	U. S. Marine Identity – adaptation <ol style="list-style-type: none"> 1. I have personal goals for myself as a Marine. 2. I expect to be successful as a Marine. 3. Becoming a Marine is not my first choice for a career. 4. As a Marine, I have special obligations and responsibilities. 5. The Marine Corps way of life may be right for some people, but it's not for me. 6. I am effective as a Marine. 7. I trust myself as a Marine. 8. I have the skills and abilities needed to be a Marine.
Original Item	Adaptation
Affective Organizational Commitment Scale items (Allen & Meyer, 1990) original items <ol style="list-style-type: none"> 1. I would be very happy to spend the rest of my career with this organization. 2. I think I could easily become as attached to another organization as I am to this one. 3. I do not feel like 'part of the family' to this organization. 4. I enjoy discussing my organization with people outside it. 5. I do not feel 'emotionally attached' to this organization. 6. I really feel as if this organization's problems are my own. 7. This organization has a great deal of personal meaning for me. 	Commitment to the Marine Corps – adaptation <ol style="list-style-type: none"> 1. I would be happy to spend the rest of my career with the Marine Corps. 2. I could become just as attached to another organization as I am to the Marine Corps. 3. I feel like "part of the family" of the Marine Corps. 4. I do not think I will enjoy discussing the Marine Corps with people who are outside it. 5. I feel emotionally attached to the Marine Corps. 6. Any problems of the Marine Corps are not my problems. 7. The Marine Corps has personal meaning for me.

Original items and Adaptation

8. I do not feel a strong sense of belonging to my organization.

9. I do not identify with any occupational role.

8. I feel a strong sense of belonging to the Marine Corps.

9. Being a Marine is an important reflection of who I am.

APPENDIX B

Marine Recruit Experience Survey

First Questionnaire

Thank you for participating in this study. Your responses are completely anonymous. No one will be able to identify you from the information that you provide.

For coding purposes only, please provide your platoon number and your laundry number.

This information will be used only to match survey responses across the three administrations of questionnaires in the survey: today and at two later points during your basic training at Parris Island. The researchers do not have access to a list of names matched with laundry numbers, and your responses will not be provided to any military or government personnel, so your responses will remain completely anonymous.

Platoon # _____

Laundry # _____

Tell us a bit about you and your background. Please choose the responses that best describe you.

1. What is your gender? ☐ Man ☐ Woman

2. What is your age in years? _____

3. How old were you when you first thought of joining the military? Age (in years)

4. With what race/ethnic category or categories do you most strongly identify?

☐ Native American/ American Indian (name of principal tribe _____)

☐ Alaska Native (name of principal tribe _____)

☐ Asian Indian ☐ Chinese ☐ Filipino ☐ Japanese ☐ Korean

☐ Vietnamese ☐ Native Hawaiian ☐ Guamanian
or Chamorro

☐ Samoan ☐ Other Pacific Islander, please specify

☐ Mexican, Mexican American, Chicano

☐ Puerto Rican

☐ Cuban

☐ Other Hispanic, Latino/a, please specify

☐ White ☐ African American ☐ Other Black, please
specify _____

5. What is your highest level of education?

- ☐ Less than high school (highest grade completed: _____)
- ☐ High School graduate or equivalent (please check type below)
- ☐ Test based equivalency diploma graduate (GED)
- ☐ Certificate of Attendance
- ☐ Alternative High School
- ☐ Vocational/Technical School
- ☐ Traditional High School
- ☐ Some college, but did not graduate
- ☐ Associate degree
- ☐ Bachelor's degree or higher

6. How many friends do you know who joined the Armed Forces? _____

7. How many friends do you know who joined the Marines, in particular? _____

8. What month and year did you enlist in the Delayed Entry Program (DEP)?

Month: _____ Year: _____

9. Identify what part of the month it was when you enlisted in the Delayed Entry Program (DEP)?

- ☐ Between the 1st and the 5th day of the month ☐ Between the 6th and the 10th day of the month
- ☐ Between the 11th and the 15th day of the month ☐ Between the 16th and the 20th day of the month
- ☐ Between the 21st and the 25th day of the month ☐ Between the 25th and the 31st day of the month

10. Indicate all sports or extra-curricular activities that you participated in during high school and/or college?

- ☐ Soccer ☐ Track ☐ Field Hockey ☐ Hockey
- ☐ Golf
- ☐ Lacrosse ☐ Basketball ☐ Softball ☐ Baseball
- ☐ Tennis

- ☐ Wrestling ☐ Football ☐ Cross Country ☐ Volleyball
☐ Swimming
☐ Other sport(s) not listed. Please specify:

About how many years did you participate in organized sports? _____

- ☐ Band, Orchestra, Choir, Chorus ☐ Communications-
Yearbook, newspaper
☐ Class or school government, student council or class officer
☐ National Honor Society
☐ Boy or Girl Scouts ☐ Key Club ☐ S.A.D.D.
☐ Fellowship of Christian Athletes ☐ Church/
Synagogue activity
☐ Other school, club, religious activity or activity not listed. Please specify below.

About how many years did you participate in non-sports-related organized activities?

11. What family members, if any, serve (or have served) in the armed forces of the United States?

a. FATHER ☐ No ☐ Yes If Yes, highest rank achieved:

Length of service: ☐ 20+ years ☐ 10-19 years ☐ 5-9 years ☐ Less than five
years

b. MOTHER ☐ No ☐ Yes If Yes, highest rank achieved:

Length of service: ☐ 20+ years ☐ 10-19 years ☐ 5-9 years ☐ Less than five
years

c. BROTHER(S) ☐ No ☐ Yes If Yes, highest rank achieved:

Length of service: ☐ 20+ years ☐ 10-19 years ☐ 5-9 years ☐ Less than five years

d. SISTER(S) ☐ No ☐ Yes If Yes, highest rank achieved:

Length of service: ☐ 20+ years ☐ 10-19 years ☐ 5-9 years ☐ Less than five years

12. Do you have a religious affiliation or preference?

☐ No ☐ Yes If yes, please specify religion/denomination_____

(For example, Catholic,

Jewish, Protestant, Hindu, etc.)

How often do you attend religious services?

☐ One a week or more ☐ Once a month
☐ Several times a year
☐ Once or twice a year ☐ Special occasions only (weddings, funerals) ☐ Never

13. Please rank in importance to you the **top 3** potential benefits/features of joining the Marine Corps (with #1 being most important benefit/feature), by writing a 1, a 2, and a 3 next to your choices.

_____ Self discipline
_____ Technical skills
_____ Leadership and management skills
_____ Educational opportunities
_____ Self confidence
_____ Travel and adventure
_____ Professional development
_____ Physical fitness
_____ Pride of belonging
_____ Challenge
_____ Financial security
_____ Advancement
_____ Benefits
_____ Other: _____

14. For the following list of statements, please check the box next to the one response that best describes you, your experiences, or your views. There are no right or wrong answers.

How much does each statement describe you?	Very much like me	Like me	Neither like me nor unlike me	Unlike me	Very much unlike me
I tend to make snap judgments.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I stick up for myself, even when I am afraid.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I really enjoy belonging to a club or group.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If a problem arises during a game or activity with friends, I am good at figuring out why it happened.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Even if I might get teased for it, I do what I think is right.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I work at my very best when I am in a group.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe that changing my mind is a sign of weakness.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe it is better to be safe than sorry.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have a responsibility to improve the world in which I live.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I take into consideration evidence that goes against my beliefs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How much does each statement describe you?	Very much like me	Like me	Neither like me nor unlike me	Unlike me	Very much unlike me
I speak up in protest when I hear someone say mean things.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
At school, I was able to work really well with a group.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
When the topic calls for it, I can be a highly rational thinker.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I avoid activities that are physically dangerous.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I place my own interests above the interests of the group I am in.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It bothers me if my friends cheat.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I hesitate to publicly express an unpopular opinion.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I support my teammates or fellow group members.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe that I should revise my beliefs in response to new evidence.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I frequently take stands in the face of strong opposition.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is important to me personally that I help others who are in a difficult situation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I disregard evidence that conflicts with my beliefs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pain and disappointment often get the better of me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is important to me personally to be involved in programs to clean up the environment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe that abandoning a previously held belief is a sign of strong character.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I stand up for my beliefs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I do not bad-mouth my group to outsiders.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It's okay if my friends steal.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My friends believe that I make smart choices about what I say and do.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am an extremely loyal person.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

15. For the statements below, please indicate how much you agree or disagree with each one.

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
I would be happy to spend the rest of my career with the Marine Corps.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I could become just as attached to another organization as I am to the Marine Corps.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel like “part of the family” of the Marine Corps.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I do not think I will enjoy discussing the Marine Corps with people who are outside it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel emotionally attached to the Marine Corps.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Any problems of the Marine Corps are not my problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The Marine Corps has personal meaning for me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel a strong sense of belonging to the Marine Corps.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have personal goals for myself as a Marine.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I expect to be successful as a Marine.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Becoming a Marine is not my first choice for a career.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
As a Marine, I have special obligations and responsibilities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The Marine Corp way of life may be right for some people, but it’s not for me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am effective as a Marine.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I trust myself as a Marine.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have the skills and abilities needed to be a Marine.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Being a Marine is an important reflection of who I am.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

This concludes this questionnaire. Thank you for your time and effort in completing it. Please hold on to this questionnaire until you are asked to submit it. While you wait, feel free to review your *Marine Corps Guide Book*.

Word Search Puzzle

(A different puzzle was included with each questionnaire for the use of non-participants.)

Forty words related to values and ethical concepts are concealed in the scrambled letters below. The words may appear vertically, horizontally or diagonally. The words may appear in their normal form or in reverse order. For example, thoughtfulness could appear as THOUGHTFULNESS or SSENLUFTHGUOHT. Circle as many of the 40 words as you find.

Acceptance	Equality	Liberty	Sincerity
Allegiance	Ethics	Love	Stewardship
Authentic	Fairness	Loyalty	Tolerance
Citizenship	Faith	Mercy	Trust
Commitment	Forgiveness	Peace	Truth
Concern	Genuine	Perseverance	Understanding
Courage	Goodness	Prudence	Values
Dedication	Hope	Reason	Virtue
Duty	Joy	Resourcefulness	Wisdom
Empathy	Justice	Respect	Work

E J A Y E D V M J N O I T A C I D E D E A O M C D
 T U S Q P U Y T R E B I L B J E I P U X E V E N Y
 O S O I R R T O Q U I P N E U M C U T O N T A H W
 N M C G C A I R A S E E Q N S I O N Y W A R T T E
 I E T I H S R X I D C T L I T K S T A E I A K Y U
 S O L G H I U Y U V N E O C I E I O S R P I B S Z
 H E C N A T P E C C A O C A C R G E S M E N E M A
 W A N I M L E W A I R T I R E Z P L E T C L V I N
 F X O D C K P O U O E R S C V B A O N R S C O T I
 H A G N K A T I E C V B N A O A U R L O Y A L T Y
 E C N A I G E L L A E I H V N X E S U K Y U O E T
 E L N T O Z W S S I S C Y U W C S E F G O T E D I
 D R E S E C N E D U R P Q K N E H A E A S H U L L
 P U Y R U C O F A I E R T O N M I Y C T A E P S A
 E C A E P I N T A R P M C D U T N O R T H N I U U
 Q A R D I R T Y W I E Q O I H P R V U L A T G F Q
 Z I P N G C E S H R R O S D Y I K U O N E I C F E
 M A S U E E C S C S G N E O S G R R S A I C B P R
 E H T P A O N Y E E R T E F A I O U E T W Y O J I
 G O S U Y E Q U W Y A C R S T E W A R D S H I P R

2nd Questionnaire
MARINE RECRUIT EXPERIENCE SURVEY

If you are participating in the study: Thank you for continuing your participation in this study. As a reminder, your responses are completely anonymous. No one will be able to identify you from the information that you provide. When you have completed the questionnaire, please hold onto it until you are asked to submit it in the box by the door as you leave. You may review the *Marine Corps Guide Book* after you've finished the survey, if you choose. Please remember to provide your platoon and laundry numbers below.

If you did not participate in the study by responding to the first questionnaire, please follow the same process as before—just do the word puzzle in the questionnaire, if you like, and you may review the *Marine Corps Guide Book*, if you choose. If you are not participating in the study, do not provide your platoon and laundry numbers.

For coding purposes only, please provide your platoon number and your laundry number.

This information will be used only to match survey responses across the three administrations of questionnaires in the survey: today and at two other points during your basic training at Parris Island. The researchers do not have access to a list of names matched with laundry numbers, and your responses will not be provided to any military or government personnel, so your responses will remain completely anonymous.

Platoon # _____ Laundry # _____

For the following list of statements, please check the box next to the one response that best describes you, your experiences, or your views. There are no right or wrong answers.

How much does each statement describe you?	Very much like me	Like me	Neither like me nor unlike me	Unlike me	Very much unlike me
I take into consideration evidence that goes against my beliefs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I speak up in protest when I hear someone say mean things.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
At school, I was able to work really well with a group.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
When the topic calls for it, I can be a highly rational thinker.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I avoid activities that are physically dangerous.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I place my own interests above the benefit of the group I am in.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It bothers me if my friends cheat.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I hesitate to publicly express an unpopular opinion.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I support my teammates or fellow group members.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe that I should revise my beliefs in response to new evidence.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I frequently take stands in the face of strong opposition.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How much does each statement describe you?	Very much like me	Like me	Neither like me nor unlike me	Unlike me	Very much unlike me
It is important to me personally that I help others who are in a difficult situation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I disregard evidence that conflicts with my beliefs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pain and disappointment often get the better of me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is important to me personally to be involved in programs to clean up the environment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe that abandoning a previous held belief is a sign of strong character.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I stand up for my beliefs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I do not bad-mouth my group to outsiders.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It's okay if my friends steal.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My friends believe that I make smart choices about what I say and do.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am an extremely loyal person.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I tend to make snap judgments.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I stick up for myself, even when I am afraid.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I really enjoy belonging to a club or after-school group.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If a problem arises during a game or activity with friends, I am good at figuring out why it happened.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Even if I might get teased for it, I do what I think is right.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I work at my very best when I am in a group.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe that changing my mind is a sign of weakness.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe it is better to be safe than sorry.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have a responsibility to improve the world in which I live.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

For the statements below, please indicate how much you agree or disagree with each one.

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
I would be happy to spend the rest of my career with the Marine Corps.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I could become just as attached to another organization as I am to the Marine Corps.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel like “part of the family” of the Marine Corps.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I do not think I will enjoy discussing the Marine Corps with people who are outside it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel emotionally attached to the Marine Corps.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Any problems of the Marine Corps are not my problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The Marine Corps has personal meaning for me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel a strong sense of belonging to the Marine Corps.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have personal goals for myself as a Marine.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I expect to be successful as a Marine.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Becoming a Marine is not my first choice for a career.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
As a Marine, I have special obligations and responsibilities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The Marine Corp way of life may be right for some people, but it’s not for me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am effective as a Marine.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I trust myself as a Marine.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have the skills and abilities needed to be a Marine.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Being a Marine is an important reflection of who I am.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

This concludes this questionnaire. Thank you for your time and effort in completing it. Please hold on to this questionnaire until you are asked to submit it. While you wait, feel free to review your *Marine Corps Guide Book*.

3rd Questionnaire
MARINE RECRUIT EXPERIENCE SURVEY

If you are participating in the study: Thank you for continuing your participation in this study. As a reminder, your responses are completely anonymous. No one will be able to identify you from the information that you provide. When you have completed the questionnaire, please hold onto it until you are asked to submit it in the box by the door as you leave. You may review the *Marine Corps Guide Book* after you've finished the survey, if you choose. Please remember to provide your platoon and laundry numbers below.

If you did not participate in the study by responding to the first questionnaire, please follow the same process as before—just do the word puzzle in the questionnaire, if you like, and you may review the *Marine Corps Guide Book*, if you choose. If you are not participating in the study, do not provide your platoon and laundry numbers.

For coding purposes only, please provide your platoon number and your laundry number.

This information will be used only to match survey responses across the three administrations of questionnaires in the survey: today and at two other points during your basic training at Parris Island. The researchers do not have access to a list of names matched with laundry numbers, and your responses will not be provided to any military or government personnel, so your responses will remain completely anonymous.

Platoon # _____ Laundry # _____

For the following list of statements, please check the box next to the one response that best describes you, your experiences, or your views. There are no right or wrong answers.

How much does each statement describe you?	Very much like me	Like me	Neither like me nor unlike me	Unlike me	Very much unlike me
I believe that I should revise my beliefs in response to new evidence.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I frequently take stands in the face of strong opposition.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is important to me personally that I help others who are in a difficult situation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I disregard evidence that conflicts with my beliefs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pain and disappointment often get the better of me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is important to me personally to be involved in programs to clean up the environment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe that abandoning a previous held belief is a sign of strong character.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I stand up for my beliefs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I do not bad-mouth my group to outsiders.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It's okay if my friends steal.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How much does each statement describe you?	Very much like me	Like me	Neither like me nor unlike me	Unlike me	Very much unlike me
My friends believe that I make smart choices about what I say and do.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am an extremely loyal person.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I tend to make snap judgments.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I stick up for myself, even when I am afraid.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I really enjoy belonging to a club or after-school group.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If a problem arises during a game or activity with friends, I am good at figuring out why it happened.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Even if I might get teased for it, I do what I think is right.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I work at my very best when I am in a group.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe that changing my mind is a sign of weakness.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I believe it is better to be safe than sorry.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have a responsibility to improve the world in which I live.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I take into consideration evidence that goes against my beliefs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I speak up in protest when I hear someone say mean things.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
At school, I was able to work really well with a group.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
When the topic calls for it, I can be a highly rational thinker.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I avoid activities that are physically dangerous.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I place my own interests above the benefit of the group I am in.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It bothers me if my friends cheat.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I hesitate to publicly express an unpopular opinion.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I support my teammates or fellow group members.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

For the statements below, please indicate how much you agree or disagree with each one.

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
I would be happy to spend the rest of my career with the Marine Corps.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I could become just as attached to another organization as I am to the Marine Corps.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel like “part of the family” of the Marine Corps.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I do not think I will enjoy discussing the Marine Corps with people who are outside it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel emotionally attached to the Marine Corps.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Any problems of the Marine Corps are not my problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The Marine Corps has personal meaning for me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel a strong sense of belonging to the Marine Corps.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have personal goals for myself as a Marine.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I expect to be successful as a Marine.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Becoming a Marine is not my first choice for a career.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
As a Marine, I have special obligations and responsibilities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The Marine Corp way of life may be right for some people, but it’s not for me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am effective as a Marine.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I trust myself as a Marine.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have the skills and abilities needed to be a Marine.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Being a Marine is an important reflection of who I am.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please go to next page →

Please write your responses to the questions in the space provided below each question.

What did *The Crucible* experience mean to you?

How did *The Crucible* experience impact your commitment to being a Marine and upholding Marine Corps values?

How did *The Crucible* experience reinforce what you had already learned during Basic Training?

This concludes this questionnaire. Thank you for your time and effort in completing it. Please hold on to this questionnaire until you are asked to submit it. While you wait, feel free to review your *Marine Corps Guide Book*.

APPENDIX C

Overview of Recruit Training Schedule

Table C1. Recruit Training schedule with The Crucible and T1, T2, T3 Questionnaire administration indicated							
Week	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
<i>Processing Week</i>	Arrival at Parris Island	Arrival at Parris Island	Arrival at Parris Island	P1¹ <u>T1</u> Questionnaire	P2	P3 Pick up by DIs	F1²
<i>Week One</i>	F2	TD1³ Intro to Values Ethics MCMAP ⁵ UCMJ ⁶ Interior Guard Drill	TD2 1.5 mi Run ⁷ Punches Customs & Courtesies	TD 3 Circuit Crs ⁸ Bayonet Tech ⁹ Uniforms First Aid	TD 4 History 1775-1897 Core Values Discussion-Personal Values	TD 5 Circuit Crs First Aid Core Values Discussion-Ethical Decision Making	S1⁴ Core Values Discussion-Integrity Core Values Discussion-Core Beliefs
<i>Week Two</i>	TD 6 Pugil Sticks MCMAP Core Values Discussion - Courage Direct Deposit	TD 7 2 mi Run Circuit Crs MCMAP Core Values Discussion-Commitment Core Values Discussion-Problem Solving	TD 8 History 1898-1940 Core Values Discussion-Honor Code of Conduct UCMJ Core Values Discussion-Leadership	TD 9 Circuit Crs First Aid MCMAP Core Values Discussion-Moral Strength Core Values Discussion-Code of Conduct	TD 10 First Aid Law of Land Warfare	TD 11 First Aid MCMAP Interior Guard Core Values Discussion-Honor night sentry	S2 Core Values Discussion-Leadership Core Values Discussion-Rules of Engagement
<i>Week Three</i>	TD 12 Confidence Crs ⁸ Obstacle Crs ⁸ MCMAP First Aid	TD 13 Pugil Sticks MCMAP Sexual Harassment Substance Abuse First Aid History 1941-1945	TD 14 Obstacle Crs MCMAP Core Values Discussion-Equal Opportunity First Aid	TD 15 Obstacle Crs MCMAP Core Values Discussion-Sexual Harassment Core Values Discussion-Substance Abuse	TD 16 MCMAP Pugil Sticks History 1945-1953 Suicide Prevention Core Values Discussion	TD 17 8 km hike ¹⁰ Hazing History 1954-1975 SDI Inspection	S3 Core Values Discussion-Hazing Core Values Discussion-Suicide Prevention
<i>Week Four</i>	TD 18 MCMAP History 1975-2006 Dental Risk Management	TD 19 Swim Qual ¹¹	TD 20 Swim Qual	TD 21 Swim Qual	TD 22 Swim Qual MCMAP Qual Dental	TD 23 Obstacle Crs Pugil Sticks Core Values Discussion-Risk Management	S4 Core Values Discussion-Law of War Core Values Discussion-Code of Conduct
<i>Week Five</i>	TD 24 Drill Eval ¹²	TD 25 Initial Written Test Rappelling Gas Chamber	TD 26 3 mi Run Dental Clothing	TD 27 3 mi Run Dental Clothing	TD 28 Shots Thrift Savings Plan	TD 29 10 km hike Core Values Discussion-Alcohol/Tobacco	S5 Core Values Discussion-Adultery
<i>Week Six</i>	TD 30 Marksmanship Training	TD 31 Marksmanship Training	TD 32 Marksmanship Training	TD 33 Marksmanship Training	TD 34 Marksmanship Training	TD 35 Marksmanship Training Core Values Discussion-Personal Conduct	S6 Core Values Discussion-Professional Conduct Core Values Discussion-Commitment

							t
Table C.1. cont. Recruit Training schedule with The Crucible and T1, T2, T3 Questionnaire indicated							
Week	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
<i>Week Seven</i>	TD 36 Marksmanship Qualification	TD 37 Marksmanship Qualification	TD 38 Marksmanship Qualification	TD 39 Marksmanship Qualification	TD 40 Marksmanship Qualification	TD 41 12 km hike Museum tour	S7
<i>Week Eight</i>	TD 42 Team Week PFT ¹³	TD 43 Team Week Dental	TD 44 Team Week	TD 45 Team Week	TD 46 Team Week	TD 47 Inspection	S8 Move to Field Trng
<i>Week Nine</i>	TD 48 Table 2 Firing Indiv Movement ¹⁴	TD 49 Table 2 Firing Land Nav ¹⁵	TD 50 Table 2 Firing	TD 51 Table 2 Firing IEDs ¹⁶ Buddy movement	TD 52 Table 2 Firing Day/Night movement Prac app ¹⁷	TD 53 Combat Endurance crs Core Values Discussion- Ethics- Murder vs Killing	S9 Core Values Discussion- Combat leadership
<i>Week Ten</i>	TD 54 Uniform fittings	TD 55 Uniform fittings	TD 56 Terrorism Awareness Education Benefits	TD 57 Confidence crs Sexual Assault Sexual responsibility	TD 58 Confidence crs Dental OpSec ¹⁸	TD 59 Core Values Discussion- Fraternization Core Values Discussion- Sexual Assault	S10 Core Values Discussion- Sexual Responsibility Core Values Discussion- OpSec
<i>Week Eleven</i>	TD 60 Final PFT Final Written Test Driver Safety <u>T2</u> <u>Questionnaire</u>	TD 61 Core Values Discussion- Child abuse Core Values Discussion- Reporting Combat Stress Injury	TD 62 Final Drill Eval Core Values Discussion- Law of War	TD 63 The Crucible	TD 64 The Crucible	TD 65 The Crucible	S11 Recruit Liberty
<i>Week Twelve</i>	TD 66 Orders pick up Financial Responsibility <u>T 3</u> <u>Questionnaire</u>	TD 67 BN ¹⁹ inspection Core Values Discussion- Moral courage Core Values Discussion- Sexual Responsibility	TD 68 BN CO inspection Sharing legacy speakers	TD 69 Motivation run Family day	TD 70 Graduation		

Legend:

¹P1- Processing Day One ²F1 – Forming Day One ³TD – Training Day S1- Sunday

⁵MCMAP- Marine Corps Martial Arts Program ⁶UCMJ- Uniform Code of Military Justice

⁷1.5 mi- One and one half mile ⁸Circuit, Confidence, Obstacle Crs - Circuit, Confidence, or Obstacle Course ⁹Bayonet tech- Techniques of Bayonet fighting ¹⁰8 km- Eight kilometer hike

¹¹Swim Qual- Combat Water Survival Qualification ¹²Drill Eval-Close order Drill evaluation

¹³PFT- Physical Fitness Test ¹⁴Indiv Movement- Techniques of individual combat movement

¹⁵Land Nav- Land navigation ¹⁶IED-s Improvised Explosive Devices

¹⁷Prac App- practical application ¹⁸OpSec- operational security

¹⁹BN CO Inspection- Battalion Commander uniform inspection

For detailed explanation see Appendix D Socialization

APPENDIX D

Socialization in U. S. Marine Corps Recruit Training

The mechanics and socialization aspects of Marine Corps recruit training will be reviewed in this appendix as it relates to the training opportunities and the objectives of the U. S. Marine Corps recruit training process using the researcher's familiarity gained through eight years experience with recruit training and boot camp,. The effort to connect the reader to the socialization experienced by recruits at boot camp is not intended to be an expose' of the process, but to provide the reader a deeper understanding of the manner of making Marines.

Despite variations across the services, military recruit training has a relatively homogeneous process. Basic training is a period of resocialization and enculturation, occurring under conditions of relative isolation and confinement (Sarason, Novaco, Robinson, & Cook, 1981). Ranging from seven to thirteen weeks across service branches, young adults are expected to develop new behavior confined to a narrow range of acceptability shaped by heavy doses of physical reward and punishment. Boot camp necessarily involves a transition from civilian to military culture. "The process is primarily one of acculturation in which the recruit is subject to forced change of reference groups" (Bourne, 1967, p. 187). "Training is seen as ...inculturation...attitudes and conduct" (Yarmolinsky, 1971, p. 158). Sociologists Vidich and Stein (1960) explain that the goal of socialization process of recruit training is "the transformation of the civilian minded recruit into a reliable soldier who will respond according to expectation. The institutional techniques for accomplishing this involve a process of self-dissolution and reconstruction" (p. 496). Some researchers have taken a stance that the sole purpose of

recruit training is to break the person psychologically, render them helpless, instill reflexive conformity, and portrayed boot camp as a dehumanizing, social control process punctuated by themes of male sexuality (Dyer, 1985; Eisenhart, 1998). “They tore you down. They tore everything civilian out of your existence...and then they re-built you and made you over” (Appy, 1993, p. 86). ‘Tear down and build up’ imply an extreme, perhaps violent process. Without a doubt boot camp is physically and mentally demanding and perhaps emotionally traumatic. Other researchers like Kindsvatter (2003), Krulak (1984), Ricks (1997), and Smith (2006) present Marine Corps boot camp as a conversion process that promotes socialization to military norms and values. The first step in this conversion process of turning civilians into Marines “is the destruction of an individual’s former beliefs and confidence, and his reduction to a position of helplessness and need” (Dyer, 1985, p. 114). This conversion process is intentionally stressful (Kindsvatter, 2003, Ricks, 1997, Smith, 2006).

U. S. Marine Corps boot camp today consists of thirteen weeks of sixteen hour, highly structured days at one of two recruit depots, Marine Corps Recruit Depot (MCRD) Parris Island, South Carolina and Marine Corps Recruit Depot, San Diego, California. The intense instruction of boot camp has two objectives according to Lieutenant General Victor H. Krulak (1984) who writes in his book *First to Fight*:

to break down the self-centeredness and selfishness of the recruit and to build all recruits into disciplined, physically fit Marines who believe in their country, their Corps, their unit and their fellow Marines. Marines do not leave boot camp ready to join the operating forces and fight, for that is the purpose of their follow on schools. Rather they depart as young Americans who have absorbed the basic values, tenets, and mind-set of the Marines, living and dead who have come before them (p. 160).

Krulak (1984) continues:

In the Marines, recruit training is the genesis of the enduring sense of brotherhood that characterizes the Corps. In that ...period, an almost mystical alchemy occurs. Young adults from diverse areas of the country and backgrounds are immersed in an environment wherein they are able to perceive, understand and fully accept as dogma the essential Marine Corps virtues (p. 7).

According to Krulak (1984), in the trials of boot camp, the marches, the endless hours of close order drill, the weeks of the rifle range, physical conditioning, the recruits begin to develop the self-confidence and resilience essential for success in combat. The Corps demands that its recruits accept a set of basic tenets. Prominent among them is the notion that the Marine Corps is the greatest fighting force in the world; that the reason the Corps performs so well on the battlefield is that Marines hold fast to the old verities of duty, honor, loyalty to country, and Corps; that Marines never leave wounded or dead on the battlefield; that ordinary young men and women can enter the brotherhood of the Corps; that the deadliest weapon in the world is a Marine with his rifle.

Overview of U. S. Marine Corps Recruit Training Today

United States Marine Corps Recruit Depots are located at Marine Corps Recruit Depot, Parris Island, South Carolina, and Marine Corps Recruit Depot, San Diego, California. All female enlisted Marines attend training at Parris Island. Men go to either Depot depending on the region of the country from which they are recruited, east or west of the Mississippi River. The Marine Corps' 13-week long recruit training is the longest in United States Armed Services. It is made clear that each recruit beginning boot camp is not yet a Marine, a title that must be earned along with the right to wear the distinctive eagle, globe, and anchor emblem of the Marine Corps.

Marine Corps Recruit Training is divided up into three phases and further broken down into individual training days. Each phase builds upon the other and reinforces the knowledge, skills, and values necessary to become a Marine. The distinct phases also provide short term goals for the recruits. Each phase includes intensive education and training in history, customs and courtesy, close order drill, core values as well as other topics deemed essential for United States Marines. Boot camp itself is a 12-week cycle of training, not including the first week of pre-training in-processing, called "Receiving, Processing, and Forming" (and disorientation from previous life experiences). After the initial disorientation, the first phase, Phase One, the first 24 training days (TD 1-24) consists of learning recruit life protocol. The foundation and reinforcement of core values and ethics starts at once. Through physical training, unchanging routines, instruction in the Marine Corps Martial Arts Program, academic classes in general military subjects (knowledge), pugil stick fighting, first aid training, close order drill, inspections, and the confidence course Phase One instills mental and physical discipline in recruits through performance and feedback. By the end of Phase One, recruits can march, respond to orders, and exercise adequately. Phase Two (TD 25-47) is where core values and ethics are reinforced and is designed to enable the recruits to learn skills required of Marines. All recruits must pass combat water survival swim qualification, demonstrate proficiency in the fundamentals of marksmanship through rifle qualification, and perform a week of maintenance duties. Phase Three (TD 48-70) is an evaluation process. Recruits receive additional training in marksmanship, basic field living skills, are tested academically and physically, and face the defining moment of boot camp, The Crucible, a test of mental,

moral, and physical challenges before transitioning from recruit to Basic Marine during the last week before graduation.

Disorientation and Deidentification

The first impression of Parris Island for new recruits comes during the last stage of a bus ride from the Charleston airport, always arriving in the dark of night at the Marine Corps Recruit Depot (MCRD) Parris Island. The bus does not stop at the Marine guard post, the Marine guard simply waves the bus through and the bus traverses the 2.3 mile long causeway that emphasizes the remoteness of the place. MCRD Parris Island is an extremely isolated locale, as the word “island” indicates, surrounded by salt water marshes. This intensifies the recruits' sense of isolation and being cut off from their past, the outside world and focuses them on what is to come in the next few months. Already awake twenty hours or more since they reported to the military entrance processing station near their home, the recruits won't sleep for another eighteen hours (Ricks, 1997). Schein (2004) says that groups start with some kind of originating event. In the case of recruit training, it is the common experience for the individuals involved. Both the individual recruit and the group are facing fundamental issues. As a group the issue is "what are we here for? what is our task?" At the same time each individual recruit is facing basic social survival issues such as "will I be included in this group? will I have a role to play? will I make it?" (Schein, 2004, p. 65).

The drill instructor walks up and into the bus and faces the recruits. His first word is "Now!" This word is appropriate as it locks their attention into the present and every order they hear while at Parris Island will carry the tacit insistence that it be executed immediately. "Sit up straight. Get your eyes on me. If you have anything in your mouth,

get it out now." The Corps wants to disorient the arriving recruits and strip them of their old civilian identities before building new Marines. They are 'welcomed on behalf of the Commanding General to Parris Island and when told to do so, they are to get off the bus safely without running over one another and get on the yellow footprints.' "Now, get off my bus." They charge off the bus onto rows of yellow footprints painted on the asphalt. In their first moment on the ground of Parris Island, they have figuratively and literally stepped into the Marine Corps' dominant and distinctive culture. The footprints, four to a row, eighteen rows are so closely packed that the newcomers cannot be seen as individuals. Standing nearly heel to toe in the dark of night, their faces are hardly visible and their bodies seemingly become one mass. The effect is intentional as the Marine Corps culture is the culture of the group, made up of members who are anonymous. In the ensuing silence when the recruits are told to get off the bus and stand on the yellow footprints, each person experiences feelings of anxiety in the face of this ambiguous agenda and shift in power.

Many recruits years later still vividly remember exactly this arrival and greeting by the drill instructor. Robert Leckie and his fellow Marine recruits received a typically ominous greeting from their drill instructor when they arrived at Parris Island during World War Two (Leckie, 1979). William Ehrhart has similar memories of his arrival at Parris Island more than twenty years later in 1966. According to Ehrhart's memoirs, the drill instructor who met his bus, whom Ehrhart nicknamed "the Voice of God," in a few short sentences set the ground rules for the trainees (Ehrhart, 1983).

This event could be considered by Schein (2004) as a key marker event that almost everyone remembers at a later time (p. 64). This group of individuals on the

yellow footprints is a unique combination of personalities and those personalities are unknown. Every person standing in sudden silence on the yellow footprints is aware of his own emotional intensity level. Whether the emotional tone is recognized as one of anxiety will vary from individual to individual according to Schein (2004, p. 66).

Each member brings to this new situation prior learning in the form of assumptions, expectations and patterns of coping, but by definition this particular group starts out with no culture of its own (Holsti, 2004, p. 559). The drill instructors start out with their own assumptions, values, and behavior patterns in initiating the group and therefore will bias the culture that is eventually formed by the group (platoon). Ricks' (1997) theme is that their drill instructors have a strong distaste for the new recruits as individual members of a civilian culture that seems to be materialistic, self-indulgent, undisciplined, for the most part ungenerous, and worst of all from the perspective of core military values, disloyal.

Two articles of military law, the Uniform Code of Military Justice (UCMJ) are read to the new recruits as they stand on the yellow footprints: first, they may not strike a Marine; second, if they run away, they are subject to the UCMJ. The recruit is a man or woman with special legal status, and is subject to a special kind of law, military law, which he or she probably never knew existed until these punitive sections were read and explained to him. They are then ushered into a classroom and the drill instructor tells them "You are not at home. You are not back on the block. Everything you do will be done quickly and loudly." The self begins to appraise itself in relation to the new situation. This emphasis on behavior and language, not military training will form the core of their boot camp experience. Marine Corps boot camp is about making Marines.

The more technical aspects of the warrior's trade come later during post boot camp programs at the School of Infantry where the focus shifts to combat training, tactics, weapons, and field navigation (Krulak, 1984; Ricks, 1997).

All new Marine recruits make a phone call home shortly after arrival at Parris Island and all repeat the following words:

This is Recruit (last name). I have arrived safely at Parris Island. Please do not send any food or bulky items. I will contact you in 3 to 5 days via postcard with my new mailing address. Thank you for your support. Goodbye for now.

From this moment on, everything that happens has potential meaning and consequences for the recruit and his group, the platoon. "Everything is taken away - hair, clothes, food and friends," says Navy Lieutenant James Osendorf, a Catholic priest (Ricks, 1997, p. 43).

It's a total cutoff from previous life. The sign on the road as you come into Parris Island says, [WE MAKE MARINES], but it's more than that, it's where the transformation begins. Over the next twelve weeks the recruits receive a value system transfusion, as they learn the Marine Corps way of walking, talking and thinking (Ricks, p. 43).

Haircut

The military haircut is one of the defining features of joining the military. The most likely reason for this is the element of perceived permanence involved in cutting one's hair to the military style. Unlike receiving immunization shots or a uniform, once a recruit has had his head shaved, there is no way to reverse or walk away from that effect. The military haircut is one of the most distinct haircuts in the United States, and it is received by the recruit before any of the other trappings of military life are given to the recruit, such as uniforms or boots. The haircut is received as the first act on the first night

at Receiving Barracks. The hairstyle is not the choice of the individual but imposed on him or her by the institution. For many recruits, the haircut drastically changes their personal appearance from what it was before.

After the recruits receive their haircut that takes all of twenty seconds, they move to the supply room and are issued all the clothes they will wear and everything else they will need for the next thirteen weeks. They change into their issued clothing and inventory their civilian clothes, remove all jewelry and place it in a brown bag. They carry their new gear upstairs in a white cinderblock room with bare floor, furnished with mattresses with no sheets on bunk beds. It is about 4:00 am, but they do not sleep. The first thing they are taught is how to toe the line, to put their feet on a line in the barracks and a few basic elements of how to walk in a formation on the way to breakfast.

They will endure a pace of as many as fifteen orders per minute, every one a reminder they have left a culture of self-gratification and entered a culture of self-discipline and selflessness. Filling in the recruit's lives will be their drill instructors (Ricks, 1997). Purposefully, they live in a disorienting, empty world. The recruit training program is intended to place more demands on the recruits than they could possibly meet. The sanctions for mistakes and failures are severe.

The next two days are long bureaucratic processes during which the recruits are screened again to ensure they are mentally, morally, and physically qualified to begin recruit training. The recruits are interviewed about past drug use, any police involvement, will receive a urinalysis, a medical exam, a dental exam, are issued their rifle, and perform an initial strength test. There is no television, radio, cell phone, internet, or any other connection to the outside world.

Shots

Immunizations continue to be a strong memory long after their service obligation ends for many Marines. Unlike the haircut, this is likely due to the anticipation and fear of multiple shots rather than any inherent symbolism. Given that a fear of needles is often expressed, it is hardly surprising the trepidation with which incoming recruits view immunizations. Due to differing standards of health care among incoming recruits, the Marine Corps requires all incoming recruits to receive the following immunizations seven shots as standard medical vaccinations: influenza, measles, mumps, rubella, meningococcal, polio, and a tetanus shot.

The assembly line nature of the procedure is typical of many elements of military life. As a bureaucracy, the military and the Marine Corps frequently fail to conceive of its members as meaningful individuals, but rather as items, which need to be processed as efficiently as possible. When administering shots, each recruit moves from one stage to the next around a room in which every piece of hardware has been previously prepared and is laid out, such that neither the Navy corpsman nor the recruit actually needs to think about the actions they are performing. Although it could be seen as mindless repetition, and simply efficiency at the expense of individual identity, the social dynamics can be taken into account.

The interpersonal interactions between medical personnel and recruits highlight the lack of alienation that the assembly line process might suggest. Although recruits are not allowed to talk to one another while waiting in line, once the recruit enters the room to receive the shots, the restriction is essentially lifted. There is one corpsman at the entrance to the room that interacts with each recruit. In addition to verifying name and

social security number, the corpsman chats with the recruits in line explaining the process the recruit was about to go through. Each recruit moves down a line of stations, organized around three walls of the room, receiving the shots alternately in the left and right arm as they traveled. At each station, the corpsman assigned might also be friendly, politely asking the recruit to shift their arm or body correctly to receive the various shots as some shots are given in the bicep, some in the deltoid, and some in the triceps of the arm. The recruits are informed that if they should feel queasy or weak, they were able to and expected to notify medical personnel.

Move to the training barracks

Two to three days after their late night arrival, a crucial moment of group formation takes place when the group, including their drill instructors, participates in a shared emotional reaction. What makes the event shared is the fact that all members have been witness to the same behavior on the part of both the drill instructors and the recruits. After the event, people will refer to it and people will remember it (Schein, 2004). This moment occurs after the recruits complete the low stress, but disorienting bureaucratic environment of receiving in-processing and the recruits meet for the first time their drill instructors who will dominate every waking moment of their lives for the next twelve weeks.

The recruits are moved to their training barracks and sit in formation, while out of their view the paperwork transferring the platoon from the Receiving Barracks drill instructor to the drill instructors who will train these recruits platoon is completed.

First, officers greet the recruits in a low key, soft spoken manner. Then the Senior Drill Instructor recites the "pick up speech" prescribed in the Standard operating Procedures for Recruit Training, the bible of Parris

Island. Every recruit hears the same speech..."every recruit here, whether he is fat or skinny, tall or short, fast or slow, has the ability to become a United States Marine, if you can develop the self-discipline and spirit...we will give every effort to train you, even after some of you have given up on yourselves...starting now, you will treat me and all other Marines with the highest respect and you will obey all orders without question. We have earned our place as Marines and accept nothing less than that from you... (Ricks, 1997, p. 55).

A key aspect of Marine Corps recruit training history, recruit abuse is covered.

I am not going to threaten you with physical harm, abuse you, or harass you. Nor will I tolerate such behavior from anyone else, Marine or recruit. If anyone should abuse you or mistreat you, I will expect you to report such incidents to me. Further, if you believe that I have mistreated you, I expect you to report it to the series commander... (Ricks, p. 56).

Then the recruits are told what they must do to survive the training and become a Marine. "You will obey all orders. You must give one hundred percent of yourself at all times. You must do everything you are told to do, quickly and willingly. You must be completely honest in everything you do" (Ricks, 1997, p. 56).

The Senior Drill Instructor (SDI) then introduces his team of drill instructors who will train the recruits. Next, what occurs may be the most important moment of the platoon's thirteen weeks at Parris Island. This is the point when the drill instructors symbolically sever all ties to the past and irrevocably establish the fact that they are in charge, entirely on their own terms, for the duration. After they are formally introduced, the drill instructors turn a mundane inventory of the recruits' gear into an extraordinarily intense, even excruciating experience.

The recruit must produce exactly the right item, at exactly the right moment. They face strange new drill instructors that appear maniacally angry, shouting, pointing their fingers, raising a foot and slamming it to the ground, then whirling to scream at their next victim. They never stop moving and never appear remotely pleased with the recruits' frantic efforts to execute their orders in a frenzy of military issue sarcasm, issuing an

order, waiting a beat then snarling, "Any day." It is a shocking experience. One the recruit will remember for the rest of their lives (Ricks 1997, p. 57).

The purpose of debasement experiences is to “unfreeze” or “unhinge” the newcomer from previously held beliefs and values, and to humble the person so a new self-image can be developed by the organization” (Wanous, 1980, p. 167).

Socialization of Disorientation and Deidentification.

During boot camp, the process of socialization begins as divestiture, in which former civilian roles and individual orientation are stripped away and replaced by military orientation and behaviors. "Assimilation during initial training requires adapting the recruit to a social organization committed to violence" (Janowitz, 1974, p. 78). New recruits undergo extensive training from experienced members, the drill instructors and are engaged in a long period of work, twelve weeks of boot camp, before acquiring the formal and informal credentials of full and accepted membership, having earned the title, Marine. Master craftsmen, professional athletes, ordained ministers and military personnel pay considerable dues before they are considered equal and respected members of their professions. This process builds a sense of solidarity and mutual concern for one another. "The process begins with an effort to "strip" all of the novice's ties with the civilian world [that] conflict with the requirements of the military and to substitute new bases for identification. At the most personal level the recruit faces a loss of privacy and exposure to a pervasive set of controls" (Janowitz, p. 78). In the divestiture process, individuals are stripped of their status similar to step two of Pascale's model. The Marine recruits are figuratively and literally striped of their individual identity and status by the initial haircut and issued uniforms to remove any distinction of his civilian past.

Training new recruits...has in the past been governed by a conception of shock treatment-of the need for a sudden and decisive break with civilian life and rapid exposure to the rigors of military experience. The shock treatment was an essential element of older forms of discipline based on domination...But ...the training procedures have had to be modified. It is clearly impossible for highly technical arms to achieve group consensus on the basis of negative sanctions...new ideals of assimilation stress positive attachments and group loyalties. While the residues of shock treatment persist, military training has become a more gradual process of assimilation. It is more a process of fostering positive incentives and group loyalties through a team concept (Janowitz, 1974, p. 79).

The initial stages of Marine Corps boot camp at Parris Island clearly demonstrate the characteristics of a Goffman's (1961) total institution. Goffman describes mortification as a mode of socialization commonly associated with the total institution with the aim of depriving individuals of personal control over their activities and self-image through changes in appearance, harsh treatment and punishment, excessive routinization of activities and personal confinement or segregation (Caplow, 1964). Marine Corps boot camp experiences include many of these characteristics including the shaving of heads, wearing common uniforms, participating in demanding, repetitious physical and mental drills, and restrictions of personal freedoms. The ultimate purpose of these activities is to remove individual resistance to the Marine Corps' influence and change individual performance and behavior in the direction of the desired norms of the Corps (Caplow, 1964).

Van Maanen (1976) points out that "socialization strategies are perhaps most obvious when a person first joins an organization" (p. 19). Many corporations have orientation programs which introduce the new employee to the rules, regulations, and policies of the organization. Pascale (1985) discusses socialization by pointing out that

“strong culture firms (organizations) that have sustained themselves over several generations of management reveal remarkable consistency across seven key steps (p. 29).

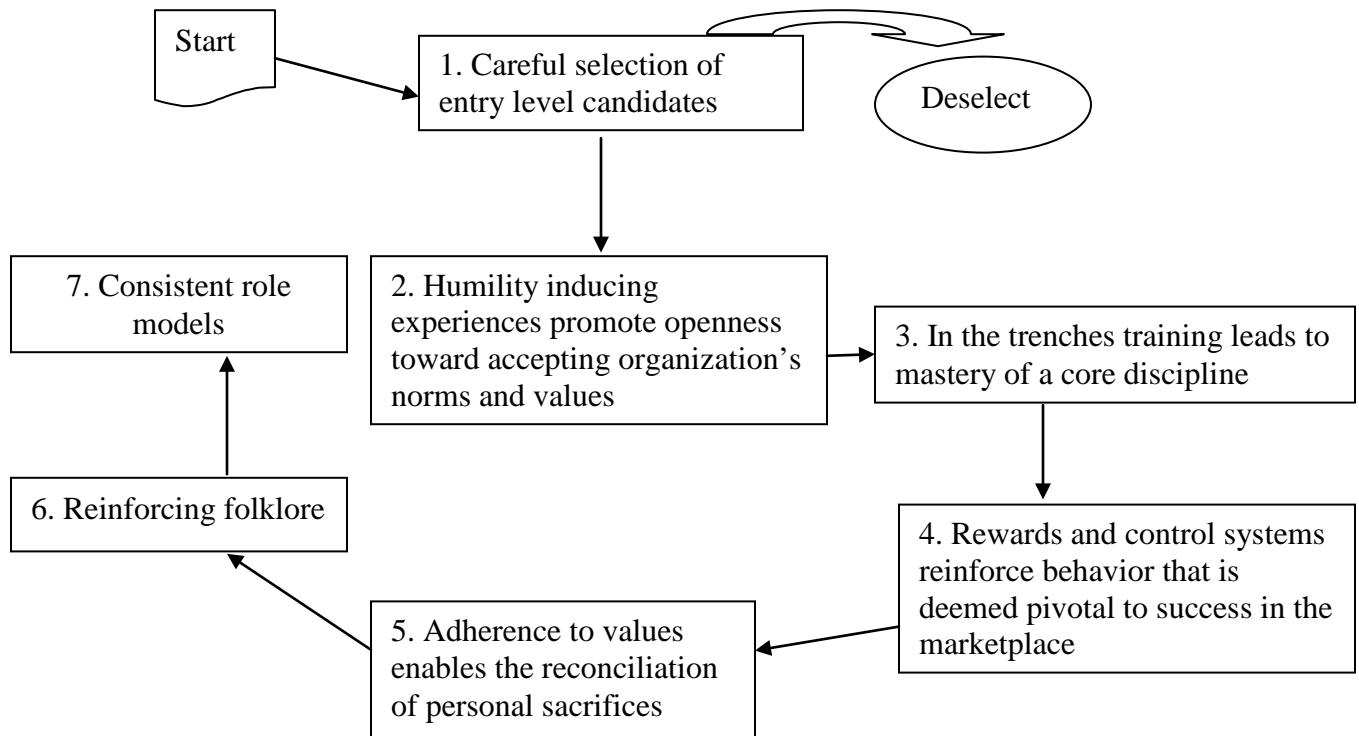


Figure 42 Seven Steps of Socialization (Pascale, 1985)

Military basic training and Marine Corps boot camp are examples of the initial socialization process. Recruits are first selected based on their physical condition, mental aptitude test scores and moral screening (step one). “From the [recruit’s] point of view, the extensive screening sends a signal: you’ve got to be special to join” (Pascale, 1985, p. 29). The humility phase begins as soon as they arrive at the U. S. Marine Corps Recruit Depot, Parris Island, stand on the yellow footprints and undergo the traditional haircut where all hair is removed from the male recruits’ head (step two), the first step to removing individuality. “Humility inducing experiences in the first months on the job precipitate self-questioning of prior behavior, beliefs and values. Lowering the

individual's self-comfort and self-complacency promotes openness toward accepting the organization's norms and values" (p. 30). Throughout the entire experience the drill instructor serves as the role model (step seven) demonstrating by their own example the consistent traits associated with the expected performance of duty and behaviors of a U. S. Marine. Pascale notes "Nothing communicates so powerfully to young professionals within an organization than having...superiors who share common qualities and who are formally or informally recognized as winners. Far more can be taught by example than can be conveyed in the classroom. Strong culture firms regard the role model as the most powerful "training program" available" (p. 33).

In group socialization, new recruits undertake collective learning experiences on standardized responses and a general acceptance of the organization status quo (Jones, 1986), "the degree to which individuals are socialized singly or collectively is perhaps the most critical process variable" (Van Maanen & Schein, 1979, p. 24). When socialization is accomplished collectively, group cohesion is increased. There is an "in the same boat" collective consciousness which results in a collective definition of the situation (Becker, 1960). New recruits at Marine Corps boot camp experience collective tactics as they train, eat, and socialize together. The group, the platoon, faces problems together, which they work through and find a collective solution. Collective socialization processes promote the demands of the socialization agents, the drill instructors, who have the power to define the nature of the collective problem. Dornbusch (1955) suggested that a "union of sympathy" developed among recruits at the U. S. Coast Guard Academy as a result of enforced regimentation associated with the training program.

The degree to which the recruit experiences the socialization process of boot camp as an ordeal indicates the degree to which divestiture processes are operating. Goffman's (1961) "total institutions" are commonly thought typical in this regard in the deliberate "mortification of self" which entry into them entails. The Marine Corps consciously promotes boot camp as an ordeal to make the recruit what the organization deems appropriate, a Marine, what Schein (1968) describes as "up-ending" experiences. Recruits are forced to abstain from certain types of behavior, must follow a rigid set of regulations, and are isolated from former associates who would continue to confirm the recruit's old identity. This process serves to commit and bind the recruit to the organization. These stern tactics provide an identity bestowing as well as an identity destroying process. Boot camp is designed to be a device for stimulating many personal changes that are evaluated positively by the recruit and others. Divestiture tactics used by the Marine Corps are found at the point of initial entry into the organization, boot camp. Once a recruit has passed this initial boundary into the Marine Corps, subsequent socialization is much more likely to be of an investiture nature.

Language

The language used by the members of any organizational group not only characterizes that group, but also reveals how its members view their organizational world and how their world is constructed. The underlying premise is that the distinctive real world of the Marines is defined most fully by the language system used by its members. "Language" is used here in the broader sense, and defined as any structured system of codifiable symbols by means of which a particular group of people communicate meaning and regulate their activities" (Evered, 1983, p. 126).

From the perspective of symbolic interactionists', social reality is defined by the language used by members of the Marine Corps social system. Language does more than communicate information and enable members to make sense. By the way in which its members talk, hold discourse, and share meanings, language creates reality daily by the linguistic enactments of its members in the course of their everyday communications between each other (Blumer, 1969; Evered, 1983; Mead, 1934).

Language plays a critical role both in articulating identifications and in strengthening or weakening them. Identities form and change as a result of prior beliefs, ongoing actions, interactions, and feedback over time (Schneider, Goldstein & Smith, 1995). The way these actions and interactions take on the form of identity is through putting them into language.

To bring about identity changes, a rupture from prior self-conceptions is necessary before new identification is possible (Goffman, 1961). Negation is a rhetorical technique that drill instructors can use in purposeful ways to destroy or neutralize old meanings. The *American Heritage Dictionary* (2002) defines negation as "the opposite or absence of something." Deidentification processes are designed to create such absence. Drill instructors define what something is "not," rather than what it is. Drill instructors break individual ties to an existing identity by rhetorically negating the value individual recruits place on their old identity. The actions and verbiage of the drill instructors during the disorienting pick up is a systematic rhetorical strategy for creating a revolutionary rupture with the recruits' old identity that is no longer acceptable or desirable (Fiol, 2002).

Linguistic anthropologists Ochs and Schieffelin, in a series of studies (Ochs & Schieffelin 1984; Ochs 1988; Ochs & Taylor 2001; Schieffelin 1990) discovered that the

processes of enculturation and socialization do not occur separately from the process of language acquisition, but that children acquire language and culture together in what amounts to an integrated process. Ochs and Schieffelin demonstrated that members of all societies socialize children both *to* and *through* the use of language. Language involves a set of signs (vocabulary) and relational rules (grammar) as well as the means of discourse in these signs (communication systems) (Evered, 1983).

To function as a group, the individuals who come together must establish a system of communication and a language that permits interpretation of what is going on. If several members of the group are using different, but common basic language, communication will break down. If members cannot communicate with and understand each other, a group is impossible by definition. It is often the creator of the groups who builds the common language and category system. Critical concepts are built into the basic language a group uses. Because new groups emerge from the host culture, it is critical to distinguish what is culturally new to the new group (Schein, 2004, p. 111-115). After its acquisition, language becomes the medium for all thought processes. Thus, words organize the world for individuals. The crucial role of language in cultural change is apparent in both its spoken and written forms (Ochs & Schieffelin, 1984).

In the world of recruit training, just as any other, exposure to unfamiliar language conveys new cultural concepts. The language of the Marine Corps and recruit training do more than simply describe reality, it also serves to shape the reality of the culture of the Corps. The Marine Corps uses naval terminology and language as a necessary means to create a common language, common conceptual categories for consensus to be established, for communication to occur which leads to interpretations of reality and

influencing behavior. This common understanding begins with categories of action, gesture, and speech that are provided by the drill instructor. Because the new recruits are now all members of the same host culture, a common language must be available (Schein, 2004, p. 115).

From the moment the recruit arrives at Parris Island, he or she is introduced to naval terminology and language that is inextricably linked to his identity as a Marine and a member of the Naval Service. The nautical tone grows out of the Marines' origins as a sea service and its association is not merely symbolic; it is essential to the naval character of the Marine Corps.

"We don't call it a floor, it is a deck. We don't call it a door, we call it a hatch" (Ricks, 1997, p. 38). Stairs are "ladders", windows are "ports", the bed is a "rack", the drill field is the "grinder", breakfast, lunch, and dinner meals are "chow" and are eaten in the "mess hall". The use of naval terms and language demonstrates that the recruits, although a large heterogeneous concentration of men with varying backgrounds of family, education, and social experience, whose only common denominator is the uniform they wear and their haircut are now a closed group, living a life different and isolated from a civilian world. It creates an "in" group versus the "out" group. However, changes in vocabulary do not happen automatically.

Studying the Marine Corps requires more than learning of a new language. Marines are taught a phonetic alphabet unique to the military. Each letter is given a specific associated word, and in addition to radio communications, these words are used in regular conversation between Marines in place of single letters. Training companies

are identified by letter, typically A, B, or C, and pronounced alpha company, bravo company, etc.

Other common forms of military jargon are numbers, initialism, and acronyms. For example when asked about a Marine's military occupational specialty (MOS), most Marines will not reply with a description or title, but will instead reply with the number specific to their MOS. Thus, an infantryman is an 0311, while an artilleryman would be an 0811. While many civilians may describe the military truck as a Humvee, in actuality the abbreviation is HMMWV, which stand for High Mobility Multi-purpose Wheeled Vehicle, and it is only the pronunciation which is 'hum-vee.' Similarly, physical exercise or physical training is always referred to in the Marine Corps as by the initialism PT (pee-tee). Learning these terms, and then expressing that knowledge through socially acceptable speech is an important element of displaying a recruit's knowledge and assimilation into the military world.

Yelling, or *sounding off* is another common feature of military language. Recruits are to sound off whenever they speak. Sounding off can refer to calling cadence, to shouting various slogans and phrases at predetermined times in their training. For instance, while in the barracks, a drill instructor may want to talk to a member of the platoon, the platoon guide. The drill instructor will simply say in a normal volume and tone of voice, the word 'guide'. All the members of the platoon are expected to instantly stop what they may be doing, assume the position of attention, and yell words 'Sir, guide, aye, aye sir.'

Many group events are accompanied by some form of ritualized speech. PT or physical training is replete with ritualized statements. When recruits perform physical

training, whether it is during scheduled morning PT or while being punished by drill instructors, the command–response phrases proceed along similar lines. If the exercise is part of scheduled physical training, each exercise is preceded by a declaration of the exercise, ‘the pushup!’ by the drill instructor leading the training, upon which the recruits respond by repeating the name of the exercise. When commanded to do so, the recruits assume the start position for the exercise with a ritualized response of ‘arrh.’ After this the drill instructor will begin to perform the exercise and count the exercise. For the push-up it is typically a four count: ‘one, two, three.” At each count, the recruit either goes up or down. At the fourth count, recruits respond with the number of repetitions that have been performed, beginning with one and incrementing one for each successful repetition. While many consider the immediate response to orders a primary facet of what it means to be a Marine, this assumption has been challenged from both within and without the Marine Corps. It is true that much of the training a recruit undergoes is designed to create a quick and instinctive response to specific stimuli and habitual responses can be a strong element of military identity. Linguistically, at boot camp, recruits are trained to respond with certain pre-scripted utterances when prompted by drill instructors. Almost unfailingly, recruits do provide these appropriate responses.

Cadences

Much like sounding off during punishment, cadence calling is frequently used as a metric by drill instructors for assessing the morale and performance of the recruits. The military cadence has been used in the U. S. military since at least World War II (Burke, 1989) and serves a number of purposes. Cadences can be used in an ironic way to express dissatisfaction with military life or to assist in separating the recruit from his civilian

identity. Carol Burke's (1989) discussion of cadence calling mentions some of the practical uses of cadence calling such as to "ease the strain by diverting attention from monotonous and often strenuous labor or training (p. 424). Another practical use of cadence calling which Burke underemphasizes is the use of cadence to keep the recruits in step as they march. Almost every cadence follows a standard 4:4 musical beat, recruits can more quickly learn to place the proper foot down at the proper time in a march formation. Running cadences serve to physically train recruits how to control their breathing during running, which improves running time on the PT tests conducted during boot camp. Symbolically, cadences serve to unite recruits with other Marines, past and present.

The recruit's name is another link to the civilian world which is removed during boot camp. In the civilian world, the informal first name is used to refer to someone of the same or lower status level with titles and last names reserved for those of higher status levels. In the Marine Corps, last names are used almost exclusively, with the specific honorific tied to the Marine's rank attached. Physical punishment is the standard response to the failure of the recruit to use a drill instructor's full title. The association of the first name and the recruit's old status as a member of a group of individuals is representative of the civilian world. The use of rank and last name removes an element of individuality and the association with the civilian world it symbolizes. The formality of military associations, with the use of honorifics and formal naming conventions, is in direct contrast to the informal civilian identity. Thus, by removing the first name, recruits at boot camp begin the separation of their old civilian selves.

Language also creates a sense of group, “us” versus “I”. The drill instructor withdraws from the recruits the right to use the first person. A person's self is taken away; the recruit loses the ability to refer to themselves in the first person pronoun or the second-person "you" pronoun. "I" or "my" becomes "this recruit." First names are also banished. "From now on, you are no longer he, she, or it, or whatever you was. You are now 'Recruit-and-your-last-name,' understand?" (Ricks, 1997, p. 40). Traditionally Marines place the self-interest of the individual second to that of the institution known as the Corps, or their unit, rather than thinking of themselves as an individual recruit/Marine. Recruits are required to use third-person referrals, such as referring to themselves as "This (or the) recruit" or "These (or the) recruits". It sometimes takes seven attempts to formulate a simple question in proper Marine style. "I need to..." "No." "Sir, I need to..." "No." "Sir, can I go..." "No." Finally, after four more tries, he puts it all together, dropping the first person and including a "sir": "Recruit [last name] requests permission to make a head call, sir." (p. 47). Nothing at boot camp is theirs personally, not even the right to be called "Marine". They are simply "recruits". They have to earn the title "Marine".

The purpose of this rhetoric is to generate concrete, situation-specific reidentification of new members with a new role or possible self. It includes less inclusive referents (e.g., I, you) in relation to the organization as a whole, consistent with ruptures from prior identity (Fiol, 2002). Theories of rhetoric provide insight into the language markers that convey identifications (Fiol, 2002). The first time a recruit encounters a drill instructor, he tells them to "get off my bus." The recruits had not known it was the drill instructor's bus, but they soon realize that they are on "his" island,

in "his Corps". Every drill instructor they meet will talk to them the same way. Verbal communication of the drill instructor demonstrates a sense of commitment and ownership through language. It is "my Marine Corps." The drill instructor as the socialization agent demonstrates the collective identity of Marine that includes both a common name, which the recruits do not yet possess and a shared image of membership in the organization.

Socialization of the Language of the Corps.

"Each field finds it necessary to adapt, coin, or otherwise create the nouns, activities, and verbs that describe its objects and concepts, its qualities, its forms of action" (Evered, 1983, p. 140). Every specialized activity forms a subcommunity because: a) those engaged in an activity tend to communicate more than those in other activity fields, and b) those engaged in an activity tend to organize themselves into more cohesive units in the interest of efficiency, productivity, and protection (Evered, 1983).

In addition to task or activity reasons, specialized language is generated for social and behavior reasons for the Corps. Every group creates its own secret "in" words that differentiate that group from other groups. "In" language marks both belongingness to a group as well as the world view of the group. Words are markers of the role of the members of the group (Evered, 1983).

The language used by the members of a particular organization characterizes that organization in terms of: a) its similarities to and differences from other organizations, b) its societal role, and c) the world view and "reality" definition of its members. Language variations occur between different organizations and within organization, partly from task/activity reasons and partly from social/behavioral reasons (Evered, 1983).

Drill instructors take advantage of the generative qualities of language by guiding the identity change processes of recruits linguistically. However, language alone is insufficient for bringing about such a transformation. Behaviors must support the language that the drill instructor employs.

Deidentification

At the end of the first day in the Marine Corps, more than a few recruits wondered, as did Ehrhart (1983) as he lay on his rack at the end of the first day: “With all my heart and soul, I did not want to be here. I couldn’t understand how any of this had happened. I lay there for what seemed like hours in a kind of trance, staring at the ceiling, my mind in neutral and somebody flooring the accelerator” (Ehrhart, p. 16). Others like Howard Hoffman who enlisted in the army in World War Two says he “didn’t cry or break down in tears, or anything, but felt very, very much threatened; I felt that I was now in the grip of forces that I couldn’t do anything about; that what was happening to me was largely a matter of chance; that I was at the very bottom of the totem pole” (Hoffman, 1990, p. 28).

Lewin (1951) argued that an effective social change strategy begins by unfreezing current beliefs. In the present context of boot camp, this means weakening the new member's identification with the old identity, which has been referred to as deidentification (Ashforth, Saks, & Lee, 1998, p. 218). Deidentification is particularly important if strong and stable identifications characterize the starting conditions of an identity change or resocialization process. There is a need to break down prior attachments before new definitions of self are possible. Reframing perceptions of identity must begin with events that signal that the present framework for understanding no

longer works (Bartunek, 1988) and must involve some "felt pain and disequilibrium" (Pratt & Barnett, 1997, p. 81). The result is deidentification.

Deidentification leads to temporary loss of meaning, ambiguity, and uncertainty that opens the space for new possibilities. To effect deidentification, leaders must reduce the strength of the value that individuals place on the old identity (Lewin, 1951).

Deidentification brings about social uncertainty (lack of clarity about one's place in the social order). Deidentification threatens people's need for belonging. When inclusion needs are threatened, people can resort their social identity either by discarding their threatened identity as a civilian and involving other group identities that are more secure, or by enhancing aspects of the self that fit the new identity (Brewer & Pickett, 1999).

To regenerate trust, drill instructors must rebuild ties to a new desired future state (Lewin, 1951), a process Fiol refers to as reidentification (2002). One can make a desired future identity more attractive through active promotion of "possible selves" representing specific, significant hopes of what a person could be (Markus & Nurius, 1986), a Marine. Possible future selves are important because they provide new means-ends patterns (a clear articulation of a role in the new organization) that can bring about situated reidentification. Situated reidentification results from a process of engaging people in active projects that are consistent with a new desired organizational goal. The drill instructor's use of close order drill exemplifies this process.

Close Order Drill

Ricks (1997) describes the first time a group of recruits are guided by their drill instructors across the parade ground to the mess hall in what is normally one minute stroll under the tutelage of the drill instructor as taking a quarter of an hour. He depicts the

recruits as infants, still learning to walk and stand as Marines. They are learning how to move as a group in unity, the basic building block of drill and drill is the basic element of the professional military unit (p. 110).

The terminology 'close order drill' comes from the old tradition of formation combat, in which soldiers were held in very strict formations as to maximize their combat effectiveness. Historically, drill increased in importance when men stopped fighting as individuals and began to fight together as units. Drilling as a vital component of a war machine further increased with the increases in the size of armies. For example, Phillip II of Macedon disciplined his army so they could swiftly form the phalanxes that were so critical to his successes as a general. Military drill later was used by the Roman Army to maximize efficiency and combat effectiveness throughout their long history. Modern military drills are derived from 18th-century military tactics in which soldiers in a line performed precise and coordinated movements to load and fire muskets. Although these particular tactics are now obsolete, for the most part drilling performs a psychological function by inculcating the response to commands and to train the recruit to act unhesitatingly. Close order drill is still used for parades and ceremonial purposes or in non-combat environments for efficiency, ease of organization, and encouragement of discipline. A military drill is memorizing certain actions through repetition until the action is instinctive to the recruits being drilled. Complex actions are broken down into simpler ones which can be practiced in isolation so when the whole is put together the desired results are achieved. Such is necessary for a fighting force to perform at maximum efficiency (Janis, 1945). The length of paces is exact and their frequency is

precise. “When men march in cadence,’ declared a military writer in 1763, ‘it gives them a bold and imposing air.’

Recruits are typically instructed in close order drill to stand, march, and respond to orders in an unquestioning manner. According to Recruit Training Standard Operating Procedures, close-order drill serves three functions:

- is essential for the esprit de corps and cohesion for battlefield
- gets the recruits used to instinctive obedience and following the orders
- enables large units to be marched and moved in an orderly manner

Socialization through Close Order Drill.

Close order drill is an instrument used by the drill instructors to enable a common language to be established, to demonstrate expectations of behavioral norms, to teach the recruits how to work and move as a team. This is a joint event in which the individual acts in some manner, but the group shares the experience and turns the drill event into a group or platoon product. This is done both at the cognitive level as the recruits learn how to perform the drill movement and at the emotional level as they deal with the authority and influence of the drill instructor (Schein, 2004, p. 74). The Initial Drill Evaluation tests each platoon’s ability to listen to the orders of its drill instructor at this point in training, and is a demonstration of the unit’s degree of discipline and esprit de corps.

It is no accident that the sergeants who run boot camp platoons are not called “military instructors”, but “drill instructors.” Drill-boring, repetitive, and replete with

sixty-two basic movements, each containing several subsets or requirements for the location of the rifle, the placement of the hands on the rifle, and the angle of the arms, is the heart of boot camp (Ricks, 1997, p. 63). Drill, metaphorically an art form, provides the drill instructors an opportunity to lavish attention on the recruits, correcting hand movements, straightening arms, aligning files, enforcing forty inches of separation between each rank, leaving not a single action to individual improvisation. During introductory drill with tired, confused recruits, one drill instructor issues orders to the group while another moves along the ranks correcting individuals. Ricks describes a recruit swipe at a sand flea biting his chin causing him to miss a movement in the presentation of his rifle, thus providing the opportunity for the drill instructor to emphatically emphasize teamwork, self discipline, and unselfishness. Drill instructors describe drill as building unit cohesion, unit and individual discipline, individual and unit accountability, and sacrifice of individual urges for the common good (Ricks, p. 88). Every recruit is evaluated, corrected, and mentored continuously, with special attention paid to even the smallest of details, such as the placement of a finger within 1/4 inch, angle of the weapon, and positioning of the recruit in relation to the unit.

The commitment that Marines have is based on not wanting to let down their fellow Marine. No one wants to be seen as letting his unit down. Close order drill provides opportunities for drill instructors to reinforce through repetition each recruit's role and responsibility to their fellow recruits and their group.

Drill instructors have a reputation as unforgiving taskmasters. Drill is used as one of the primary methods of transforming these recruits from civilians into Marines, and drill plays a large part in their development of teamwork and unit cohesion. The object of

close order drill is to teach Marines by exercise to obey orders and to do so immediately in the correct way. Close order drill provides a forum to physically and very visibly demonstrate to the recruits that the Corps and their drill instructors have set their standards high and are not willing to compromise on their standards. Drill instructors do not underestimate the abilities of their men and as long as they lavish attention on them through their corrections at close order drill, the recruits believe they have faith in them. The recruits will learn the tasks the drill instructors expect and want them to learn. Drill is simply a means to reinforce this standard expectation.

Classifying close order drill as a group, formal, sequential socialization tactic indicates the level of emphasis placed on the individual's role in the organization. In group socialization, new recruits undertake collective learning experiences on standardized response and a general acceptance of the organization status quo (Jones, 1986), "the degree to which individuals are socialized singly or collectively is perhaps the most critical process variable" (Van Maanen & Schein, 1979, p. 24). When socialization is accomplished collectively, group cohesion is increased.

New recruits at Marine Corps boot camp experience collective tactics as they drill together. The group, the platoon, faces problems together which they work through and find a collective solution. This collective socialization process promotes the demands of the socialization agents, the drill instructors, who have the power to define the nature of the collective problem.

Van Maanen and Schein state that, "Generally, the more formal the process, the [emphasis] is on influencing the newcomers attitudes and values" (1979, p. 22). The more formal the process, the more emphasis is placed on influencing the newcomer's attitude

and values. Formal socialization tactics are highly structured in order to focus the situation on the organization, the primary source of information and situational definitions, thus increasing the likelihood of shared experiences. The Marine Corps utilizes close order drill as group and formal socialization tactics during boot camp.

Ostroff and Koslowski (1992) found that newcomers relied upon observation and interaction with supervisors to learn about their tasks, roles, work groups, and organizations. Their research attests to the effectiveness of formal, institutionalized socialization in transmitting technical knowledge, role expectations, work group norms, and organizational values (Ashforth & Saks, 1996). Anakwe and Greenhaus (1999) found that experienced colleagues, the drill instructor, played the most prominent role in predicting effective socialization. Their results suggested that experienced colleagues, (drill instructors) significantly influenced task mastery, success in functioning in the work group, knowledge, and acceptance of culture, values and role clarity.

Technical information is important to newcomers and newcomers must gain knowledge on how to function in the new work group. They must understand the way the group works together to accomplish tasks. Personal learning informs newcomers concerning the degree of competence acquired since moving to a new organization. Personal learning allows newcomers to overcome doubts associated with their competence in the new job, affecting their ability to cope with the tensions and anxieties of the new work (Schein, 2004).

Making a Rack

“It is not called a bed. It is called a rack.” Making a rack in boot camp is both simple and incredibly complex. As a symbol of military life, it stands out. The bedclothes

for a Marine Corps rack are one mattress cover (similar to a large pillowcase that wraps around the mattress and ties at two corners), two cotton sheets, a pillow and pillowcase, and two wool blankets. Although there are only these six elements to make a rack, the specifications for how each rack must be made are so exacting and specific that the simple enterprise becomes complex and difficult. Each recruit is assigned to one of a pair of bunk beds. Recruits who share a bunk bed are referred to as 'rack mates.' Each rack must be made properly each morning. Ideally, the recruit places one sheet on top of the mattress cover. This bottom sheet has the excess tucked under the foot and the top of the mattress. On top of this bottom sheet is placed the top sheet that is lined up with the top of the rack and the excess is tucked under the foot of the mattress to form a hospital corner. The top sheet is folded back a precise amount. Once the sheets are finished, the first wool blanket is laid on top of the rack in the same way as the top sheet, lined up with the head of the bed and with enough excess tucked under the foot of the bed to allow for a hospital corner. The sheet is folded once over the top edge of the blanket, and then exactly six inches of the blanket and sheet together are folded a second time. After this is done, the recruit should climb underneath the frame and pull all the blankets tight through the springs of the frame. Recruits are not allowed to use rulers. Hospital corners are required, since they can actually be observed. Making a rack at boot camp is one of the many processes which seem simple, but due to the rigidity of acceptable behavior, can quickly become complicated.

U. S. Marine Corps Core Values Training

Starting on Training Day 1 (TD-1) recruits are instructed that to be a Marine is to do what is right in the face of overwhelming adversity. To understand how to do what is right they are taught about ethics, the Corps' core values of honor, courage, and commitment. The recruit also participates in specific classes about leadership, ethics, Law of Land Warfare, the articles of the Code of Conduct, USMC Problem Solving, sexual harassment, equal opportunity, drug and alcohol abuse, customs and courtesies, the Code of Conduct, hazing, operational culture, leave and liberty, grooming standards, U. S. Marine Corps mission and organization, Marine Corps uniforms, the Uniform Code of Military Justice, integrity, discipline, teamwork, duty, and esprit de corps that frame the values of the Marine Corps.

The first core value recruits study in depth is *commitment*. Recruits learn that commitment is a spirit of determination and dedication within themselves which will lead to their success during recruit training; it is the ingredient that enables 24-hour a day dedication to Corps and Country; pride; concern for others; and an unrelenting determination to achieve a standard of excellence in every endeavor. Commitment is the value that establishes the Marine as the warrior and citizen others strive to emulate, should guide performance, behavior, and conduct every minute of every day (FMFM 1-0).

The second core value recruits study is *courage*, the mental, moral, and physical strength ingrained in Marines to carry them through the challenges of combat and the mastery of fear; to do what is right; to adhere to a higher standard of personal conduct; to

lead by example, and to make tough decisions under stress and pressure. It is the inner strength that enables a Marine to take that extra step (FMFM 1-0).

The third core value recruits study is *honor*, what Marines consider the bedrock of their character. The quality that guides Marines to exemplify the ultimate in ethical and moral behavior; never to lie, cheat, or steal; to abide by an uncompromising code of integrity; to respect human dignity; to have respect and concern for each other. The quality of maturity, dedication, trust, and dependability that commits Marines to act responsibly; to be accountable for actions; to fulfill obligations; and to hold others accountable for their actions (FMFM 1-0).

The core values are incorporated into every aspect of recruit training with the intent to make a Marine who is committed to the Corps' core values in the service to their country. Drill Instructors and recruit training officers teach the specific classes, but it is the Senior Drill Instructor (SDI) who reinforces each core values topic during “foot locker” discussions with his or her platoon. Using lesson plan scenarios and daily training events, the SDIs talk with their platoons or talk one-on-one with recruits to highlight specific topics, see what values were learned, and to answer any questions. It is during these discussions that Senior Drill Instructors start to evaluate each recruit, and make a determination if the recruits are taking a personal ownership of core values.

Socialization through Core Values Training.

The Marine Corps recognizes it is unrealistic to expect everyone who arrives at Parris Island to understand, comprehend, and instantly abide by every facet and nuance of

the Corps' core values. Klimp (2001) states the Corps acknowledges that honor, courage, and commitment are behaviors that must and can be taught and absorbed before the ideals can be applied effectively to their intended purpose. By the nature of some of the recruit's age and experience, they arrive at Parris Island as nearly empty vessels that have had to overcome extraordinary life circumstances and may be lacking in some of the values, beliefs, and behaviors required for success in the far more rigid and demanding environment in which Marines might find themselves. Others arrive with a fairly well developed sense of what is considered as honorable and proper behavior while still others may have had only a minimum of exposure to what is considered appropriate actions for Marines. Marine Corps recruit training provides an organization which projects the norms, values, and belief system of the institution and expects new recruits to embrace them. This includes the structural elements inherent in the socialization process that introduces the recruits to the military culture.

The Marine Corps uses core values training as a means of third-order organizational social control. First-order control, according to Perrow (1977, 1979) refers to direct supervision or control by direct orders or rules. Second-order controls are more remote controls derived from programs or standard operating procedures (March & Simon, 1958). Third-order controls are found in the assumptions and definitions of the situation which are taken as givens by organizational participants.

Organizational stories, like core value stories, that have become scripts provide the same kind of cognitive device that a standard operating procedure does and are therefore akin to second-order controls. The decision maker places a problem into the framework of a well known core value story about how a problem was solved to decide

what should be done (Wilkins, 1983). Perrow (1979) describes this as a type of third-order control.

This is the type of control Durkheim (1961) refers to when he suggests that narratives such as myths and legends are often viewed by participants as concrete instances of abstract values or implicit assumptions. This kind of control works by restricting what decision makers consider as relevant, the form of reasoning that is deemed appropriate, and the kinds of solutions that are seen as acceptable. Thus, core value stories from the drill instructors' personal history or from the history of the Corps may provide not only implicit shared scripts, but also a set of assumptions and implied values which guide and limit Marines.

Louis (1980) treats the newcomer as an active agent in his own learning. He describes socialization experiences as a search for information or attempts to make sense of the new realities and situations associated with the workplace. The newcomer experiences "surprises", conflict, and confusion as he attempts to compare the milieu of the current work organization, Marine Corps boot camp, with that of the familiar (Schultz, 1995). These discrepant events trigger a need for explanation or interpretation and the Marine Corps begins this interpretation on Training Day One with the core values class.

Explanations or meanings (Louis, 1980) are contrived from the recruits own past personal experiences with similar situations discussed in the core values lesson, corroborated with interpretations of insiders, the drill instructors, by recruits observing their behavior and listening to their explanations. The drill instructors represent insiders or veterans and they are considered relevant role incumbents as they have previously experienced the trials and tribulations associated with the newcomer's current situation.

Drill instructors assist newcomers in the process of altering previously held cognitive sketch maps or understandings of the new setting (Franke, 1997). Until newcomers develop accurate, internal maps of the new setting and until they appreciate local meanings, it is important that they have information available for amending internal cognitive maps and for attaching meanings to such “surprises” as may arise (Louis, 1980, p. 244). The Marine Corps deliberately uses the drill instructor to express and transfer these values to newcomers.

Role-related learning emphasizes the relevant knowledge, skills, and abilities required by the newcomer, along with the expectations of relevant others (the drill instructor). The newcomer must develop an understanding of specific task requirements and salient social expectations in order to fill the role associated with the job. Louis (1980) refers to this process as acculturation. Newcomers must learn culture-specific interpretation schemes to make sense of situations and to respond with meaningful and appropriate actions (Weick, 1979). Learning the culture allows newcomers to define situations and to develop a “dictionary of meaning” for interpreting events (Louis, 1980; Schultz, 1995). The Marine Corps clearly states that to be a Marine is to do what is right in the face of overwhelming adversity on and off the battlefield. To understand how to do what is right and as a measure of organizational control, specific opportunities are used in boot camp to provide a dictionary of meaning to be able to interpret events.

Marine Corps Martial Arts

The overarching purpose of the Marine Corps Martial Arts Program (MCMAP) is to mold and strengthen the collective identity, social structure, and culture of the Marine Corps. MCMAP continuously challenges Marines mentally and physically as its tests and

builds ethical and moral character by compelling decision making under demanding and grueling circumstances while stressing the development of analytical discrimination to judge the appropriate use of force as a situation might dictate (Yi, 2004, p. 20). Based on five colored-belt levels, the first of which is tan, recruits are introduced to the fundamentals of MCMAP on Training Day One and progress toward the final test to earn their Tan Belt. The Tan Belt syllabus teaches recruits basic MCMAP techniques, is an introduction to the martial culture, and forms the basis for all further MCMAP instruction. Punches and strikes are a part of the unarmed element of martial arts training, but proper technique is required to ensure maximum impact on the opponent. These techniques involve simple movements and gross motor skills such as basic punches, uppercuts, and hooks. To be effective, these techniques must be trained and practiced until they can be executed instinctively. During MCMAP recruits learn how to take advantage of weapons of opportunity, proper knife fighting techniques, armed manipulations, how to disengage from an opponent who is trying to disarm them or how to take control of an opponent using pressure points and joint manipulations. Throws and leg sweeps apply the principles of balance, leverage, timing, and body position to upset an opponent's balance, gain control, and take him to the ground to gain the tactical advantage in a fight. Knowing how to properly fall can mean the difference between being injured and taken out of the fight, or rebounding and resuming combat. Recruits are taught to be able to extract themselves from chokes and holds so that they can counter with a strike and end the engagement. On Training Day 22, recruits are tested for proficiency in the mental, character, and physical disciplines in the Tan Belt level of MCMAP. All recruits must be qualified to wear the Tan Belt to graduate from recruit training. To pass the Tan Belt test,

a recruit must demonstrate that he possesses mental, moral, and physical discipline; demonstrate that he is beginning to grasp and understand the Marine Corps' core values of honor, courage, and commitment; and demonstrate the techniques learned at this belt level. The MCMAP Endurance Course is a Combat Conditioning event that combines Combat Conditioning with MCMAP techniques to challenge recruits mentally and physically, both individually and as a team as recruits move rapidly from station to station throughout the course executing MCMAP techniques one-on-one in a physically demanding environment.

Socialization through MCMAP.

“A warrior has to be ruthless in combat, but have empathy. Fifty percent of a warrior is the skills of how to take a man's life. The other fifty percent is the philosophies engraved on your heart and soul” so a Marine can control the violence in combat (Ricks, 1997, p. 83). Marines will not likely have the opportunity to choose their enemies on the battlefield, but will need the skills to handle any situation with any opponent. In order to better prepare Marines for a multitude of circumstances, the Marine Corps envisioned a program that would provide not only the ability and confidence to fight in combat, but the self discipline to understand the responsible use of force both on and off the battlefield. The value of self confidence is overwhelmingly important to a Marine and MCMAP provides recruits an opportunity to demonstrate their self confidence. The Marine Corps developed MCMAP to promote values, the warrior ethos, to develop self confidence, and to teach skills. The mental, character, and physical disciplines are the foundation of MCMAP.

The intent of cultivating mental discipline is to produce Marines who are capable of understanding and handling the complexity of modern warfare; capable of decision making under combat conditions; situationally aware; and who possess the virtually instinctive impulse to do the right thing, for the right reason, in the right way. Philosophy professor Shannon French notes,

We should base our decision on awareness rather than on mechanical habit. That is, we act on keen appreciation for the essential factors that make each situation unique instead of from conditioned response. We must have the moral courage to make tough decisions in the face of uncertainty, and to accept full responsibility for those decisions (Warfighting, 1997, p. 86).

Character discipline is built around the Marine Corps' core values of honor, courage, and commitment and stresses the role of the warrior on and off the battlefield. MCMAP aims to develop self-discipline and self-control to restrain oneself in the heat of the moment and to use force responsibly. Developing activities consist of warrior studies and combative behavior studies. Other programs teach citizenship, give counsel on personal and family obligations, safety, responsibility to the community, and self discipline. Character development might be the most critical component in a Marines development according to Yi (2004). The physical discipline consists of the techniques taught at each belt level. Through the successful synergy of these disciplines at each belt level, it is intended that a Marine will enhance the understanding of the Corps' core values.

Combat Conditioning

Recruits will conduct Combat Conditioning exercises almost every day during recruit training. It has as its goals not only success as measured by the Marine Corps Physical Fitness Test, or PFT, but also to begin to develop those physical skills necessary

to excel in a modern military environment, in combat, and to create confidence. Athletic trainers have developed a conditioning program that focuses on functional exercises, and uses a progressive method to build a strong foundation in general fitness. The program increases core strength and upper body development through power movements and events like the Obstacle and Confidence Course, MCMAP, and 3, 5, 6, 7.5 mile conditioning hikes with individual load bearing equipment.

The Obstacle Course is a cornerstone of the Combat Conditioning program. All recruits run the Obstacle Course several times during recruit training consisting of jumping obstacles, pipes, beams, vaulting-type obstacles, and a rope climb at the end. While the Obstacle Course challenges the recruit's upper body strength, the "O" Course provides a lesson to recruits that brute force and strength alone is not enough to negotiate the obstacles and that concentrating on technique as they negotiate the course is equally important.

The Confidence Course consists of eleven obstacles and is more intricate, with much larger obstacles than the Obstacle Course. The Confidence Course consists of high, difficult obstacles, such as the Slide for Life, the Sky Scraper, the Belly Buster, the Dirty Name, and the Tough One intended to inspire confidence in recruits in their mental and physical ability and to cultivate their spirit of daring. There are eleven unique obstacles that challenge the recruit in different way. In the Slide for Life, the recruit climbs a tower, grasps a rope, and swings his legs up, and then slides down over water. In the Tarzan, the recruit walks successively higher logs until he reaches a horizontal ladder, and then he grabs the rungs, reaches out, and arm walks the length of it. The recruit develops

physically and mentally by overcoming obstacles that require strength, balance, courage, commitment, bearing, pride, aggressiveness, self confidence, and determination.

The combat conditioning program is designed to physically demonstrate to each recruit and to the group that while strength is important, it is not as important as endurance and that a high level of fitness changes not only physical attitudes, but mental attitudes. This program fosters the development of a mental attitude, the attitude that your mind can impose over your physical limitation, the attitude that you will hang on, that you will perform your mission and overcome all adversity using every conceivable means. This obviously requires physical endurance, pushing your body when it's screaming for rest and just as importantly pushing your mind. Recruits experience this through the various portion of the combat conditioning program.

Socialization through Combat Conditioning.

The value of self confidence is overwhelmingly important to a Marine. Combat conditioning provides opportunities to recruits to demonstrate to themselves and the group self confidence daily. Recruits are subjected to rigorous physical training to build morale, provide a sense of accomplishment, and develop self confidence for the recruits who meet the physical requirements. The obstacle course proves that brute strength alone is not enough to quickly negotiate and those recruits that work on technique find the course easier to run. As its name implies, the Confidence Course is designed to build the self-confidence of the recruit. The recruit develops physically and mentally by overcoming obstacles that require strength, balance, courage, and determination.

General Military Subjects

Required knowledge, General Military Subjects, is taught and constantly reinforced to the recruits and evaluated in the form of written exams, practical applications, and inspections. “The platoon has previously received a period of instruction in a classroom and as the recruits undergo remediation, the drill instructor makes little or no effort to make the recruits comfortable. It is pure rote, evoking a Japanese style of education: loud, simple, and repetitive, the academic equivalent to close order drill” according to Ricks (1997, p. 67). During recruit training, nearly every period of classroom instruction is followed up with a similar remedial review of the required knowledge. The major motivator for these remediation classes is fear. The platoon will either memorize these facts or suffer the consequences, which range from being yelled at, given extra physical training as punishment, to being dropped back in training to new platoon that has not progressed as far in the training cycle. General Military Subjects also includes subjects such as first aid, introduction to interior guard, terrorism awareness, operations and communications security, and Marine Corps history.

Recruits receive six periods of instruction in Marine Corps history with the intent of making them learn that the basis for being a Marine and contributing to its rich tradition is understanding how the Marine Corps came to be, what it has done, and why history is so important to Marines. Recruits learn that since 1775, the United States Marine Corps has served honorably and proudly whenever and wherever the Nation has called, and today's Marine Corps stands ready to continue in the proud tradition of those who so valiantly fought and died at Belleau Wood, Iwo Jima, the Chosin Reservoir, Khe

Sanh, and Fallujah. They learn that Marine Corps history is replete with accounts of Marines who have shown exceptional bravery and made extraordinary sacrifices, and that almost without exception, those accounts of heroism and service can be described by the words "honor, courage, and commitment," the Marine Corps' core values. They are told these three words succinctly describe the reason Marines have always been looked upon as a fighting force without equal, capable of exceptional accomplishment in the face of insurmountable odds.

Socialization through General Military Subjects.

Recruits are taught the history and traditions of the Marine Corps, imparting a sense of pride, esprit de corps, and tradition. Each class is taught with equal fervor, and as far as the instructor is concerned, the classes are equally relevant. The Corps is depicted as an honorable profession with a long history emphasizing social solidarity, ceremony, suffering, and hardships. The classes are designed to instill a sense of pride, but also offer a sobering sense of obligation to continue the tradition of one's predecessors (Janowitz, 1974, p. 127). The message is dramatically clear. The modern Marine is the perpetuation of the Marine who defended America long before him. The skills and values that served their predecessors so well have not been rendered obsolete by the tools available today, they have been enhanced.

More than one quarter of the recruits' textbook on General Military Subjects is devoted to the very specific subject of Marine Corps history. According to Ricks (1997) their barracks is decorated with signs invoking aspects of Marine Corps history, such as the innovations in developing close air support and amphibious landings. Above a urinal a

sign asks, "What does the Marine Corps motto Semper Fidelis mean? Always Faithful." Above a sink another sign says the Marine Corps was born in Tun Tavern, Philadelphia on 10 November 1775. They learn that as Marines they could address one another as "devil dog," a reference to the term German troops applied to the Marine brigade fighting in France in World War One. At graduation, a roll call of past battles is recited, creating a sense of obligation. The recruits are constantly reminded: don't let down those who went before you.

Results of Chao et al.'s (1994) multi-year sample indicate that knowledge of history positively impact the resolution of newcomer's identity and that knowledge of the organization's history, along with organization's goals and values is positively related to newcomer's satisfaction.

Skills Training

A pugil stick is a heavily padded training weapon used by military personnel for bayonet training since the 1930s. A pugil stick is a training device that simulates a weapon of opportunity. The pugil stick was designed to provide a safe, but realistic way to train weapons of opportunity. While formerly used to train rifle and bayonet techniques, with the change in Marine Corps bayonet fighting this function is no longer applicable. However, rifle and bayonet techniques that are applicable when employing a weapon of opportunity can be used during pugil stick bouts. The more important function of the pugil stick bout is to allow recruits to experience the shock of inter-personal violence in a full contact situation thereby gaining confidence and mental toughness.

Similar to a quarterstaff, the pugil stick may be marked at one end to indicate which portion represents the bayonet proper and which the butt of the rifle. A pugil stick consists of a stick wrapped in padding at both ends which can be gripped like a rifle. The pugil stick is approximately that same weight and length of an unloaded rifle with a bayonet attached. The stick is held with the right hand grasping the lower end of the stick over-handed and the left hand grasping the upper end of the pugil stick under-handed. With the right forearm, the lower end of the stick is held against the hip, the simulated blade end of the pugil stick is oriented toward the opponent. All movement comes from the basic warrior stance.

The recruits wear helmets, flak jackets, mouthpiece, gloves, a neck roll, and groin protection. The bouts are conducted in large circular pits and are controlled by a MCMAP Instructor who starts and stops the bouts. Each bout is stopped after a set amount of time, or when a properly executed technique is delivered to an opponent that would result in a "kill" on the battlefield, hits to the head, thrusts to the chest, before an opponent does the same to you.

By definition, the Marine Corps is an amphibious assault force. Therefore, all Marine recruits are required to know how to survive in the water. Recruits receive basic water survival training at the indoor pool, which is safely conducted by specially trained instructors. Training in combat water survival develops a recruit's confidence in the water. All recruits must pass the minimum requirement level of Combat Water Survival-4 (CWS-4), which requires recruits to perform a variety of water survival and swimming techniques. All recruits train in the camouflage utility uniform, but may be required to train in full combat gear, which includes a rifle, helmet, flak jacket, and pack.

The "Gas Chamber" is actually the Chemical, Biological, Radiological, and Nuclear (CBRN) confidence chamber. The recruits undergo two hours of classroom instruction on how to wear the Field Protective Mask, or "Gas Mask," conduct an operational check on the mask and wear it inside the chamber for three minutes. This exercise exposes the recruits to a simulated toxic environment by using a substance that is used as a riot control agent and is non-lethal. The mask's protective capability in the chamber exercise is demonstrated where recruits learn proper handling of a gas mask and how to calmly place it on his head and breathe. Completion of the gas chamber exercise is not a graduation requirement, but is often a point of reference or source of stories for Marines after recruit training. It is alternately dreaded and desired by recruits. Nine seconds is the amount of time the Marine Corps sets as a standard for correctly donning the protective mask. This count begins from the moment a recruit hears the alarm to when the mask is on and properly sealed. After that, a recruit has an additional six seconds to complete the procedure. Once on, the gas mask is uncomfortable and claustrophobic, as breathing through the filter on the mask can be difficult. In addition, the protective mask is supposed to be equipped with eyeglass lens inserts for recruits who require glasses to properly see, but at boot camp, these are not provided. In order to get a proper seal on the mask, the recruit cannot wear glasses under the mask, so he or she is restricted to whatever their natural sight may be.

After a period of classroom instruction on the hazards of nuclear, biological, and chemical warfare and the characteristics of the protective mask, instructors detail the potential hazards to recruits from the 'tear gas' (CS) used in the chamber during a 'safety brief.' Recruits are lined up by platoon, and each platoon is broken down into squads to

move through the exercise chamber. The recruits are commanded to wear the mask and roll the sleeves down on their camouflage jackets. When given permission to enter, each recruit enters through the door on the front of the approximately 20 feet by 20 feet building and circles the interior wall of the building until all are lined up along the walls. At the center of the chamber is a metal desk with a small stand to hold a CS canister. After the instructor has lit the canister, the CS gas fills the chamber. Depending on the number of recruits involved in the exercise and the supply of CS canisters, the concentration of gas can vary amount. Even a small amount in the chamber begins to affect any exposed skin as soon as one enters before one even breaks the seal of the mask. The instructor orders the recruits to take a breath, then break the seal of their mask and allow the CS gas into the mask and against the face. A fresh shave or a razor cut is immediately rewarded by a burning sensation. After the seal is broken, the recruits are then instructed to reseal their mask and 'clear' it by blowing out, thus pushing the contaminated air out of the mask. After the instructor checks to ensure that each recruit has properly resealed the mask, the instructor then directs the recruits to remove their mask entirely and sing the first verse of the Marines Hymn before they are allowed to exit the chamber. The ritual of the gas chamber is not always as ordered and regular as depicted by the lesson plan. In the inevitable confusion of the smoke filled chamber, recruits scramble for position, fail to comply with instructions, and may act as they want, rather than as prescribed. Although recruits are supposed to maintain an orderly line, many broke the seal of their mask before they were supposed to or inhaled a small amount of CS gas. As they start tearing, coughing or vomiting, they realize resealing the mask will be ineffective, especially considering the claustrophobic nature of the mask, so

they remove it completely and work their way toward the exit. In the few seconds it takes to make their way to the instructor at the exit, they begin streaming saliva from their mouth, snot from their nostrils, tears from their eyes, and feel as though they can barely breathe. Once given permissions to exit the chamber, the sunlight outside causes the eyes to water even more, and upset the sense of balance. After leaving the chamber, the drill instructors order the recruits to carry their mask, form a circle and walk in an effort to expose recruits to the air and clear the CS out of their respiratory system, off of their clothes and exposed skin. By the third lap around the circle, almost all recruits are completely recovered. Every recruit's uniform must be washed to remove CS residue to avoid after affects of the CS gas.

The gas chamber has a practical as well as a symbolic significance. Not only is it a point of reference and a source of stories for Marines, it is also an essential part of a Marine's skill set on the modern battlefield. However, the gas chamber is one of the marked moments in boot camp when recruits feel like they have accomplished something of themselves, and moved further in the journey along the path toward the Marine identity. The importance of the gas chamber is to not only experience some discomfort but also to teach the recruit to trust his training, trust his equipment, his mask to filter contaminated air on the battlefield.

Rappelling is essentially sliding down the rope in a controlled manner and is used when the terrain becomes too difficult to walk or climb down, for rapid deployment from helicopters, or access to buildings. Fast-roping is a technique for descending down a thick rope. It is useful for deploying troops from a helicopter in places where the helicopter

itself is unable to touch down. The recruit simply holds onto the rope with his or her hands and feet and slides down it.

Socialization of Skills Training

Many recruits have never experienced the realities of inter-personal violence. Pugil sticks provide effective, but safe, "full contact" combative training. It is also an effective tool for promoting aggression, enhancing endurance and improvisation that are building blocks to developing the physical skills and mental toughness vital to success on the battlefield. The riot control agent CS is non-lethal and builds the recruits confidence in his equipment, with the understanding that the mask can save his life if the gas were lethal. This experience gives them confidence that they now understand some basic protective measures that must taken against CBRN weapons or hazards. It further reinforces the understanding that Marines are a "force-in-readiness" regardless of the circumstance. During recruit training rappelling and fast-roping are confidence exercises that build upon a recruit's inner strength and core values, especially courage.

Marksmanship Training

For the second phase of training, weeks four and five, training days (TD 25-47), the recruit platoon moves to the rifle range barracks for basic marksmanship training. This simple movement also serves to illustrate to both recruits and drill instructors the expeditionary culture of the Marine Corps. Ricks (1997) declares that "according to Marines at Parris Island, shooting a rifle accurately is a matter of discipline: any recruit can do it well if he follows the prescribed steps of sight alignment, sight adjustment,

proper body positioning and trigger control. "Every Marine a rifleman," no matter what their Military Occupational Specialty from cook to infantryman, has been one of the hallmarks of the Marine Corps throughout our history. To develop those skills recruits will spend two weeks learning how to shoot the Marine Corps way. The first week is called Grass Week where recruits learn the fundamentals and positions they will use. The second week is Firing Week where recruits will practice, and then qualify on the Table 1 course of fire, or the Known Distance (KD) course with the M16A2 service rifle. Recruits fire the same M16A2 service rifle that they were issued at the beginning of training and have been carrying every day for the last five weeks. The M16A2 is a 5.56 mm, lightweight, magazine fed, gas operated, air cooled, shoulder fired weapon. Recruits learn to remember these characteristics of the by the acronym LM-GAS. The M16A2 is constructed of steel, aluminum, and composite plastics.

Week Four, 'Grass Week' tests the limits of the recruit's mental discipline. It can be boring, with hours of almost theological discussions on how to hold and fire the rifle. The recruits spend their days in an old white shed sitting on rows of backless wooden benches while an instructor stands at a blackboard " (Ricks, 1997, p. 120). During Grass Week, recruits are taught the fundamentals of weapons safety and marksmanship with their M-16A2 service rifle. During this week, recruits are introduced to the four shooting positions: sitting; prone; kneeling and standing. A Combat Marksmanship Instructor, or CMI, teaches recruits how to fire, how to adjust their sights and how to take into account the effects of wind and weather. Weapons are empty.

110 minutes of instruction entitled 'Weapons Handling' boils down to four common sense rules: treat every weapon as if it were loaded, keep your finger off the trigger until ready to fire, keep the weapon safety on until you intend to fire, never point a weapon at anything unless you intend to shoot it. Classes entitled "Introduction to Marine Marksmanship," "Fundamentals of Marksmanship," are followed by "Introduction to Shooting Positions," then "Shooting Positions." There are three common elements to any shooting position- relaxing the muscles, using the bones of the body rather than the muscles to support as much weight of the rifle as possible and firing at the natural point of aim, the point on which the rifle sights settle when the first two conditions are realized. Classes on "Zeroing Procedures" how wind and other weather conditions affect accuracy.

The recruits spend hours "snapping in," or dry firing while in the four positions, preparing their bodies to remain steady while they shoot. In the prone position, a right handed recruit lies on the ground with his body slightly angled to the left, and the butt of the weapon pressed against his right shoulder with his right hand on the pistol grip and his index finger extended straight along side of the rifle so that it does not touch the trigger. His left hand supports the barrel of the rifle and the recruit's weight rests on his elbows, which form a tripod with the hips for support. The weapons instructors tell the recruits to open their left hand while firing, as the left hand should simply support the rifle's barrel and the right hand should pull the weapon firmly into the shoulder. The recruit's ankles should rest on the ground with both feet pointed outwards, a position which can be painful at first, to prevent the recruit's body from shifting in response to the recoil of the rifle. The rifle is held high enough above the ground that the recruit's head does not have to dip in order to see through the sights and disrupt a natural point of aim.

After a few minutes in this position, the elbows begin to get sore and the small of the back will frequently begin to cramp after an extended period. They also train in the Indoor Simulation Marksmanship Training (ISMT) facility, which is similar to a video game, but provides the CMI and the recruit with instant feedback on their technique.

Finally, after several days of snapping-in, training without rounds, 'dry firing' their weapons, they shoot to see if they have understood and can apply the fundamentals of "BRASS-F" breathe, relax, aim, sight, squeeze and follow through to "zero" their service rifle and fire a grouping exercise to verify how their individual rifle shoots. Using a range of 25 meters to practice zeroing and grouping, ability to group all shots within a 9 minute angle. Grouping is accomplished first and is fired for precision, in which the position of the bullet holes in the paper is secondary to the close proximity of the holes. Zeroing is used to adjust the sights of the weapon and is fired for accuracy and precision. Zeroing and grouping are fired in the prone position to provide the best stability for the rifle. The results will tell the recruit the initial sight settings, or "dope" to set on his or her rifle. Each recruit logs in the Entry Level Data Book/Rifle 5.56 mm, M16A2 every round he fires, not only where it hits, but how he was sitting, standing, how his rifle sling was adjusted, where the wind was blowing and how hard. By the time a recruit fires that first actual shot during Firing Week, he will have dry-fired his or her rifle from each of the four positions thousands of times.

During the second week of marksmanship training, the recruits move from the teaching sheds to the firing range and start before sunrise preparing their rifle, the range and themselves to shoot the Table 1 known-distance course of fire. Marine Corps known

distance ranges are laid out in a standard manner. Earthen mounds, berms hem it in on three sides, leaving only the entrance open. In the distance, just before the marsh berms, the numbers one through fifty are painted on signs six feet high, marking the targets above them. At the top of the berm are the target holders, six feet by six feet on white frame bearing targets at various times that are twelve inch circles, others are twenty six inch high outline of a man's head and shoulders. Two red pennants flutter from flagpoles at both end of the line of targets, indicating that the range has firing going on and telling the recruits how the wind is blowing near the targets (Ricks, p. 124). After each round is shot, the targets are marked by other recruits working down behind the target berms. Shots in the black bull's eye are marked with white spindles, which appear to be white dots. Shots outside the bull's eye in the background white are marked with black spindles.

Procedures on the range reflect the strict discipline of the Marine Corps and boot camp. Safety and discipline on the firing range are two unbreakable rules and performance on the firing range is scripted rigidly. Recruits are designated a firing point, the location on the range, the target number where they will be firing from and a firing order, the group that each recruit will be firing with (first, second relay). The recruits are closely watched. For every two recruits shooting, there is one coach. Recruits prepare for rifle qualification on Friday by firing 50 rounds of slow fire (one shot at a time) and rapid fire (10 shots in a row) from the four shooting positions at ranges of 200, 300 and 500 yards. The positions are: sitting; prone; kneeling and standing. As recruits practice shooting on their advance toward Qualification Day, they are assisted and evaluated by their Combat Marksmanship Instructor, their Coach, and their drill instructors. All are working to assist the recruit to ensure that the fundamentals have been learned, and that

each recruit shoots the best that he or she can. The fifth day on the range, Friday, is Qualification (Qual) Day, the culmination of their two week training. On Qual Day all recruits are trying to shoot their best and are striving for the coveted “Crossed Rifles” of the Rifle Expert badge. Recruits first shoot sitting, kneeling, and standing at two hundred yards; then sitting and prone at three hundred yards. Finally, the recruit shoots at five hundred yards. This last group of ten rounds at about a quarter of a mile distance makes the Marine Corps unique among the world's military services. No one else makes its recruits fire and qualify at such a distance (Ricks, p. 126). Recruits can also earn the Rifle Sharpshooter and Rifle Marksman badges, and in order to qualify with the M-16A2 service rifle a recruit must shoot a score of a minimum 190 points out of the possible 250 points.

Socialization through Marksmanship Training.

The rifle is always referred to as a weapon or as a rifle, never a gun. Using the term ‘weapon’ rather than the overly generic ‘gun’ creates a connection with warriors from the past. By referring to the M-16 as a ‘weapon’ the Marine Corps culture is more tightly knit, as a ‘gun’ is carried by civilians, and can refer to any number of firearms. A weapon, on the other hand, is the instrument of a warrior or a soldier, regardless of where or when that soldier served. Whether discussing a Spartan citizen or a medieval knight, the term ‘weapon’ refers to that which all soldiers which all soldiers have in common, the right to carry a weapon and use it for organized violence at the order of their commander on behalf of the state. Through the use of this distinct term, the rifle as a weapon creates a symbolic link between the modern Marine and other soldiers throughout history. These links extend beyond the naming of the rifle. Ammunition (bullets) is referred to as

‘rounds.’ The ammunition holder for a weapon is referred to as a ‘magazine’ while a ‘clip’ refers to the container on which rounds (bullets) are strung and packed for shipment. In the case of an M-16, a clip holds ten rounds, and is used to load a magazine, which can hold 30 rounds.

The rules and procedures prescribing proper action with the weapon are very strict and specific. As the Marine must be disciplined and restrained, the weapon is an extension of the Marines and must be just as disciplined. The handling of a weapon is a controlled act. On the first day of classroom weapons instruction, the recruits were ordered to place their weapons down a table with the barrel pointing to the right. This results in the dust cover always facing up, which is the Marine Corps prescribed way of laying down a weapon. The first day of instruction is on the weapon itself, from the nomenclature of barrel, grip, trigger to the bolt cam pin and the firing pin retaining pin. Once a recruit has his weapon, he immediately clears the weapon by pulling the charging handle to the rear of the weapon and visually inspecting the chamber to be certain there is no round in the chamber that could be fired.

The two long weeks outdoors learning to fire the rifle inculcates steadfastness and a focus on the mission in the recruits. The first activity that many recruits recall as being “useful” and interesting was rifle qualification. Recruits had been issued rifles weeks ago, taught to march with them, disassemble and assemble them, clean them, and to memorize their performance characteristics, all of which was tedious and boring. Robert Leckie (1979) remembers marksmanship training as a distinct turning point: “If you are undone at Parris Island, taken apart in the first few weeks, it is at the rifle range

that they start to put you together again” (Leckie, p. 11). Even the most naïve recruit understands that marksmanship is a skill that he is very possibly going to need in the near future.

According to Ricks (1997), the phrase "Every Marine a rifleman" is more than just an expression, it is an ethos encapsulated in a phrase, a way of looking at life and behaving (p. 190). Emphasis on the rifleman directs loyalty from the top of the organization down. The person carrying the rifle, and the name of the organization (Marine), is at the bottom of the totem pole. The rifleman is where the casualties occur. Military analyst James Dunnigan says "during this century, the odds of serving in the infantry during combat and escaping injury have been less than one in three." The Marine Corps cultural focus on the man who is trying to fight and survive on the front lines is one reason why Marine units do well in combat. In the Marines, it is the group that matters. The rifleman is anonymous, not a famous individual, not even mattering as an individual, but as a member of a group. The most famous photograph of Marines is the World War II flag raising on Iwo Jima, a photo that lacks identifiable faces, three have their backs turned, two have their sides turned and the last is hidden except for his arms and hands supporting the flag.

Sequential socialization process (Van Maanen & Schein, 1979) is characterized by a series of discrete and identifiable stages through which an individual passes in order to achieve a defined role or status in the organization. Well integrated sequential tactics have a structure where one stage builds upon the next. The cumulative effects of the stages impact the individual in such a way that he or she may find they are considerably different at the end of the process. Non-sequential strategies are more happenstance and

represent an unknown or continually changing sequence. The strength of the sequential strategy is affected by the degree to which the process integrates each stage and the number of agents involved. The higher the commonality, the more effective is the process.

The training at the rifle range is taken seriously. Since every Marine is a rifleman, one never knows when his life may depend on the knowledge and skills developed. The value of self confidence is overwhelmingly important to a Marine. On qualification day they have demonstrated that they can take all the things they have learned and apply in practice. This becomes a matter of individual personal pride to perform well since this skill has been defined as important by the organization and the drill instructors. Marksmanship instructors make certain that each recruit knows how to fire their rifle such that every round counts. The Marine Corps emphasizes small units and the individual Marine rifleman. Historically, the Corps rarely has had enough men in one place and at one time to mass combat fires. Every shot, therefore, has to be put on target.

Phase three TD (48-70) is the evaluation process where recruits received additional training in marksmanship, basic warrior training, tested physically and mentally as an individual and as group in close order drill, face The Crucible and the transition during Basic Marine week leading up to graduation.

Basic Warrior Training

Introduced into boot camp in 1987 by then Commandant, General Gray, Basic Warrior Training (BWT) introduces recruits to field living conditions and lays the foundation for how to operate in a field environment. It is not combat training. The majority of a Marine's field training is conducted after recruit training at the School of Infantry. During the five day BWT conducted during boot camp, recruits will learn basic

field skills like setting up a tent, how to prepare personal equipment for combat; the definitions of camouflage, cover, and concealment and how to use all three; basic movement techniques; how to negotiate obstacles like walls and barbed wire; how to set up field expedient shelters, how to prepare and eat Meals Ready to Eat (MREs) and how to conduct field sanitation.

During the day and night movement exercises, recruits practice and demonstrate the basics of infiltration skills learned during classes, such as the high crawl and low crawl, how to approach walls and remain concealed, how to negotiate their way through a tangle of barbed concertina wire with hand and arm signals. Recruits learn the basics of land navigation to determine where they are on a map in relation to identifiable objects like man-made features (roads, buildings), prominent landmarks (mountains, rivers), and by using compass directions (north, south). They learn how to use a compass and military topographic map, and that when used together they can locate their position and navigate more precisely from point to point, day or night. Recruits are also introduced to the basics of identifying Improvised Explosive Devices, or “IED’s.”

Firing the Table 2 course of fire, formerly called “Field Firing,” is follow-on to the basics learned during their firing during the Known Distance (“KD”) course of fire. Table 2 is a course of fire that takes the basics and applies them to the methods and techniques used in combat. Recruits learn how to fire their service rifle while wearing their Kevlar helmet, body armor system and personal load bearing equipment while using a 3-point tactical rifle sling. They will practice shooting at a single target while in a stationary position, and then learn how to engage both multiple and moving targets. They will then fire the Table 2 course of fire for score, and the combination of their Table 1

and Table 2 results will be used to determine their final marksmanship score and the resulting marksmanship badge.

Load Bearing Equipment (LBE)

Standardization of all equipment such as bedding, footlockers, boots is one of the most important rules of boot camp and extends to the recruits personal equipment as well. The rucksack is an external frame backpack with three large exterior pockets and a top flap which is secured by two straps. Sewn along the sides and the back are various pieces of webbing to allow for 'alice clips' a metal oval with a movable locking side to attach extra pieces of equipment to the outside of the rucksack. This expandability is essential. The rucksack is pear-shaped, rounded on the inside and along the bottom of the main storage area.

The standardization of equipment is particular to each platoon, likely due to the hierarchy of the Marine Corps since a drill instructor is responsible for the training of one and only one platoon and he inspects the gear of only that platoon. Generally, a poncho is placed in an outside pocket, on the right side of the rucksack is placed a two-quart canteen, and on the left side is an entrenching tool. The entrenching tool, usually referred to as an 'e-tool', is a small, foldable shovel. When stored, it measures less than a square foot, and expands to slightly longer than two feet when it is used.

In addition to the pack, the other standard equipment that recruits must wear includes a helmet, the Load Bearing Equipment (LBE), and the protective mask. The LBE is a pair of webbing suspenders, padded around the shoulders, attached to an adjustable belt by a pair of metal hooks that clip through a series of metal rivet holes spaced regularly around the length of the belt. Attached to the belt is a pair of one-quart

size canteens in wool insulated canteen carriers. Inside one of the canteen carriers is a metal cup, shaped to mold itself around the canteen. Each canteen is slightly curved to allow it to rest against the recruit's hip more comfortably. This curve also allows the canteen to serve as a very effective pillow as the back of the head rests comfortably inside it when laying down in the field, elevating one's head just enough for comfort. Attached to the belt is a pair of magazine holders, squared off pouches just large enough to hold three M-16 magazines. Attached to the suspenders is a single first aid kit, a sealed and sterilized pouch containing a padded bandage. The straps and webbing attached to all of these items are adjustable to allow the equipment to be worn by any size recruit. During field training when recruits are running, diving, rolling around in dirt and mud, can place stress on the equipment and many items can be easily lost. Equipment items may be taped down once it is adjusted to secure the gear before beginning the field training.

The recruit also carries strapped to the outside of his pack a shelter half and a sleeping mat. The sleeping mat is a half-inch thick foam mate similar to those purchased at any outdoor supply store, the shelter half is a large trapezoid of treated canvas that is supposedly waterproof. Included with this canvas sheet are three modular metal poles and four metal stakes to assemble a sleeping tent. The use of the shelter half encourages primary group development, as two recruits are needed to combine their halves to create a single tent. The tent poles are assembled and the two shelter halves are snapped together lengthwise with a small flap of canvas extending over the seam to ensure that rainwater will not drip into the tent. The eight stakes are then used to secure the tent, the sleeping mats are laid inside, and the e-tool is used to dig a small rainwater trench around

the outside of the tent to prevent groundwater from seeping into the tent. Each tent is barely large enough to hold two recruits that share it, and after assemble ends up being only five feet long from pole to pole.

Socialization through Basic Warrior Training.

BWT is designed to instruct, practice, and evaluate basic individual military skills. It is not a simulation, nor is it a war game, nor is it intended to simulate combat training. It is not called Basic Combat Training, but Basic Warrior Training. Realism is provided for recruits as they eat real rations designed for field conditions, wear real field equipment, the Kevlar helmet, the body armor system, and personal load bearing equipment and are supplied with ammunition. BWT is intended to replicate the reality of everyday life of eating, fatigue, going to the bathroom, shaving, cleaning one's weapon in the field. These exercises are organized, bounded by a start time and an end time. The training goals take priority over realism and while there is some attempt to make the scenario reasonably realistic, they are primarily designed to teach a particular individual skill.

An overview of The Crucible

A detailed description of the Crucible is included in Appendix E. Recruit Schaeffer (2002) in letters home to his parents says The Crucible is a fifty-four hour culminating event to recruit training that emphasizes the Corps' core values of honor, courage, and commitment. Selfishness means failure. Only teamwork can produce success. The Crucible is three days of team exercises designed to test each recruit's mental ability under stress, problem solving, teamwork, and physical stamina. Six major events requiring teamwork are comprised of more than forty specific exercises such as

supplying a small unit, evaluating and evacuating a simulated casualty, and "Warrior Station" obstacles are designed to be both mentally and physically exhausting. Each platoon is organized into squads of twelve to fifteen recruits, each led by a DI. The recruits will hike more than forty miles carrying all their equipment, run an obstacle course and undertake tests that force the members of each squad to work together to devise creative solutions to both physical and mental challenges, from walking together with all their feet on the same log, to figuring out how to move heavy equipment over rope bridges while not touching any parts painted red. High towers simulating multi-story structures have to be scaled, using teamwork to move bodies and equipment from floor to floor without the use of ladders or steps. A simulated "battlefield" is crossed and "fought" through, including bayonet assaults on dummies, taking cover from simulated machine gun fire, explosions, both by day and night. High rope bridges are crossed while ferrying weighted barrels or ammunition boxes.

Krulak (1997) further describes that all this is done under the constant gaze of the DI, who uses the last seven minutes of each exercise to evaluate the team's performance and relate an account that reinforces the value of the exercise and the values of the Corps. With only four hours of sleep each night, eight hours total over the two and one-half day training exercise and only two and one-half meals-ready to eat (MREs) during that time, sleep and food deprivation are a component of this experience. The final portion of this event consists of a nine-mile hike with full packs and equipment that culminates at the Marine Corps War Memorial, a statue depicting the flag raising on Iwo Jima. At the end of the hike, the recruits are purposely at a physical and psychologically low. Foot sore, filthy, weary, mentally spent, smelly, covered in mud and grime, they seem to stand a

little straighter as they gather in a formation. The song "Eternal Father" plays softly in the background as a chaplain recites a prayer of thanks. A senior enlisted Marine speaks of the sacrifices of those Marines who have gone before and of the burden of tradition that those now standing in formation are about to assume. Marines in dress blue uniforms raise the flag of our nation as the Star Spangled Banner is played. To the words of Lee Greenwood's "God Bless the USA", each drill instructor walks quietly through the ranks of recruits and welcomes each to the Corps. With a few soft spoken words, a handshake, the symbolic representation of what each has earned, a small, cold piece of metal, the emblem of the Corps, the eagle, globe and anchor, is presented to each recruit as they are welcomed to the Corps. Following the Marines' Hymn, the new Marines march off to the chow hall for a "warrior's breakfast", steak and eggs, all they can eat, their first meal as a Marine.

Socialization through the Crucible.

Over the years, drill instructors have, on occasion, turned developmental activities into opportunities to demonstrate and exercise power and privilege. As a result of the sheer pressure of organizational necessities, as well as self-critical thinking, Krulak recognized that the recruit training procedures needed to be incrementally moved toward a greater emphasis on group concepts, core values, and problem solving. In problem solving training, the objective is to familiarize personnel with the environmental and ethical situations that they may have to face. Such training is designed to assimilate men and women into an organization. A fundamental change brought forth by General Krulak was the implementation of "The Crucible" where he sought to change cultural meanings associated with such activity as "talking and telling stories" to recruits by using an

opportunity to reinforce the values associated with each of the forty-eight different stations performed during the conduct of The Crucible through a 'locker box talk' style debrief conducted by the DI at the completion of each station. Krulak (1997) describes The Crucible as a major, fifty-four hour challenge designed to underscore the preceding eleven weeks of recruit training, to test to the ultimate, the recruits' minds and their bodies, to emphasize the qualities of reliability, loyalty, honesty, resolution, patriotism, and teamwork to which they have been subjected in the weeks just past. Limitations on food and rest, physical demands and decision-making requirements invariably involving teamwork, all characterize The Crucible as the classic culminating event in the recruit's life. Krulak wanted the role of the DI in these events to promote supportive and facilitative actions, rather than leveraging positional power until the last minute before graduation from recruit training.

APPENDIX E

Overview of the Crucible

This appendix provides an overview of The Crucible and a description of each event as originally designed and implemented from one perspective from 1996 to 1998. Data was collected for this description by direct observation of the event and by document review of my notes from the conception, organization, design, construction, and implementation of The Crucible from February 1996 to June 1998.

Overview of The Crucible

The Crucible is designed identically at both Marine Corps Recruit Depot Parris Island and at Marine Corps Recruit Depot San Diego taking into account the differences in geography between coastal mesas and coastal wetlands. It is a 54-hour physically demanding, mentally challenging event that includes food and sleep deprivation. The eight major events emphasizing teamwork and Corps' core values consist of training courses that are augmented to maintain training tempo. The eight major events consist of twelve warrior stations, a day movement course, the reaction course, bayonet assault course, the confidence course, obstacle course, pugil stick fights, team shooting, a night movement course, a night hike, core value classes, a hike, and the Marine Corps Emblem ceremony. Designed to synergistically serve as a culminating event to recruit training and to reinforce teamwork, esprit de corps, and camaraderie, the events are deliberately constructed so that none can be accomplished alone in a process that nurtures team development.

During The Crucible, the recruits are organized into squads (teams) of 12-14 recruits. Each squad has a drill instructor (DI) who acts as the leader, mentor, facilitator

and advisor. The DI guides them to each event and advises them as they negotiate each obstacle. After the conclusion of each event, the DI conducts a debrief with the recruits using a lesson plan.

The squads of recruits comprise the same recruits that have been in place throughout recruit training. The DI's who lead each squad are the DI's that have been training the recruits from the first week of training. The relationship is intended to promote bonding between the recruit and their DI's.

During The Crucible, the recruits are allowed only four hours of sleep per night compared to the mandated eight hours allowed in their prior training. They are intentionally sleep deprived.

They are provided only two and one-half meals for the entire event, intentionally to promote food deprivation. "Food deprivation is a terrifying word to anyone who has experienced harsh training environments. There is no enjoyment in carrying a heavy load mile after mile, but it is a completely different experience knowing there is little food waiting at the end." The meals are MREs (meals ready to eat) rations packaged in thick plastic bags. Unlike their prior training when they received three regularly scheduled meals per day, there are no set times for meals, rather they are taken when time permits. The recruits are issued two meals and the third meal is issued to two recruits who must decide how best to share the one meal between them. Most will take turns picking what they wanted from the ration, while others sacrificed from the beginning by giving their buddy with a larger frame the majority of the meal. Testing by USARIEM (U. S. Army Research Institute of Environmental Medicine) has verified that the nourishment

provided by the available food is sufficient to prevent any harm (USARIEM, 1997). The food deprivation is intended to add to the team building concept.

Successful completion of The Crucible is a requirement for all recruits to graduate from recruit training. Appendix 1 of Annex G of The Crucible Operations Order addresses the criteria for completion of The Crucible:

1. Show honesty and integrity in the accomplishment of the course. Any breach of integrity, to include lying or cheating will result in failure of the course. There will be no second chances where integrity is involved.
2. Demonstrate a sincere attempt to accomplish all tasks. A refusal to train will result in a failure of the course. Any recruit who refuses to train will immediately be counseled by the series commander, the Company First Sergeant, or Company Commander. Should a recruit continue to refuse to train, he will fail The Crucible.
3. Physically progress through all the stations of the course. Should any recruit be injured while completing The Crucible, the Senior Drill Instructor and Series Commander will make a recommendation to the Company commander based on the recruit's performance up to the point of the injury. The Company Commander will then recommend the disposition of the recruit the Battalion Commander for decision.
4. Merit a favorable recommendation by the recruit's Senior Drill instructor. Any case that includes actions which undermine the goals of The Crucible, or actions which demonstrate a lack of understanding of our core values will be dealt with on a case by case basis and may result in the failure of the course (Marine Corps Recruit Depot Order).

To fully understand The Crucible, it is necessary to know the published mission and intent of this training event. In The Crucible Operations Order, the Commanding Officer, Recruit Training Regiment (RTR) has stated the mission and his intent in the conduct of The Crucible, The stated mission and intent is:

Mission. To make Marines better warriors through 54 hours of shared hardship, teamwork and examples of Core Values; to create a personal touchstone that will demonstrate for each and every recruit the limitless

nature of what they can endure as an individual and , more importantly, what they can accomplish as a team.

Commander's Intent.

Purpose. To complete the recruit training phase of the transformation process and evaluate its success by ensuring that each individual fully understands his duty as a basic Marine. During a culminating event, to demonstrate mastery of the essential knowledge, skills, and values expected of a basic Marine. To further provide a defining moment as a touchstone for future reference as to the significance of their accomplishment as basic responsibilities expected of them as a Marine-something they will never forget.

Means. Through the positive leadership and mentorship of their drill instructor and support of their chain of command, negotiate as a member of a team, a designated 54-hour course under conditions of sleep and food deprivation. The DI will transition to the role of platoon sergeant and the recruit to rifle squad member. The course, designed to test all the essential elements of their training by testing mental, physical and values fitness through shared hardship and teamwork, will allow the DI to evaluate their successful achievement of approved standards and readiness to enter the Marine Corps. Throughout the conduct of the course, the DI will use the examples of battlefield heroism and teamwork to motivate and inspire squad members to emulate those qualities in their accomplishment of each station and event. Further, he will discuss and reinforce those qualities by debriefing team and individual execution at the conclusion of each event. Successful completion of The Crucible will be reinforced and recognized through appropriate ceremonies.

End State. At the conclusion of The Crucible each individual will have been transformed into a basic United States Marine fully imbued with the spirit, character, and understanding of the title Marine and the ability to function successfully in the next phase of their transformation and ultimately in the operational Marine Corps (Marine Corps Recruit Depot Order).

Reveille

The Crucible starts at 0200 (2 am) on Thursday morning when the recruits are awakened in their barracks by their DIs. The recruits have 30 minutes to dress and prepare for the start of the Crucible. The previous day, the recruits packed their equipment and prepared their load bearing vests. By 0230, the DIs have the recruits in

formation, packs on their backs, and weapons slung over their shoulders, ready to hike to the exercise site.

The hike to the exercise site is a short march made without breakfast. At the exercise site, the recruits prepare their bivouac, setting up two man tents and situate their equipment. By 0400, the recruits are at the exercise area prepared to start The Crucible. It is at this point that the drill instructors organize the recruits into their squad for the remainder of the event.

A recruit training company would be reorganized into a maximum of 32 individual squads that correlated to the 32 different training stations situated and spaced throughout The Crucible course. The Crucible is organized and designed into six major events comprising six different stations within each event of The Crucible for the command and control of the training exercise. All the squads complete in round-robin fashion the events of their section of The Crucible. Each squad therefore, will have a slightly different schedule of events throughout the two and one-half days. Due to the nature of the design, it is a random sequence that determines which schedule a squad follows. For purposes of this paper, the order of events of based upon the schedule of one squad selected at random. The weather is a factor and temperatures range from sub freezing to one hundred degrees with 90 % humidity. The degree of misery is multiplied if the weather is less than desirable. However, unless the safety of the recruits is endangered by weather, The Crucible is still conducted. The testing to verify that the nourishment provided by the available food is sufficient to prevent any harm was conducted under adverse conditions during both winter and summer months (USARIEM, 1997).

Event One

Event One, Station One - Day Movement Resupply Course

The Day Movement Course was previously conducted by the recruits during their week of Basic Warrior Training (BWT). The course is a collection of barbed wire obstacles, walls, logs, mud, ditches of water and crawling through culverts designed to provide recruits the mission of a daylight resupply of water, ammunition, and MREs to their fellow Marines. During the course, one of the recruits will be designated as a casualty. The team is given heavy ammunition crates (40 lbs), cans of ammunition (10 lbs), five gallon water cans and cases of field rations to carry to the end of the course. The course is physically demanding as the recruits must overcome physical challenges and evacuate a teammate to reinforce the values of teamwork and integrity.

Event One, Station Two - Warrior Station Sergeant Basilone's Challenge

This is a 30 minute station, with a five minute brief, 20 minutes for the obstacle and a five minute debrief. Each warrior station has a picture of the Marine that it is named after and a copy of the official citation of the Medal of Honor. The official citation is either read by all the recruits or read aloud by one recruit to the others. The DI gives this brief on the Marine the station is named after:

This station is named after Sergeant Basilone who was awarded the Medal of Honor while serving with 1st Battalion, 7th Marines during the Battle of Guadalcanal in World War Two. As the leader of two machine gun sections under heavy fire from the enemy. Sgt Basilone single-handily moved an extra machine gun into position after the first one was knocked out of action by enemy fire. Then he repaired another machine gun and personally manned it himself. Sgt Basilone gallantly held his line and moved through hostile fire to secure badly needed ammunition for his gunners. His efforts

contributed significantly to the virtual annihilation of a Japanese regiment.

The object of this obstacle is for all of the recruits to get over a round horizontal supported telephone pole log that is approximately eight feet above the ground. Two vertical logs twenty feet apart support the horizontal log, such that it resembles a large wood soccer goal. The recruits are given heavy ammunition cans and crates to carry over the obstacle. The recruits are forbidden to touch the vertical logs while climbing over the obstacle.

As with many warrior stations, it is usually very difficult for the last recruit to make it over the obstacle, unless a plan takes this requirement into account. Usually two recruits sit on the vertical log to help the other recruits up and over the obstacle as one or two recruits help to boost them up. But with the last recruit, he must try to jump up to the two recruits so they can pull him up and over. Many times the last recruit is very tired. It is difficult to grab his uniform if it is dirty and muddy as the two recruits balancing themselves on the log are unstable and it is difficult to provide enough stability to grab onto the last recruit.

The debrief focuses on teamwork, planning, confidence, trust in fellow Marines, the tradition that a Marine is never left behind, and a Marine never quits. The DI discusses fear of heights, the self discipline to overcome fears to complete the mission, and the self discipline Basilone needed to repair the machine gun. The DI discusses overcoming lack of food and sleep and Sergeant (Sgt) Basilone's dedication to complete the mission just as Sgt Basilone did to complete his mission.

Event One, Station Three - Warrior Station Private First Class (PFC) Garcia's Leap

This is a 30 minute warrior station, with a five minute brief, twenty minutes for the obstacle and a five minute debrief. The DI provides the brief on PFC Garcia:

This station is named for Private First Class Fernando Garcia who was awarded the Medal of Honor while serving with 3d Battalion, 5th Marines during the Korean War in 1952. While defending a position located in front of enemy lines, PFC Garcia braved intense hostile enemy fire trying to reach a supply point to obtain more grenades. While moving to the supply point with another Marine, an enemy grenade landed nearby. To save his fellow Marine, PFC Garcia unhesitatingly threw his body on the grenade and took the full impact of the explosion.

The mission of this obstacle is for the recruits to stand on a post protruding about two feet above the ground, leap out and attempt to grab a horizontal bar suspended by cables hung on a log frame; the obstacle resembles a trapeze. The bar is about six feet above the ground and the post is about eight feet from the bar. The way the obstacle is designed, it is nearly impossible to reach the bar, subsequently the rest of the team must catch the recruit as he leaps if he misses, but before he hits the ground. Every recruit must attempt to leap and grab the bar.

The obstacle is an exercise in trust for the recruits. Their fate is literally in the hands of their fellow recruits. The commitment of the squad to each of the individual members is apparent.

Event One, Station Four –Warrior Station PFC Jenkins's Pinnacle

This station is scheduled to last 30 minutes; five minutes to brief the station, twenty minutes to complete the exercise, and a five minute debrief. The DI has his squad listen as he briefs the situation and reads the background of the Marine the event is named after. The following is a typical background brief for this event:

This event is named for Private First Class (PFC) Jenkins, who earned the Medal of Honor in 1969 at Fire Support base Argonne, Vietnam. PFC Jenkins was a machine gunner with a 12 man reconnaissance team from Company C, 3d Reconnaissance Battalion. The 12 man team was occupying a defensive position when they were suddenly attacked by a North Vietnamese platoon. Jenkins and another Marine were in a two man fighting hole, when a grenade was thrown into their location. Jenkins pushed the other Marine down and placed himself between the grenade and the other Marine. Jenkins took the full impact of the explosion, giving his life to save the other Marine.

The DI then gives the mission of the warrior station to the recruits, the safety rules, and equipment they wear while conducting the station. This station consists of two parallel beams suspended by cables from a log frame. The bottom log is about five feet off the ground and the second log is suspended by cable another five feet above the first log. Both logs are unstable and free to swing back and forth. The recruits' mission is for the squad to get over both logs with all their equipment and weapons. The recruits cannot use the cables for support and they can have no more than two recruits on the obstacle at one time. They are forbidden to help steady the bottom log from the ground, and the recruits on the ground cannot help the others get over the logs. The recruits are given three minutes to decide how they are to accomplish the mission, and subsequently brief their plan to the DI.

The recruits then negotiate the obstacle as teams of two utilizing their own plan and leadership. The DI only interrupts them if their plan is not working at all or if there is an unsafe practice. After 25 minutes, the recruits are stopped whether they have completed the obstacle. The DI conducts the debrief with his squad through a guided discussion format. The DI helps them establish what happened; asks questions to determine what was right and wrong with what happened and determines how the task

should be done differently next time. During the debrief, the DI reinforces both teamwork and core values of courage and commitment that were exhibited by PFC Jenkins and how it relates to the warrior station and the recruit's performance. The core value lessons for this obstacle are courage, loyalty, selflessness, communication, trust in your fellow Marines, and teamwork.

Event One, Station Five - Warrior Station Sgt Timmerman's Tank

This is another 30 minute station, with a five minute brief, twenty minutes for the obstacle and a five minute debrief. The DI gives the background brief on Sergeant Timmerman as the squad listens. This brief contains the following information:

This event is named after Sergeant Timmerman who earned the Medal of Honor while serving with 2d Battalion, 6th Marines during the Battle of Saipan, 1944 during World War Two. Sgt Timmerman was in his tank moving with infantry units in support of an attack on an enemy position. Sgt Timmerman ordered the infantry to halt while his tank engaged a target. While Sgt Timmerman stood in the open tank turret, an enemy grenade was thrown onto the turret. Before it could drop into the tank, Sgt Timmerman grabbed the grenade and took the brunt of the explosion with his own body, thus shielding his crew from the blast.

The recruits are divided into two teams of eight people and they have to walk together on two wooden rails from a start point to an end point. This mission seems simple, but in practice is very difficult. The recruits are made to wear gas masks, so it is difficult to communicate with each other. The wooden rails are ten feet long and six inches wide and six inches high. Each wood board has eight, three foot rope sections attached throughout the length of each board on each side for the recruits to hold. Each group uses two boards, with one under all of their left feet and the other under all of their right feet. The recruits take the ropes in their hands and use them to lift the wood board as they step. Every step has to be

communicated and coordinated for the recruits to raise the rails as they “caterpillar” step along, for a man who fails to lift his leg with the others causes the group to falter. If any of the ropes hit the ground, they cannot use it for the remainder of the exercise. Also, if any recruit falls off the rails and touches the ground, the entire team must start over again.

The recruits are given three minutes to plan their actions and brief it back to the DI. At first, most teams have a difficult time coordinating their movements, all lifting one leg together, moving it forward, setting it down, and then lifting the other leg. Either recruits lose their balance and touch the ground or they drop the rope. They usually have few unsuccessful first attempts until they get a rhythm of walking in unison, communicating through the gas mask, and listening.

The debrief follows the same format for all the warrior stations. The DI emphasizes that it takes teamwork, self discipline, cooperation, patience, persistence, calmness, leadership, and listening to the leader to be successful. The DI might point out if the team had difficulty that they need to take a step back, regain their composure, review their plan, learn from their mistakes, adjust the plan, but never give up.

Event One, Station Six - Core Values Discussion #1

The core values class is conducted by the DI with his squad. There are no physical elements to this event (intended to provide a thirty minute physical recovery period). The first core values class is "Who am I?" guided discussion class. Every recruit is given two minutes to talk about his personal life to the rest of his squad. Topics might include where the recruit is from; the recruits family, how many brothers and sisters the recruit

has, why the recruit wanted to be a Marine, and if that reason has changed since training started twelve weeks ago. The purpose is to allow recruits the opportunity to express their thoughts and reinforce that their teammates and commitment to their teammates are the keys to success.

Event Two

Event Two, Stations 1-6 - Reaction Course Problems #1, 2, 3, 4, 5, 6

The next set of stations for the recruits is six stations of the reaction course. The reaction course is a set of problems designed to emphasize thinking and teamwork similar to the reaction course problems used to evaluate U. S. Marine Corps officer candidates at Officer Candidate School in Quantico, Va.

Each reaction course problem takes approximately thirty minutes; each has a five minute brief, twenty minutes for the problem and five minutes for the debrief. For each problem a different recruit will be chosen as team leader and be responsible for formulating a plan. Other recruits are encouraged to offer advice to the team leader to formulate the plan.

The problems deal with bringing supplies, food, water, ammunition, or injured personnel across a destroyed bridge, through a sewer system, over a wall, or over a culvert. To complete the problem, the recruits are usually given some supplies to cross the obstacle, which can consist of ropes, planks, stretchers, pipes, and ladders. There are sections of the problem that are painted red, which designates off limits and if a recruit touches the red area with his body, he can no longer be a participant in the problem.

The reaction course problems are designed so that the emphasis of the problem is on overcoming mental and physical challenges, self-confidence, trust in leaders,

followership, the formulation of the plan, and teamwork. The problems are intellectual exercises and physical stamina is not as important as mental stamina. The DI's only add input to the recruit's plan if it is unsafe or their plan is completely ineffective. The DI acts as a safety observer and judge to determine if the recruits violate any of the problem rules.

As with the warrior stations, debriefs are of the same format. If the recruits did not complete the problem, or if they could have completed the problem, but ran out of time, the DI tells them the solution.

Event Three

Event Three, Station One - Lance Corporal Noonan's Casualty Evacuation

This station is scheduled to last 30 minutes; five minutes to brief the station, twenty minutes to complete the exercise, and a five minute debrief. The DI has his squad listen as he briefs the situation and reads the background of the Marine the event is named after. Each warrior station has a picture of the Marine that it is named after and a copy of the official citation of the Medal of Honor. The official citation is either read by all the recruits or read aloud by one recruit to the others. The following is a typical background brief for this event:

This station is named after Lance Corporal (LCpl) Noonan who was awarded the Medal of Honor while serving with 2d Battalion, 9th Marines during the Vietnam War in 1969. Noonan's unit came under heavy enemy fire and several Marines were wounded. LCpl Noonan dashed across the hazardous terrain and began dragging the most seriously wounded to safety. Although wounded by an enemy round and knocked to the ground, Noonan continued to drag his fellow Marine to safety. Noonan was unable to complete the evacuation of his fellow Marine before he died, but his actions inspired his fellow Marines to initiate a spirited assault that forced the enemy to withdraw.

The recruits are broken down into five man teams with one serving as an injured person. The recruits are given the supplies to make a field expedient litter similar to what they learned in their first aid classes. They then carry a designated injured recruit in a stretcher for three quarters of a mile in one direction. Another recruit is selected as the casualty and they return to the original point.

During the debrief the DI focuses on the teamwork, trust, cooperation, the mental and physical endurance required to complete this evacuation, first aid skills, the concept that a Marine never leaves a fellow Marine on the battlefield, and that he cares for the wounded, friend or foe, once the objective is secured.. Transporting wounded personnel, whether in training or in combat must be accomplished in a safe, expedient manner so that medical attention to the victim can quickly be rendered.

Event Three, Station Two - Obstacle Course

This is the standard obstacle course that the recruits have previously individually completed numerous times during recruit training. The recruits must negotiate this course as a team while transporting a simulated casualty on a stretcher, ammunition crates, and ammunition cans. All recruits negotiate the obstacle wearing load bearing equipment with their weapons. The simulated casualty and supplies must go over every portion of the obstacle course. The values emphasized during the debrief of this exercise take into account overcoming physical challenges, teamwork, commitment, the importance of physical conditioning, courage, and trust in your fellow Marines.

Event Three, Station Three - Corporal Lavelle's Duty

This station is scheduled to last 30 minutes; five minutes to brief the station, twenty minutes to complete the exercise, and a five minute debrief. The DI has his squad listen as he briefs the situation and reads the background of the Marine the event is named after. This warrior station has a picture of the Marine that it is named after, a female, and a description of the heroic manner in which gave her life as she performed her duty. The official citation is either read by all the recruits or read aloud by one recruit to the others. The following is a typical background brief for this event:

Corporal Germaine C. Lavelle was a graduate of Louisiana State University and was a teacher in her local community. In 1943 she wanted to represent her family in the war effort, so she enlisted in the Woman's Reserve. She was assigned as an aerial gunnery instructor at a newly completed facility. When the facility caught on fire, Cpl Lavelle went back into the building. She perished in the fire and was last seen trying to help others escape.

The mission for this station is for the team to move from one platform to the next by using a group of swinging, hanging tires without touching the ground. The recruits need to swing from tire to tire, timing their movements so the other recruits would be able to catch the tire on its backward swing. If a recruit touches the ground with any part of his body, he is considered disqualified.

The DI discusses the roles of women in the Marine Corps and their important contributions during the debrief. The DI stresses that while the training enlisted recruits undergo at boot camp is segregated, there is no difference between male and female Marines. They each have the same requirements to graduate from boot camp and that all Marines are riflemen. Women Marines receive combat training after boot camp with male Marines. Cpl Lavelle joined the Marine Corps for the same reason as many men. She showed commitment to her country,

courage, and selflessness through her actions. The DI also points out that to complete the obstacle it took teamwork, endurance, communication, commitment, and determination.

Event Three, Station Four - Staff Sergeant (SSgt) Bordelon's Assault

This station is scheduled to last 30 minutes; five minutes to brief the station, twenty minutes to complete the exercise, and a five minute debrief. The DI has his squad listen as he briefs the situation and reads the background of the Marine the event is named after. Each warrior station has a picture of the Marine that it is named after and a copy of the official citation of the Medal of Honor. The official citation is either read by all the recruits or read aloud by one recruit to the others. The following is a typical background brief for this event:

This station is named after Staff Sergeant Bordelon who was awarded the Medal of Honor while serving with 1st Battalion, 8th Marines during the Battle of Tarawa in November 1943. SSgt Bordelon was a combat engineer who landed in the initial assault at Tarawa. He personally destroyed two Japanese pillboxes with demolition charges and was wounded while assaulting a third pillbox. Wounded and out of demolitions, he provided himself with a rifle and furnished covering fire for a group of men scaling the seawall. Disregarding his own wounds, he went to the aid of two men wounded. Refusing first aid for himself, he made up a demolition charge and single handily assaulted a fourth Japanese pillbox, but was instantly killed in a final burst of fire.

This station has a two part mission. The first mission is to lift a tire and place it over a twenty foot tall telephone pole. The second mission is to remove the tire from around the pole. The recruits have nothing to climb up the telephone but themselves. When they remove the tire, they must change positions, such that the same recruits who climbed to the top of the pole may not repeat their jobs.

The recruits usually make a human ladder around the pole, with a ring of recruits as a base, and others climbing on their shoulders to create a second level, and finally one

or two recruits climb on the shoulders of the second level to reach the top and place the tire over the top. The tire is slowly lowered to the ground and the process is repeated in reverse, but the positions of the recruits are changed. During the debrief, the DI discusses teamwork, coordination, cooperation, persistence, and overcoming physical and mental challenges.

Event Three, Station Five - SSgt Howard's Maze

This station is scheduled to last 30 minutes; five minutes to brief the station, twenty minutes to complete the exercise, and a five minute debrief. The DI has his squad listen as he briefs the situation and reads the background of the Marine the event is named after. Each warrior station has a picture of the Marine that it is named after and a copy of the official citation of the Medal of Honor. The official citation is either read by all the recruits or read aloud by one recruit to the others. The following is a typical background brief for this event:

This station is named after Staff Sergeant (SSgt) Jimmy Howard, who was awarded the Medal of Honor while serving with 1st Reconnaissance Battalion in 1966 during Vietnam. SSgt Howard was the platoon leader when a North Vietnamese Army Battalion assaulted his team of eighteen men. Although outnumbered, he directed his team to defend their position. SSgt Howard moved from position to position, providing dynamic leadership and courageous fighting to his men. Despite being struck by a hand grenade and unable to move his legs, he distributed ammunition and skillfully directed aircraft strikes against the enemy. When rescue helicopters proceeded to Howard's position the next morning, he waved them off, continuing to call air strikes and small arms fire on the enemy, making landing zones as secure as possible.

This obstacle is constructed as a big rope spider web maze. The object is to pass each recruit through the holes in the web with all of their equipment. The web has bells attached to the ropes and if a recruit causes one of the bells to ring, then that recruit must

start over again. Once one of the holes has been used to pass a recruit through, it cannot be used again. During the debrief, the DI discusses the need for a good plan and the need for a back-up plan. He discusses innovation, trust, communication, self-discipline, and teamwork to complete the obstacle.

Event Three, Station Six - Core Values Discussion #2.

This core values discussion is conducted in the same format as the other two guided discussions. The focus on this discussion is teamwork. The DI guides the discussion of: How am I doing? How is the team, how are we doing? The discussion is intended to act as a self-analysis/group critique station for recruits to reflect on how they are members of a team. They will discuss how they are contributing to the team efforts, either positively or negatively. The DI's control the discussion so constructive criticism does not become a verbal assault on another recruit's character or performance

Event Four

Event Four, Enhanced Confidence Course, Station One - The Weaver

The weaver is a physically challenging obstacle and the recruits must get the squad through in twenty five minutes. The obstacle resembles a three dimensional A-frame constructed of vertical and horizontal crossed logs positioned to resemble railroad tracks and simulates a damaged bridge over a swift river. The logs rise at a forty-five degree angle to a height of twenty feet. The recruits have to weave by going under all the marked logs and over the unmarked logs all the way to the top of the obstacle and then down the other side. The recruits are given two heavy ammunition cans to carry over the obstacle and to complete the obstacle; every recruit must help each other to get the cans

across the logs. Recruits must use teamwork, personal strength to negotiate this physically demanding obstacle, communication, and overcome a fear of heights

Event Four, Station Two - Stairway to Heaven

This obstacle is consists of a 40 foot vertical ladder. There are twelve vertical rungs spaced three to four feet apart. Several portions of the rungs are painted red to designate they are off limits to the recruits. The recruits are to resupply Marines at the top of a building with vital communications gear. Only two recruits climb to the top of the obstacle. The recruits are given ropes and four locking D-rings to assist in hauling the wooden case simulating batteries up and over the obstacle. The recruits on the ground form a 'mule' train and pull the weight of the load to the top of the obstacle and the two recruits at the top of the ladder manipulate the load over the top rung and lower the case of batteries to the ground on the other side. This problem instills a sense of confidence, teamwork, commitment, communications, self-discipline, personal courage in overcoming fear of heights, and emphasizes the importance of physical conditioning.

Event Four, Station Three and Four - Reaction Course Problems #11 and #12

Two stations of the reaction course comprise the next station. The reaction course is a set of problems designed to emphasize thinking and teamwork similar to the reaction course problems used to evaluate U. S. Marine Corps officer candidates at Officer Candidate School in Quantico, Va.

Each problem takes approximately thirty minutes; each has a five minute brief, twenty minutes for the problem and five minutes for the debrief. For each problem a

different recruit will be chosen as team leader and be responsible for formulating a plan. Other recruits are encouraged to offer advice to the team leader to formulate the plan.

These two problems deal with moving a 55 gallon barrel across a fence or moving an injured team member and a drum across a makeshift bridge. To complete the problem, the recruits must use the buddy system to pass the barrel and the injured team member over the bridge. There are sections of the problem that are painted red, which designates off limits and if a recruit touches the red area with his body, he can no longer be a participant in the problem.

The reaction course problems are designed so that the emphasis of the problem is not on the completion, but on the formation of the plan and teamwork. The problems are intellectual exercises and physical stamina is not as important as mental stamina. The DI's only add input to the recruit's plan if it is unsafe or their plan is completely ineffective. The DI acts as a safety observer and judge to determine if the recruits violate any of the problem rules. As with the warrior stations, the debriefs are of the same format.

Event Four, Station Five - Sky Scraper

This obstacle is constructed to resemble the shell of a three story building. The only way up the building is by climbing on the outside of the building, floor by floor. The building is constructed so that the next higher level is slightly bowed out from the level under it. The recruit leader makes a plan to retrieve a wounded Marine ("Fred" the dummy) from the top of the obstacle. The recruits are not given any supporting equipment and must wear their helmet, load bearing equipment and their rifle. The only means to climb the floors is to grab or jump up onto the next level and pull yourself up. Once the recruits reach the top, they descend the building using a cargo net.

The recruits must lower the dummy, simulating a wounded Marine from the top floor to the ground by passing it from one to another on the cargo net until it is lowered to the ground. This obstacle instills confidence by overcoming fear of heights, promotes teamwork, unselfishness, commitment in recruits as they assist a comrade in need, effective communication, and leadership.

Event Four, Station Six - Two Line Bridge

This obstacle is two horizontally ropes suspended between two supporting structures parallel to each other six feet apart running for about fifty feet over a simulated swiftly flowing river. The lower rope is suspended about two feet off the ground. The recruits use ropes as a tow line to cross “the river” to deliver critical medical supplies, water, and ammunition. The recruits are given five gallon water cans, 40 pound wooden crates to simulate ammunition and medical supplies. The crates are intended to be too heavy for one recruit to carry alone with falling off the bridge. The intent of the obstacle is to instill a sense of confidence, teamwork, planning because strength and force will not solve this problem, and display personal courage in overcoming adversity.

Event Five

Event Five, Station One - Combat Assault Resupply / Bayonet Assault Course

The Day Infiltration Course was previously completed by the recruits during their week of Basic Warrior Training (BWT). The course is a collection of barbed wire obstacles, walls, logs, mud, ditches of water and crawling through culverts. During the course, one of the recruits is designated as a casualty. The team mission is to deliver a resupply of water, ammunition, and field rations to their fellow Marines. The recruits are

provided heavy ammunition crates (40 lbs), cans of ammunition (10 lbs), five gallon water cans, and field rations to carry to the end of the course. The course is physically demanding as the recruits must use teamwork, overcome physical and mental challenges, and evacuate a teammate. Immediately upon completion of the Day Infiltration Course, the recruits are issued a bayonet that they fix onto their weapon. The recruits begin in the prone position and on command, they assault the first row of practice dummies and then run into a concrete pit behind the first set of dummies. The recruits continue through rows of dummies until the course is completed. The course is physically demanding and intended to promote aggression. Teamwork and the proper techniques are emphasized as they assault through the course.

Event Five, Station Two - Warrior Station Cpl Mackie's Passage

This station is scheduled to last 30 minutes; five minutes to brief the station, twenty minutes to complete the exercise, and a five minute debrief. The DI has his squad listen as he briefs the situation and reads the background of the Marine the event is named after. Each warrior station has a picture of the Marine that it is named after and a copy of the official citation of the Medal of Honor. The official citation is either read by all the recruits or read aloud by one recruit to the others. The following is a typical background brief for this event:

This station is named for Corporal John Mackie who was awarded the Medal of Honor while serving on the USS Galena during the Civil War in the attack at Drewry's Bluff, James River on 15 May 1862. Corporal Mackie fearlessly maintained musket fire against the rifle pits as enemy fire raked the deck of his ship. He also manned cannons when their crew members were either wounded or killed with skill and courage.

The mission of this obstacle is to get all the recruits, with their equipment,

through a tire suspended by cables to the other side. The recruits are not allowed to touch

the cables, touch the off limit area designated by red paint, touch the inside of the tire well with their hands or feet, jump or dive through the tire, and they must land feet first. The way the tire is positioned and the feet first passage makes it necessary that the men be lifted into the tire. It is impossible to do it alone without breaking the rules.

This obstacle presents a problem for the last two recruits. The second to last recruit usually is small in stature and light weight so he can be lifted by the other remaining recruit and passed through the tire horizontally. The last recruit finds it very difficult to get through the tire without diving. One method for the last recruit to get through the tire is to do a hand stand facing away from the tire, let his legs lean back toward the tire, have recruits who have traveled through the tire, reach back through, hold his legs, and help him through the tire. The debrief of this obstacle focuses on trust, planning, teamwork, cooperation, communication, self-discipline, and never leave another Marine behind. The DI also reinforces Corporal Mackie's marksmanship, his commitment, and dedication to duty by learning another skill when he manned the ship's cannons.

Event Five, Station Three - Warrior Station Sgt Gonzalez' Crossing

This station is scheduled to last 30 minutes; five minutes to brief the station, twenty minutes to complete the exercise, and a five minute debrief. The DI has his squad listen as he briefs the situation and reads the background of the Marine the event is named after. Each warrior station has a picture of the Marine that it is named after and a copy of the official citation of the Medal of Honor. The official citation is either read by all the recruits or read aloud by one recruit to the others. The following is a typical background brief for this event:

This station is named for Sergeant Alfredo Gonzalez who was awarded the Medal of Honor while serving with 1st Battalion, 1st Marines during the Vietnam War in 1968. During the battle of Hue City, his unit was conducting convoy operations, when a Marine was wounded and fell to the ground. Sgt Gonzalez braved enemy fire and ran out to rescue him and in the process was badly wounded. Sgt Gonzalez refused evacuation and continued fighting. While he fearlessly moved from position to position to direct the efforts of the Marines in his squad, he successfully knocked out an enemy rocket position, Sgt Gonzalez was hit by enemy fire and mortally wounded.

The obstacle consists of three small table platforms arranged in a triangle formation and separated from each other by a distance of about ten feet. A rope suspended from logs overhead is positioned in the middle of the triangle formed by the three tables. The mission of this obstacle is for the recruits and their equipment to get from one platform to a second platform, and then finally to a third platform while wearing their gas masks. The recruits are to swing on a rope to get to each platform. Their equipment cannot be thrown to the other platforms, nor can they tie equipment to the rope. Only three recruits can fit on the table platform at one time. If a recruit touches the ground, he must start over. When the recruits first start to swing across the table platforms, they realize the rope swings at an awkward angle that does not make it easy to reach the platform. Recruits from one table must push the recruit on the rope while others must be prepared to grab and catch the recruit.

The debrief discusses the need for a good plan, teamwork, cooperation, creativity, communication, trust, and never assume something that may look easy, is easy. The DI also discusses that Sgt Gonzalez demonstrated commitment to his men by refusing medical attention, evacuation, and staying in command of his platoon after being

wounded three times within four days. The DI also emphasizes concern for people, that everyone has value, regardless of race, national origin, gender or religion.

Event Five, Station Four - Warrior Station PFC Anderson's Fall

This is a thirty minute station, with a five minute brief, twenty minutes for the obstacle, and a five minute debrief. The DI gives the background brief on the Marine the station is named after. This brief contains the following information:

This station is named for Private First Class James Anderson of Compton California, who was awarded the Medal of Honor in Vietnam while serving with 2d Battalion, 3d Marines in 1967. While moving with his platoon through dense jungle in an effort to extract a besieged reconnaissance patrol, Anderson, in the lead element, found himself with other Marines pinned down by intense enemy machinegun fire. While returning fire and attacking Anderson found himself tightly bunched together with other members of his platoon in a position only 20 meters from the enemy. As the firefight continued, several Marines near him were wounded, when a grenade was thrown into their position and rolled near Anderson's head. Anderson pulled the grenade under his body and absorbed the explosion, saving his fellow Marines.

This station is a team building station based on trust. A table about four feet on each side and about five feet off the ground is used. The recruits stand on the table, face away from their fellow recruits and fall backwards without seeing where they are going, off an elevated table platform into the arms of their fellow recruits. The DI is encouraged to take part in this exercise by being the first to fall off this station to show the recruits that he trusts them with his well being. They place their heels on the edge of the table platform, cross their arms in front of their chest so they do not hit any teammates when they fall, remove any glasses and maintaining a position of rigid attention and a slightly arched back, fall backwards. They must not bend forward at the waist nor sit down as they fall. The catchers stand in two lines next to the table, facing each other, shoulder to

shoulder, elbows at their sides, arms bent at the elbow, palms up. A faller goes past ninety degrees before being caught

This debrief focuses on teamwork, commitment, trust, confidence, overcoming fear and dependability. The recruits need to trust their fellow Marines completely. Another aspect of this debrief focuses on the fact that PFC Anderson was the first African American Marine to be awarded the Medal of Honor. The DI talks about diversity and minorities in the Marine Corps during the debrief to reinforce the judgment of all Marines is based on their character and performance, not their ethnic background.

Event Five, Station Five - Warrior Station Sgt Cukela's Wall

This is a thirty minute station, with a five minute brief, twenty minutes for the obstacle, and a five minute debrief. The DI gives the background brief on the Marine the station is named after. This brief contains the following information:

This station is named for Sergeant Cukela, a Serbian immigrant to the United States in 1913. He was awarded the Medal of Honor while serving with the 5th Marine Regiment in France during World War One. He single handedly advanced and attacked a German strongpoint, working his way to the rear of the enemy position. Using German hand grenades, he attacked and captured two machine guns and four German troops.

The mission is to get the entire team, with their equipment, over a fifteen foot high, ten foot wide wall. Constructed of flat wood planks, there is nothing that could be used as a hand hold or to assist the recruits in getting over the top. The wall is configured so that there is a small platform on the rear and a rope for the recruits to use to climb down to the safely ground after they complete the obstacle. Only two recruits may be on the platform at any one time. Recruits usually get over the wall by building a human ladder of some sort. The challenge occurs when the last two recruits must get over the

wall. If the plan has not taken into account that these recruits must be both tall and strong, it will be challenging to get them over the wall. The last recruit usually makes it over the wall if the recruits on the platform make a rope out of their belts or their rifle slings. Then the belt is lowered over the wall and the last recruit uses the belt rope to climb the wall while being pulled up at the same time.

The special emphasis of this debrief is on the importance of teamwork, task organization, never leave a fellow Marine behind, critical thinking in analyzing a problem, creativity, determination, courage, trust, and the situation that Sgt Cukela was a recent immigrant to the United States.

Event Four, Station Six - Core Values Discussion #3

At the completion of the Day Movement course and Bayonet Assault Course the recruits go into a tent and discuss their second core value class of The Crucible, “ISMs” (teamwork). This guided discussion is facilitated by the DI. Each recruit is afforded the opportunity to participate in the discussion. The DI starts the discussion by relating how the obstacles of The Crucible cannot be accomplished without teamwork. The DI talks about factors counterproductive to teamwork such as sexism, racism, individualism, and alcoholism. Other factors that the DI probes for that are obstacles to teamwork are substance abuse, child abuse, spouse abuse, harassment, and hazing. It is during these discussions that DIs might relate their own experiences with factors that have been counterproductive to teamwork and ask recruits to give their own examples or share personal experiences that describe why these issues may be counterproductive to teamwork. ISMs” such as professionalism and patriotism and how they might affect the ability of a team to accomplish the task at hand are also discussed.

Event Six

Event Six, Station One - Unknown Distance Firing, Team Shooting

The squad hikes three miles to the firing range as a forced march 2.5 to 3 miles per hour. When the recruits arrive at the firing range, they undergo a medical check where a U. S. Navy hospital corpsman inspects their feet and looks for injuries that may need treatment. After the medical check the recruits maintain their weapons, clean the operating parts, and ensure that their rifles are in working order prior to firing them on the field firing range.

Unknown Distance Firing, Team Shooting

The team shooting is conducted on the field firing range composed of targets at different ranges and positions. The recruits fire from several hasty firing positions, from a window, on top of a roof, from a bunker, and from a fighting position. The targets fall when hit, so the recruits have instant feedback if they are using proper marksmanship skills. The recruits are timed and scored based on the number of targets hit, rounds fired, and rounds saved. The DI's emphasize the importance of well aimed shots, that every round counts, that weapons must be clean, functioning, handled safely, self discipline, integrity, teamwork, overcoming mental and physical challenges. This event is to strengthen the bond between a Marine and his rifle. When the recruits have fired all their ammunition, the DI's designate several "casualties" for them to evacuate using the carrying techniques learned in their first aid classes. The squad carries the recruit casualties about half a mile to a simulated medical evacuation site.

Event Six, Station Two - Pugil sticks

A pugil stick is a training device that simulates a weapon of opportunity. The pugil stick was designed to provide a safe, but realistic way to train weapons of opportunity. While formerly used to train rifle and bayonet techniques, with the change in Marine Corps bayonet fighting this function is no longer applicable. However, rifle and bayonet techniques that are applicable when employing a weapon of opportunity can be used during pugil stick bouts. The more important function of the pugil stick bout is to allow recruits to experience the shock of inter-personal violence in a full contact situation thereby gaining confidence and mental toughness.

A pugil stick consists of a stick wrapped in padding at both ends which can be gripped like a rifle. The pugil stick is approximately that same weight and length of an unloaded rifle with a bayonet attached. The stick is held with the right hand grasping the lower end of the stick over-handed and the left hand grasping the upper end of the pugil stick under-handed. With the right forearm, the lower end of the stick is held against the hip, the simulated blade end of the pugil stick is oriented toward the opponent. All movement comes from the basic warrior stance.

The recruits wear helmets, flak jackets, mouthpiece, gloves, a neck roll, and groin protection. One squad fights another squad to reinforce the team concept. The fights take place in a large round circle of dirt with close combat instructors serving as referees. The bouts are one on one, two men on one man, and two men on two men, again to emphasize teamwork and never leaving a Marine alone. When the first recruit is "killed" with a blow to the head, the survivor fights outnumbered two against one. Each recruit fights three separate bouts, one after another with no breaks. Each bout, lasting about a minute,

completely exhausts the recruit. The rotation of fights is arranged so that the first fight is against two recruits on their third fight. Fight number two is an even match, with each group on their second fight. The final fight is against a fresh team. This leads to the recruits fighting two less exhausted recruits when they are the most tired. The fight schedule is intentionally designed so the fights become more difficult as the recruits become more tired. The values of teamwork, overcoming physical and mental challenges, self discipline, self-respect, never give up are emphasized in the debrief.

Event Six, Stations Three to Six - Reaction Course Problems #7, 8, 9, 10

The next set of stations for the recruits is four stations of the reaction course. The reaction course is a set of problems designed to emphasize thinking and teamwork similar to the reaction course problems used to evaluate U. S. Marine Corps officer candidates at Officer Candidate School in Quantico, Va.

Each problem takes approximately thirty minutes; each has a five minute brief, twenty minutes for the problem and five minutes for the debrief. For each problem a different recruit will be chosen as team leader and be responsible for formulating a plan. Other recruits are encouraged to offer advice to the team leader to formulate the plan.

The problems deal with bringing supplies, food, water, ammunition, or moving injured personnel across a destroyed bridge, through a sewer system, over a wall, or over a culvert. To complete the problem, the recruits are usually given supplies to cross the obstacle, which can consist of ropes, planks, stretchers, pipes, and ladders. There are sections of the problem that are painted red, which designates off limits and if a recruit touches the red area with his body, he can no longer be a participant in the problem.

The reaction course problems are designed to emphasize overcoming mental and physical challenges, confidence, trust in leaders, followership, the formulation of the plan, and teamwork. The problems are intellectual exercises and physical stamina is not as important as mental stamina. The DI's only add input to the recruit's plan if it is unsafe or their plan is completely ineffective. The DI acts as a safety observer and judge to determine if the recruits violate any of the problem rules. As with the warrior stations, debriefs are of the same format. If the recruits did not complete the problem, the DI provides the solution.

Night Events

Two training events occur at night to maintain the operations tempo of The Crucible for the recruits. By 1800 (6 pm) the squads have completed their daylight events. The recruits hike to their bivouac site, conduct weapons maintenance, use facilities for hygiene (but not showers), eat whatever may be left of their two and one-half MREs. The recruits will perform both one of the two night training events each night.

Night Hike

At 2100 (9 pm) the recruits hike to a site where ammunition crates and ammunition cans are located. The object of the five mile night hike is to move, in conditions of reduced visibility, at night. The hike is another exercise that highlights the values of teamwork as the cans and crates are a physical and mental challenge and are too heavy for one recruit to carry the entire five mile hike. Accountability at all times is another value reinforced during this event. Once the recruits complete the hike, they return to their bivouac site and are allowed to sleep for four hours.

Night Resupply Mission

By 1800 (6 pm) the squads have completed their daylight events. The recruits arrive at the movement course by 1830 and conduct weapons maintenance. The course is the same resupply course utilized for The Crucible during the day Event Five, Station One except it is now completed under conditions of reduced visibility, at night. The recruits complete the course except if a flare is launched, the recruits must lie still in either mud or water under the flare dies out. The launching of flares slows down the recruits movements significantly. Thus, when the recruits are finished they are tired, wet, cold, and muddy.

Day Three

The final portion of this event consists of a nine-mile hike with full packs and combat gear and ends at the Marine Corps War Memorial, a statue depicting the flag raising on Iwo Jima. At the end of the hike, the recruits are purposely at a physical and psychologically low. Foot sore, filthy, weary, mentally spent, smelly, covered in mud and grime, they seem to stand a little straighter as they gather in formation. As a chaplain recites a prayer of thanks, the song "Eternal Father" plays softly in the background. A senior enlisted Marine speaks of the sacrifices of Marines who have gone before those now standing in formation and of the burden of tradition that they are about to assume. Marines in dress blue uniforms raise the flag of our nation as the Star Spangled Banner is played. To the words of Lee Greenwood's "God Bless the USA", each drill instructor walks quietly through the ranks of recruits and welcomes each to the Corps. With a few soft spoken words, a handshake, the symbolic representation of what each has earned, a small, cold piece of metal, the emblem of the Corps, the eagle, globe and anchor, is

presented to each recruit as they are welcomed to the Corps. Following the Marines' Hymn, the new Marines march off to the chow hall for a "warrior's breakfast", steak and eggs, all they can eat, their first meal as a Marine.

APPENDIX F

Enhancing Recruit Training 1995-1996

This appendix captures one perspective of the process of enhancing U. S. Marine Corps recruit training during the period July 1995 to December 1996 as envisioned by the Commandant of the Marine Corps, General (Gen) Charles C. Krulak.

General Krulak's Vision and Sociological Implications of Concept

The findings of *The American Soldier* (1949) studies during World War Two serve to underline and reaffirm this sociological observation about men in combat:

...the best single predictor of combat behavior is the simple fact of institutionalized role: knowing that a man is a soldier rather than a civilian. The soldier role is a vehicle for getting a man in a position in which he has to fight or take the institutionalized sanctioned consequences" (Vol. 2, p. 101).

By July 1, 1995, General Charles C. Krulak was uniquely positioned to be the Marine Corps' 31st Commandant. As the son of Lieutenant General (LtGen) Victor H. Krulak, General Charles Krulak was blessed with a trusted advisor who fully understood the unique spirit and character of the Marine Corps, its history and tradition. According to the Commandant, his father was instrumental in instilling "the ethos that is in my blood...this understanding of who we are and what we are" (Krulak, 1999). One early piece of advice from his father was "if you're going to initiate change, do it within the first year, then reinforce it throughout the remainder of your tour" (Krulak). With that in mind, Krulak assembled a special study group consisting of roughly 12 officers (majors, lieutenant colonels and colonels) who worked through 23 drafts of what became the Commandant's Planning Guidance, the most important responsibility of which was to "Make Marines and Win Battles." General Krulak understood that making Marines was

predicated upon three factors: committing quality Marines to the recruiting and recruit training task; focusing upon the Marine ethos, and recruiting people of unwavering maturity, judgment, and strength of character.

When General Krulak became Commandant, five issues were swirling together. First, his rationale for seeking standardization for the two Marine Corps Recruit Depots was not in response to any single incident. In a letter to commanding officers, he describes his drive for standardization having its genesis in 1966 when he returned from Vietnam and served as the Director of the Special Training Branch at MCRD, San Diego. During that tour of duty, he had the opportunity to visit MCRD, Parris Island for a conference and became aware of the tremendous differences between the way the two Recruit Depots “did business.” When he returned to San Diego and raised the issue with the Commander of the Recruit Training Regiment, he was told “to sit down and keep quiet.” Years later during his tour of duty as a Lieutenant General at Quantico, he was pleasantly surprised at how far the Corps had come in bringing the two Recruit Depots in line with each other, yet there was still a distance to go to standardize training between the two recruit depots. Krulak went on to say in his letter that “anything and everything that can be done to lessen the variance in ‘Making Marines’ will add to the Corps’ effectiveness in ‘Winning Battles.’ Any psychiatrist or psychologist will tell you that a common foundation is key to what we [the Marine Corps] call Esprit. Although we often joke about ‘Hollywood Marines’ versus ‘Sand Flea Marines’...the closer we come to ‘One Marine’, the better off we will be!” (Krulak, 1996).

Krulak’s drive for standardization between the two recruit depots and belief that all Marines were riflemen also encompassed female recruit training. In 1995, female

recruits were trained in a separate recruit training battalion by female drill instructors and did not have the same Program of Instruction (POI) as male recruits. Instead of learning the skills of a rifleman as a Marine like their (non-infantry) male counterparts during 28 days of Marine Combat Training (MCT) at Camp Lejeune, North Carolina, female recruits had ten days of MCT at Parris Island as part of boot camp. Neither female Marines nor female recruits ran three miles on the Marine Corps Physical Fitness Test (PFT). As part of the standardization of recruit training, the training schedule for males and females became the same, however the training remained separate, female recruits and female Marines began to run three miles on the PFT and female Marines would undergo MCT with their male counterparts.

Krulak (1996) used the analogy of a rheostat to describe Enlisted Entry Level Training (EELT): in boot camp the Corps simply made Marines keeping the sexes separate and trained by DI's of the same sex; at MCT the Corps made riflemen, train the female as a platoon in a mixed company with males, with male and female instructors; at the military occupational school Marines are made truck drivers, completely integrated in the classroom and in dormitory style barracks.

Krulak knew that strict military standards contribute to military discipline and fighting effectiveness. Standards measure how well small tactical units contribute to larger formations. The individual Marine must be evaluated on this basis. As the Supreme Court repeatedly has ruled, military organizations necessarily subordinate individual desires to the common good (*Orloff v. Willoughby*, 345 U. S. 83, 94 (1953)). Without such subordination, unit cohesion would be impossible. For this reason, an individual's

inability or unwillingness to meet common standards is incompatible with military service. Strict, well-defined standards also help minimize friction and reduce confusion when military units operate under conditions of extreme stress and uncertainty. To make sound and timely decisions, military commanders must know what their units are capable of achieving. In the 'three block war', the commander who has trained his unit to exacting standards will have an advantage over one who has not. Such an advantage may spell the difference between victory and defeat, between life and death. Krulak's goal was standardized training for recruits at each recruit depot, reduce exclusivity for a training site, and reduce gender differentiation in training.

In 1994 the U. S. Army readjusted its philosophy of basic training for women and implemented a gender integrated basic training program in the combat support and combat service support specialties. Men entering combat arms branches (infantry, artillery, armor) continued to receive all-male basic training

After Krulak had these initiatives underway, in November 1996, the Army revealed sexual misconduct by its drill instructors and cadre with recruits in basic and advanced individual training at Aberdeen Proving Ground, Maryland and other bases. With the exception of the Marine Corps, all the services had embraced the practice of mixing male and female recruits while simultaneously trying to transform them into disciplined soldiers, sailors, and airmen. Army, Navy, and Air Force efforts to "gender norm" basic training fostered resentment and undercut respect for uniform standards. Women comprise nearly 14 percent of the armed forces and nearly five per cent of the Marine Corps. Recognizing that there are problems associated with gender-integrated

basic training in no way disparages the valuable role women play in all branches of the armed services, but the Marine Corps maintained gender separated training so recruits could focus solely on becoming a Marine in boot camp.

The length of boot camp has varied in the past seventy years from three weeks during the Great Depression to up to 16 weeks. At one point during the Vietnam War, boot camp was only six weeks long and while at times it was ten, eleven or twelve weeks in length, the subjects and Program of Instruction hours have changed only slightly over the years. One constant throughout the sixty years and variances in length of training time has been the relationship between the DI and the recruit. One generation passes on the ethos of the Corps to the next. Krulak thought that, although recruit training is a very individualistic experience, it needed something to act as a defining experience, a culminating event. This culminating event would be an opportunity for the DI to reinforce, one more last time, the ethos of the Corps; all the lessons that he had inculcated in their recruit during the previous weeks of recruit training. This would allow the DI more time with the recruits.

Lieutenant General (LtGen) Victor Krulak in his book *First to Fight* (1984) writes:

In the Marines, recruit training is the genesis of the enduring sense of brotherhood that characterizes the Corps. In that ...period, an almost mystical alchemy occurs. Young adults from diverse areas of the country and backgrounds are immersed in an environment wherein they are able to perceive, understand and fully accept as dogma the essential Marine Corps virtues (p. 159).

Second, his father, LtGen Victor Krulak served as an officer of Marines beginning in 1934. In 1931, the standards for enlistment were changed in order to improve the

quality of enlisted men (Griffith, 1979). LtGen Krulak's personal experience as a combat leader in World War Two confirms the wisdom of raising standards for enlistment (Krulak, 1999). General Krulak knew that the quality, qualified recruit shipping to boot camp was the requirement of the Marine Corps Recruiting Command. Screening was redundant and thorough. He placed three former recruiting station commanders in critical assignments. Serving as Commanding General, Eastern Recruiting Region (CG, ERR)/MCRD Parris Island was former Recruiting Station St. Louis Commander, Brigadier General (BGen) Jerry D. Humble. The Commanding General, Western Recruiting Region (CG, WRR) / MCRD San Diego was former Recruiting Station Raleigh Commander, Brigadier General Garry. L. Parks. To ensure proper screening took place prior to shipping, Major General (MajGen) Jack Klimp, former Recruiting Station Phoenix, Commander, former recruit training company commander at MCRD San Diego and past CG, ERR/MCRD Parris Island was assigned to serve in the critical position of Commanding General, Marine Corps Recruiting Command (CG, MCRC). The mission of the recruiters was to provide quality recruits in sufficient quantity to the Recruit Depots by ensuring the recruits were screened and qualified mentally, morally, and physically to begin recruit training. The mission of the DI was to train the qualified recruit to be a basic qualified Marine. Prior to Krulak, the Marine Corps had failed to meet its recruiting requirements the two previous years, FY 93 and FY 94. Krulak assumed duties as Commandant on June 30, 1995 and on July 1, 1995 the enlistment standards for Marines were raised. Krulak knew that the failure to recruit quality applicants heightened the potential for recruit abuse cases.

Third, Krulak knew the world was changing and the requirements that would be placed on young Marines in the future were changing. He described this future environment in terms of the 'strategic corporal' and 'the three block war'. Krulak also accepted that modern crisis responses are exceedingly complex endeavors. The rapid diffusion of technology, the growth of a multitude of transnational factors like long simmering ethnic, nationalist, religious, tribal, and economic tensions increased the potential of crises requiring U. S. intervention. Compounding these challenges posed by this growing global instability would be an increasingly complex and lethal battlefield with the lines distinguishing combatant from "non-combatant" blurred and adversaries that will resort to asymmetrical means to redress this imbalance resulting in terrorism, ethnic, tribal, religious, and clan warfare. Further complicating the situation will be the CNN effect, the embedded ubiquitous media whose presence will mean that all future conflicts will be acted out before an international audience. Krulak described such amorphous conflicts as - *the three block war* - contingencies in which Marines may be confronted by the entire spectrum of tactical challenges - humanitarian assistance, peace-keeping, or traditional warfighting - in the span of a few hours and within the space of three contiguous city blocks. Krulak recognized that the daily psychological transition from humanitarian relief operations to peace keeping operations to mid-intensity conflict and back again to humanitarian relief operations in front of CNN would require a very special kind of Marine. That recognition caused Krulak to examine the entire Enlisted Entry Level Training (EELT) continuum to determine whether it was providing us what the Corps and the country needed. The short answer was, "No" (Krulak, 1997; Klimp, 2004).

Fourth, Krulak recognized the need for a paradigm shift (Kuhn, 1960) in boot camp from creating recruits capable of instant, willing obedience to orders to making Marines who were capable of understanding and handling the complexity of modern warfare; capable of decision making under any combat conditions; constantly thinking and situationally aware; and who possess the virtually instinctive impulse to do the right thing, for the right reason in the right way. Janowitz and Little (1974) said:

that [three block warfare] is so complex that coordination of a group of specialists [Marine riflemen] cannot be guaranteed simply by authoritarian discipline. Members of a military group must recognize their greater mutual dependence on the proficiency of their team members than on the formal authority structure. The complexity of the [three block war] and the resultant social interdependence produce an important residue of organization power for each participating member and forced a shift in the practices of military authority in boot camp. The military organization dedicated to victory is forced to alter its techniques of training and indoctrination. Rather than developing an automatic response it requires a training program designed to teach men not only to count on instruction from superiors, but also to exercise their own judgment about the best response to make when confronted with given types of danger (p. 59).

With these challenges in mind, Krulak recognized that changes needed to be made on the front end of the training of Marines and he recognized the pivotal role of drill instructors in making Marines while preserving proper Marine Corps traditions (Krulak, 1997). Krulak believed that it wasn't a training schedule or a Program of Instruction (POI) that made Marines; only drill instructors can "Make Marines." Krulak recognized that the drill instructors, already over burdened with training schedule requirements, needed more time to train recruits. He chose to provide the drill instructors an extra training week with recruits and more "locker box talk" time with the recruits to strengthen the transformation from civilian to Marine and directed the creation of a culminating exercise-The Crucible (Krulak, 1997).

Krulak believed that boot camp continued to serve the Corps well by turning out basic Marines who possessed self-confidence and self-discipline. "Marine Corps basic training is more a matter of cultural indoctrination than of teaching soldiering, which comes later at [Marine] combat training. Before they learn to fight, they must learn to be Marines. Boot camp is about making Marines, not training for combat" (Ricks, 1997, p. 37).

With the sadism of the past largely weeded out, Parris Island today is far more heavily focused on cultural indoctrination. "You can't really stress them out, so you get to them mentally...". Drill Instructors are acutely aware that NCOs are the backbone of the Corps. And the keepers of the NCO culture are the drill instructors, Parris Island is where the culture is passed on, where recruits are given a new set of aspirations in life...Parris Island does exactly what the Marines want it to do...It instills discipline, the values of the Corps...but they don't train infantrymen at Parris Island. What they do is turn a civilian into a Marine (Ricks, 1997, p. 37-175).

Krulak wanted the DI's to shift from an emphasis of influencing the individual's behavior less by giving explicit instructions and domination to more indirect techniques of group persuasion and by emphasizing and inculcating group goals and values. "Domination involves threats and negative sanctions rather than positive incentives. It tends to produce mechanical compliance" (Janowitz & Little, 1974, p. 59). By domination, military sociologists Janowitz and Little mean influencing a person's behavior by giving explicit instruction as to desired behavior without reference to the goal sought (p. 59). Krulak explained that the goal was a Marine that embodied the virtues of honor, courage, and commitment. LtGen Krulak said "In the Marines, recruit training is the genesis of an enduring sense of brotherhood that characterizes the Corps... in an environment wherein they are able to perceive, understand and fully accept as dogma the essential Marine Corps virtues" (1984, p. 161).

Krulak recognized that the Marine Corps and its drill instructors had to shift from dominance ("the mission is attrition") and a reliance on practices based on domination (screening) in boot camp to a wider utilization of persuasive techniques based on the inculcation of values and an attitude of the DI's that the "mission is to train and produce a basic qualified Marine." The techniques of domination produced compliance in the followers in the sense that the recruits accomplished tasks (Schein, 2004). Krulak wanted to ensure that the beliefs and values of the Corps as demonstrated by the drill instructors be confirmed, reinforced, and most importantly shared by the recruits. Schein (2004) says that with continued reinforcement [the recruits] would become less conscious of these beliefs and values and would begin to treat them as non-negotiable assumptions. As assumptions come to be taken for granted they become part of identity and are taught to [recruits] as the way to think, feel and act; and if violated produce discomfort and anxiety. Therefore, these nonnegotiable values become assumptions according to Schein and once a set of shared assumptions has come to be taken for granted, it determines behavior (2004).

While the core mission of the drill instructors at boot camp remained the same, Krulak posed the question, "What is our function in the larger scheme of things?" to assist them in understanding that the boot camp mission is a complex, multifunctional issue whereby some of the functions are manifest and others remain latent. Internal debates among members of the Corps for whom the priorities among the different functions were different was to force the Marine Corps to confront what collectively it has assumed to be at the top of the hierarchy of functions of boot camp (Schein, 2004, p. 91). The debate revealed a deep lack of semantic agreement on what was the intended

function of boot camp. Schein goes on to say that senior management could not define a clear goal without a consensus on the meaning of the key functions of boot camp and how those key functions reflected the core mission of the Corps (p. 94). The Corps could not achieve its goals and fulfill its missions unless there was a clear consensus on the means by which the goals would be met. The means that are to be used have to do with the day to day behavior and therefore, according to Schein, require a higher level of consensus (p. 95). Eventually, the debate came to agree with Ricks (1997) and LtGen Krulak, that:

Parris Island is where the culture is passed on, where recruits are given a new set of aspirations in life...Parris Island does exactly what the Marines want it to do...It instills discipline, the values of the Corps...but they don't train infantrymen at Parris Island. What they do is turn a civilian into a Marine (Ricks, 1997, p. 37-175).

In the Marines, recruit training is the genesis of an enduring sense of brotherhood that characterizes the Corps... in an environment wherein they are able to perceive, understand and fully accept as dogma the essential Marine Corps virtues (Krulak, 1984, p. 161).

Janowitz and Little (1974) said it is understandable that such a trend is resisted by military traditionalists [like drill instructors] who typically are concerned that indirect control should not undermine the basic authority structure. Internal issues of drill instructor status and identity highlighted some of the complexity of both the analysis of means and the issues surrounding the efforts to change the paradigm of how the recruit training accomplished its goals (Schein, 2004, p. 99).

Consequently, because Krulak was convinced that the older techniques of military domination would break down under the three block war requirements, the new paradigm based on inculcation of values emerged as highly unstable and loaded with tension for the

drill instructors. The DI's job, after all, was to "Make Marines," not "Make Recruits" and while not directly training recruits for combat, the DIs could not separate that premise.

Devices for maintaining organization balance under conflicting requirements were slow to develop at both Parris Island and San Diego. This became a source of tension and confusion, since changes offered by The Crucible were obvious and easily criticized. The wide difference between the official and the unofficial was perpetuated, since the realities of 'what happened to me as a recruit' were passed on from one generation to the next by personal contacts, informally, and not officially or explicitly (Janowitz & Little, 1974). Disruptive to the orderly incorporation and implementation of The Crucible was the ideological orientation of portions of both drill instructors and officers holding a basic conservative, ideological orientation who were alarmed at and misinterpreted the new requirements for the three block war. Segments of drill instructors saw the new requirements as potentially undermining the entire recruit training process, their basis of authority, and as a barrier. Concern with the change in warfare, the three block war, did not necessarily imply concern with organizational change. Such drill instructors and officers failed to see how the techniques of inculcating values supply the basis for developing strong sub leadership required to operate effectively with a well managed and closely supervised military formation in three block warfare. In fact, many failed to see that indirect control of the rank and file leadership based on positive group cohesion is essential to maintain both decentralized initiative and operational control over widely dispersed military formations in the three block war scenario (Janowitz & Little, 1974).

The shift away from organizational discipline based on domination by drill instructors to an increased reliance on new forms of authority and the inculcation of

values is based on the organizational requirements of the three block war, the severity and uncertain nature of combat, and past public pressure from recruit abuse incidents. The Marine Corps and Krulak seemed compelled to react dramatically and extensively (Janowitz & Little, 1974, p. 61).

Krulak knew the background and history of recruit abuse incidents of 1956 and 1976. Poor quality recruits had forced drill instructors to adopt improper and illegal practices. In the name of discipline and motivation, the drill instructors depended more and more on overdoses of improper verbal and physical harassment or maltreatment. As a group, the drill instructors believed that high stress and their heavy handed approach was the only way to insure that the system produced good Marines. The DI's failed to recognize that completing boot camp did not guarantee stellar performance. Conformity was confused with discipline and respect for authority. The perception of how good Marines were made had been reinforced by the belief that their practices were time honored and an integral part of the old Corps' success. "What was practiced on me as a recruit was obviously sound and a tradition." Recruit training was incorrectly viewed as a screening process which is the responsibility of the Recruiting Command rather than as training, testing, and the developmental process that it was intended to be.

The inculcation of values that Krulak envisioned implied a high degree of individual attention. Janowitz and Little (1974) call this technique manipulation and say it is impossible to analyze modern institutions without reference to a concept descriptive of the techniques used to exert authority, such as manipulation, or some more socially acceptable equivalent. This research will use the term inculcation.

Krulak (1997) expected the DI's to emphasize the values of the Corps in everything the recruits did at boot camp because he firmly believed that it wasn't a training schedule or a Program of Instruction (POI), but drill instructors that "Make Marines." However, Krulak also recognized that the drill instructors, already overburdened with training schedule requirements, needed more time to train recruits. He chose to provide the drill instructors an extra training week with recruits and more "locker box talk" time with the recruits to strengthen the transformation from civilian to Marine and directed the creation of a culminating exercise-The Crucible (Krulak, 1997).

And lastly, rocked by the rape of a 12-year-old Okinawa schoolgirl by two Marines in 1994, Commandant of the Marine Corps, General Charles C. Krulak was morally shaken by the rape, both personally and professionally, and made a clearly articulated widespread, public rededication to the core organizational values of the U. S. Marine Corps when he instituted The Crucible into recruit training.

The Design of The Crucible July 1995 to June 21, 1996

As part of his CMC Planning Guidance, Krulak asked all Marines to take part in a "stand down" and 'conduct a needs assessment' of the state of the Corps by asking themselves three questions: What are we doing? What are we doing that we should not be doing? What are we not doing that we should be doing?

At Marine Corps Recruit Depot, Parris Island, recently promoted Brigadier General Jerry D. Humble began the 'needs assessment' and transformation process immediately upon assuming command. In an effort to get the officers and DI's to think and not just simply accept the norm or status quo, Humble began challenging senior enlisted Marines and officers about all that is considered sacred and holy by Marine

Corps Drill Instructors: “Why do we need (so much) drill? What is the purpose of drill?”, Humble would ask. The response from Sergeant Majors, recruit training company 1st Sergeants and DI’s was rote memorization from the Parris Island Drill Manual they learned at Drill Instructor School ‘to instill instant, willing obedience orders.’ Humble told the commanders of recruit training units to begin a participative leadership process with the DI’s and ask ourselves the three questions from CMC Planning Guidance: What do we do at boot camp? What are we doing at boot camp that we should not be doing? What are we not doing at boot camp that we should be doing? Later, BGen Humble added two more questions: What do we want to accomplish in boot camp? If we had a blank piece of paper and could design boot camp, what training do we want to remain at boot camp and what training belongs at follow on schools?

As the Commanding Officer, Third Recruit Training Battalion at this time and in accordance with the Commandant’s and Commanding General’s guidance, I gathered a representative group of officers, 1st Sergeants and drill instructors to begin the process, to set parameters, and to set the example for the members of my command of how the process should proceed. We began with an analysis of the mission of recruit training, determining the specified and implied tasks to be accomplished. Later that week, I reviewed the results with a representative from each group. Initially, it was a conservative, defensive response to the Commanding General’s aggressive challenges to close order drill. In retrospect, Humble was brilliant by using close order drill as the mechanism designed to provoke thoughtful reflection on the mission of recruit training. No one in the ranks at Third Battalion really conceived the magnitude of the vision of the Commandant at that time. During the course of this Marine Corps wide self assessment, the

Commandant's Planning Guidance reflected that the Marine Corps does two things for this country: 'we win battles, and we make Marines.' The phrase 'We Make Marines' became a pivotal platform for any future analysis and discussions of which I was participating for the remainder of the development and implementation of The Crucible.

At the completion of each recruit training cycle, every three weeks in the case of Third Recruit Training Battalion, I conducted a lengthy debrief with the training company staff to continue this process of: What are we doing? What are we not doing that we should be doing? And what are we doing that we should not be doing, to receive, candid, unfiltered grass roots input. Interviews were conducted with graduating recruits, other instructors and with the 'customer', the follow-on School of Infantry (SOI), the next stop in the Enlisted Entry Level Training (EELT) continuum.

A similar analysis was concurrently being conducted independently by each of the four recruit training battalions at Parris Island and was presented in a briefing to the Commanding General in late September 1995. All concluded that: 1) there was insufficient time in the training schedule for the DI to mentor recruits and complete all the training requirements; 2) the DI was the key to forging values in the recruits; 3) the Corps must take a holistic approach to inculcating values, the values of every activity must be articulated by the DI and core values are best taught when training is pervasive, progressive and concurrent; 4) DI's must understand, live and pass on the Corps' core values; 5) the DI's must have time to develop the recruits' character and inculcate the core values; 6) up to 45 training hours should be transferred to and accomplished at the School of Infantry and not at boot camp; and 7) recruit training did a very good job at developing the knowledge and skills required to become a basic Marine, but did not do as

well at inculcating the values of what it means to be a Marine. The foundation for knowledge and skills required of a Marine is built upon the values and ethos of the Corps (3d RTBn Briefing paper, 1995).

Similar working groups were ongoing at both Recruit Depots during this time, but efforts were fragmented and uncoordinated. During October 1995 General Krulak conducted his first visit as Commandant to MCRD, PISC. I did not participate in the visit and was not privy to any discussions concerning recruit training and our assessments.

For the next several months the Assistant Chief of Staff G-3, Operations and Training for both Recruit Depots and the Headquarters Marine Corps Assistant Chief of Staff for Training and Education continued discussions in an EELT Conference 12-14 Dec 1995 at Quantico concerning how 'we make Marines.'

In January 1996 Parris Island provided recommendations as to what training should remain at boot camp to make Marines and what training should leave recruit training to provide more time to the DI's to make Marines. The EELT Working Group met at MCRD San Diego in late February 1996 and reported out the following email:

FEBRUARY 28, 1996 – Enlisted Entry Training Level Working Group

Per various guidance from General Krulak and LtGen Van Riper, BGen Jerry Humble, CG, MCRD PI and BGen Garry Parks CG, MCRD San Diego conducted a two day conference in late February 1996 with the goal to review the recruit training process to enhance core values and to free more time in the training schedule for better one-on-one drill instructor to recruit influence, all to the end of producing a better basic Marine. In addition to both Depot Commanding Generals, both Commanding Officers of Recruit Training Regiment, Colonel Steve Cheney and Doug Hendricks; Commanding Officers of Weapons and Field Training Battalions, Colonels John Studenka and Jim Morris; the G-3 Assistant Chief of Staff Operations and Training, Colonels Mike Smith, and Jim Brinsen; the Commanding Officers of both Schools of Infantry. Colonels John Meagher and LtCol Ron Stevens; Major Leon Pappa represented Training and Education.

A number of spirited and expansive discussions ensued but resulted in considerable consensus that laid the groundwork for further detailed analysis and planning by the staffs of the two Recruit Depots.

The five graduation requirements and six objectives of recruit training stipulated in Marine Corps Order 1510.32 remained valid. We propose that the objectives be rewritten to more expressly denote the values the Corps wants to inculcate in a basically trained Marine. Currently lacking is appropriate emphasis on integrity, moral standards and patriotism.

We concur that the Corps' approach to conduct effective core values instruction needed to take multiple approaches. Each Program of Instruction (POI) was to be evaluated to ensure the instructor delivery emphasized the inherent core values message. More importantly, they agreed that the Corps should attempt to provide one hour of formal core values instruction on each day a recruit was in training to allow the reinforcement of the core values lessons embedded in that day's training schedule, discussion of platoon performance, object lessons and discussions of alcohol abuse, moral courage, and sexual harassment for example. At present there were 20 hours of core values instruction, the group recommended more than doubling the hours to 62.

To pay the tab on the new training core value training hours to implemented, some elements of Basic Warrior Training (BWT), 36 training hours needed to be exported to the Schools of Infantry. This included field firing of weapons other than the M16, grenades, the rifle squad, formations, hand and arm signals. (Parks & Humble email to Van Riper, 1996)

The two Commanding Generals requested to meet General Krulak in person to present their concepts and gain the Commandant's insights in late March 1996. During late February and concurrent with, but separate from the Enlisted Entry Level Training Working Group discussions that were on going in San Diego, each recruit training battalion at PISC was directed to hold working group discussions using participative leadership with SME (Subject Matter Experts) – DI's, SDI's, Ser Cdrs, Company Commanders, 1st Sergeants, Sergeant Majors' to get ideas on what we should be doing in boot camp, scrubbing the current process, asking why were are conducting some aspects of training a certain way, and seeking fundamentally better ways to train recruits. The focus was to make better Marines for the Corps, who display discipline and fundamental

skills, who have embraced the Corps' values, and who are imbued with the concept of the team and the Marine Corps family. Working groups at each Recruit Depot and at the Schools of Infantry were reviewing from the bottom up the entire enlisted entry level training pipeline in a coordinated manner. I chaired a working group of 3d RTBn DI's SDI's, Officer's. The senior enlisted man of the battalion, 1st Sgt Ricky Felts was skeptical, remembering that the DI Pledge was written and ordered implemented by officers and that DI's really had no say in previous changes to boot camp.

As Colonel Hendricks, BGen Humble, and Colonel Morris returned from the February EELT Working Group at San Diego, Colonel Morris was on a separate flight from San Diego which caused significant problems for me later. During the flight, BGen Humble provided specific guidance to Col Hendricks as CO, RTR that recapped the email. Humble directed Hendricks and RTR to review current training schedule: "get out of the box; incorporate 'values' training; give time back to the DI's; develop an improved schedule." The CO, RTR provided his subordinate commanders this Post California Trip guidance via email as he departed to Boston for surgery.

On 4 March 1996 Col Hendricks went on leave for surgery. LtCol John Sykes, RTR XO served as the acting CO with Sgt Major Holding, the RTR Sgt Major present. The RTR Working Group was tasked to brief the Commanding General upon his return on Friday 8 March 96. LtCol Sykes was too busy with his duties to attend this RTR working group meeting at the Officers' Club on Monday 4 March 96 at 0800. The Working Group was to consist of: RTR XO- LtCol John Sykes; 1st RTBn –Lieutenant Colonel John Brown, Sgt Major Harris; 2d RTBn – Lieutenant Colonel Sam Christopher, Sgt Major Featherstone; 3d RTBn – Lieutenant Colonel M. D. Becker, 1st Sgt Felts; 4th

RTBn- Lieutenant Colonel Jane Harmon, 1st Sgt Gwen Moore; Support Battalion- LtCol George 'Butch' Clark; the Director of Drill Instructor School- Major Dutch Sley. On Monday morning at 0800, all RTBn CO's, SgtsMajor were present at the Officer's Club ready to begin discussions, but no one from the Recruit Training Regiment is present. I am the senior officer present, so I begin to facilitate the Working Group. We started with a blank piece of paper and build a recruit training schedule, the same for females as males based on the Commandant's Guidance of "we simply make Marines" at boot camp, the School of Infantry makes riflemen and truck driving school makes Marine truck drivers. Each battalion brought ideas from their working groups previously conducted with their Marines. The enlisted representatives of the group, the Sergeant Majors and First Sergeants unanimously insisted on a high training operations tempo during boot camp. They complained that too much standing around; 'hurry up and wait' is built into the training schedule. It is a difficult task to meet their demands because adequate training time and space must be flexible to compensate for fluctuations in recruiting shipping cycle based on high school year and graduation times. A level load of recruits throughout the calendar year was tried under General Gray as Commandant and is not practical from the recruiting perspective. Lt Col Clark and I are the only members of the working group with recruiting experience and tried to articulate this constraint.

From 0800 to 1600 each day we build a training schedule. Each day at 1600 I returned to my battalion and with a clerk typed up the proposed schedule and notes from that day's discussion until about 2200, only to return to the club again the next day to again discuss training day by training day recruit training for a week. Basic marksmanship training and field firing are recognized as essential to making Marines, the

specifics are broad brushed under the assumption that further discussions with WFTBn will complete those training days as they are the subject matter experts. This arduous process continues for five days until we have a day by day, hour by hour proposal for recruit training in accordance with the Commanding General's guidance.

However, simultaneously and unknown to me or any member of the RTR working group, Colonel Morris had received similar guidance from BGen Humble and meets with Weapons and Field Training Battalion (WFTBn) SMEs. They design the recruit training schedule as a whole, not just concentrating on the WFTBn portion. They consider themselves recruit training subject matter experts. No RTR representative is present to offer ideas, criticism, or support of concepts put forth. Morris previously served at MCRD San Diego as a RTBN, CO at the same time the current CO, RTR San Diego, Colonel Steve Cheney was CO, Support Battalion at MCRD San Diego. All WFTBn officers had previously served in RTR for a year or two and were currently assigned to WFTBn to enhance their experiences at Parris Island.

The RTR Working Group designs the RTR portion of the training schedule in detail, but simply blocks out field training and range firing for later input by WFTBn SMEs. WFTBN Working Group designs both the RTR and WFTBn portions of the training schedule in minute detail. The WFTBn working group emphasizes skills with the rifle over values of a basic Marine. Unknown to me, by mid-March RTR and WFTBn have provided separate, uncoordinated briefings to BGen Humble. When I provided the RTR brief to BGen Humble, I was completely unaware that WFTBn had even held working group meetings, nor that they had prepared a plan for recruit training as well as for WFTBn training. It was as if WFTBn wanted to keep their ideas a secret from RTR.

General Humble provided guidance to both RTR and WFTBn on respective concepts of enhanced recruit training. Because they differed so widely in approach and concept, Humble ordered the two groups to reach a consensus PISC position in two weeks, by early April. Both Colonel Morris and Colonel Hendricks receive this guidance from Humble, but neither Morris nor Hendricks participated in these joint RTR/WFTBn Working Group discussions until the last meeting. I chaired the combined group in meetings for nine straight days, including Saturday and Sunday, and brief Humble in late March on a Transformation Week concept with a Marine Challenge Course, inspection preparation, a uniform and equipment inspection, and core values training.

Meanwhile, working groups at MCRD San Diego were developing a similar concept based on geography constraints and the terrain available at Weapons and Field Training Battalion, Camp Pendleton that utilized concepts of the Marine Rifle Squad and small unit patrolling. The MCRD San Diego concept was diametrically opposite the Parris Island concept and was oriented toward basic combat training in contrast to the Parris Island focus of simply making a basic Marine.

On 4 April 1996 General Officers from both Recruit Depots, the Training and Education Command, the Marine Corps University, the Marine Corps Combat Development Command present at Quantico to the Commandant their five separate ideas of enhanced recruit training. I was not invited to attend the briefing, but none of the concepts presented matched Krulak's vision. From what I understand Krulak said something like:

You don't get it! Boot camp is a rite of passage, but that isn't enough. I want a defining moment at boot camp. Something after all graded events, so that at the end they will be treated as Marines, to ease transition to SOI, follow on school and FMF. I want them to go to the field for 10 days, hike

100 miles, suffer food and sleep deprivation and when they finish, I want them to march onto the parade deck and graduate as Marines. No recruit should be left behind, this is not about attrition AND I want it to be the standardized, the same event at both recruit depots. I'm tired of hearing about sand flea Marines and Hollywood Marines.

I want the experience to be so powerful they will never think of letting down the Corps for their fellow Marine, ever, after this crucible experience.

The POI, the training schedule don't make Marines, DI's make Marines. I want the DI's to have more time with their recruits. I will give them an extra week of boot camp. I want you to take everything that doesn't belong at boot camp and send it to SOI, if we can't do it at SOI send it to the FMF (Fleet Marine Force).

Parris Island and San Diego Commanding Generals, their G-3's and CO, RTR returned to their respective MCRD's to develop more ideas. Humble must have received additional guidance from General Krulak after the 4 April 1996 meeting that may have resulted in the below email of 12 April 96 from BGen Humble to Gen Krulak:

Agreement was reached on the draft definition of a 'Basically Trained Marine' is that Marine who possesses: confidence and self-discipline; pride, respect, love for Country and Corps; high moral standards as a way of life; the warrior spirit; physical fitness and wellness as a way of life; basic military knowledge and individual military skills. We will retain the heart of recruit training, those continuously validated, time tests fundamentals. Analysis showed, over the years, a substantial increase in training tasks levied on the drill instructor coupled with a significant reduction in time allotted. This has forced our training emphasis to shift from the ethos of being a Marine to the knowledge and skill required of a Marine. The result was less time available to the DI to instill our Core Values. We believe we must refocus ourselves in instilling the values of our Marine ethos as the foundation of a Basic Marine.

Look forward to working with Major General Hopgood of Marine Corps University in devising methods for incorporating General Krulak's vision for how to make Marines. They concurred that the current rite of passage - graduation -does not pull together the essence of discipline, teamwork and the Marine Corps family. They had ideas about "the Crucible event" which will truly define the transformation from civilian to Marine using current resources. (Humble email to Krulak 12 April 1996).

As chair of the Parris Island RTR/WFTBn Working Group, we agreed upon the concept on Sunday 28 April 1996 that proposed a Transformation Week with a Marine Challenge Course consisting of an early morning start, night marches, reaction course problems, warrior stations, hand grenades, close combat, a water obstacle course, field marksmanship firing, a night resupply missions, a tactical field bivouac, ropes course elements, core values reinforcement throughout each event, observing morning colors at the Iwo Jima monument followed by a warriors' breakfast. A video welcome to the Corps from General Krulak would be viewed by each recruit following the Warriors' Breakfast. The Transformation Week would be followed by a Marine Transition Week.

As chair, I began this RTR/WFTBn Working Group by envisioning the end state first, an event where the very ethos of the Corps would be highlighted and reinforced in the mind of the new Marines, forever. We purposely chose to end the event at morning colors for that is what represents our country. We carefully crafted the words of the Chaplains prayer with Eternal Father playing in the background. The words and their intent, of the senior enlisted Marine's remarks were just as carefully chosen. And it was the DI, the person who had "made" the recruit a Marine, who was given the privilege of first calling him/her "Marine", doing so as the symbol of our Corps was passed, by hand, from the older Marine to the younger Marine, much like General Lejeune's cake cutting at our Birthday Ball. Every part of Transformation Week [later called The Crucible], from the size of the logs, to the weight of the ammo boxes was purposely designed. We very purposefully, placed the Emblem Ceremony at the end of the very last hike, as the recruits completed their fifty-four hour ordeal. The desire was to create a very emotional and psychologically memorable experience, one that would "burn" the Eagle Globe and

Anchor through the pocket of their utilities and into their heart, forever. The ceremony was designed as a leadership and training tool, after demanding field training, when the recruits were hot, aching, weary, foot sore, bone-tired and wearing smelly, sweat drenched, dirty utilities.

This was briefed to BGen Humble and was not acceptable. Humble told me to look at elements of Ranger training, SEAL training, and Royal Marine Commando training for concepts and consistent themes. Humble wanted this proposed training to include both food and sleep deprivation. Both Ranger and SEAL training provided tough, realistic training to service members who were generally NCOs or above, not recruits in the enlisted entry level training pipeline, and who had already completed basic training. Both Ranger and SEAL training maintained high standards that required service members to demonstrate the ability to overcome seemingly insurmountable mental and physical challenges and the ability to perform under heavy mental, emotional, and physical stress. The integrity of the training system produced esprit through attrition.

A brief to BGen Humble in late April became the PISC position. The next week, Colonel Jim Morris, Sergeant Major Harris and I traveled to MCRD San Diego where on May 3-4, 1996, discussions with Col Steve Cheney, Col John Studenka, CO, Weapons and Field Training Battalion (WFTBn), LtCol Rich Zee, XO, WFTBn; Lt Col Rob Wilcox (CO, Support Battalion (SptBn), and the RTR Sgt Major, SgtMajor Hollings ensued. During the next two day we agreed upon and developed the details of a culminating exercise that essentially is what is known today as The Crucible (Appendix E).

Map reading, combat formations, hand and arm signals, mines, hand grenades, a total of 45 training hours were exported to the School of Infantry where the skills training to produce a basic rifleman would be built upon a foundation of values inculcated at boot camp. The DI's 'must have' requirement to maintain a high training tempo. Rappelling was eliminated due to the cost of an environmental survey at Camp Pendleton and the presence of an endangered species. The "Grim Reaper" hike was a must retain element of any plan for MCRD San Diego and Parris Island agreed to a hike of similar length (9 miles) while recognizing the geographic differences entailed between an island 21 feet above sea level at Parris Island contrasted with the coastal plains of southern California.

A round robin series of eight events built upon current training capabilities, modified to emphasize teamwork and augmented by stations, lasting 54 hours that would provide the drill instructor the opportunity to emphasize honor, courage, commitment, self discipline, teamwork, and esprit de corps that would serve as a culminating event to complete the transformation from civilian to Marine was agreed upon.

Specific designs were agreed to concerning each station augmenting the over arching events. I gathered a Marine Corps history book from the MCRD San Diego library and proposed that these augmenting stations to six major events be called Warrior Stations after enlisted Medal of Honor recipients. The name Warrior Stations was selected to help recruits define their destiny; to help recruits (and drill instructors) identify role models, to develop empathy with those Marines that have gone before them; to offer them a way of living their social existence in combat; how they should interact with their fellow Marines; to permit them to imagine and give form to fears; and to inspire them to act and live their life more fully; to demand more of themselves. Young

Marines not long out of boot camp were included in the Warrior Stations as well as Non Commissioned Officers to set high expectations of what young Marines should expect of themselves, from their leadership and for what drill instructors should aspire to. Due to concerns about these proposed changes to boot camp and the desire to include many constituents, the original Medal of Honor recipients represented each Marine Division, each conflict of which there might be reunion groups or a veteran organization, and as many military occupational fields as possible to provide examples for all recruits not just those going into the infantry. The twelve Warrior Stations represented the first Marine to be awarded the Medal of Honor in the Civil War, World War One, World War Two, Korea, Vietnam, two African American Marines, a female Marine, an immigrant, a Hispanic, a Puerto Rican, three different Marine Divisions, eight NCOs, four Marines less than one year after they graduated from boot camp, and nine different battalions are represented. I insisted that they be named after enlisted Marines, not officers, so the recruits and DI's could better relate to the citations. At each Warrior Station the citation would be read and a picture of the recipient would be viewed.

On May 21-22, 1996, Col Cheney and BGen Parks traveled to PISC where Col Cheney and I briefed the two Commanding Generals for their approval of the design to meet CMC concept and vision. The proposed implementation date was recommended to be 1 Oct 1996 to coincide with new recruiting and fiscal year, since we were adding one week to boot camp while exporting 48 training hours to SOI. This would schedule the first Crucible for 12 -14 December 1996. I would have to create a testing plan for DI school (to ensure the proposed course was not so arduous we would harm someone) and

then test with small units to ensure our management of the course (1st aid, water resupply) was in place as well as the applicable lesson plans.

In early June I briefed Major General Hopgood, President, Marine Corps University and he directed that pictures of the Warrior Stations, Reaction Course Problems and major events be included in the CMC Decision Brief. Two days later I traveled with six new Marines and SSgt Avila, the Third Recruit Training Battalion Operations Chief to Camp Lejeune, NC where we spent the day on the base Ropes Course and took the pictures that are found in the CMC decision brief. This was the first time I had seen the Ropes Course although I had conducted similar obstacles in the Boy Scouts and at Outward Bound. Although a staff member escorted us through the course and explained the obstacles, no lesson plans were available. I took careful notes in preparation for writing the lesson plans that would later be desperately needed.

On June 15, 1996 I briefed Major General Klimp, CG, Marine Corps Recruiting Command during his visit to Parris Island. This final draft of the brief was emailed by BGen Humble to General Krulak so he would not be surprised during the CMC decision brief of June 21. On 20 June LtGen Van Riper, CG, Marine Corps Combat Development Command was briefed by Col Cheney and myself at Quantico and on 21 June 1996 CMC was briefed and approved the concept without a single change. He called the concept, "The Crucible".

After CMC approval of The Crucible concept, a later brief to the nine Lieutenant Generals of the Marine Corps resulted in my changing the names of Sgt Quick's Leap to PFC Garica's leap; Diamond's Defiance to Jenkins' Pinnacle; Pittman's Pinnacle to Cpl

Lavelle's Duty; Kellog's fall to Anderson's fall; Pvt Dan Daly's wall to Sgt Cukela's Wall to better reflect the ethnic, racial, and gender make up of today's enlisted force.

Boot camp has a long and proud tradition of producing a quality basic Marine. While the Corps and Krulak desired to retain this proud tradition, the Corps developed an enhancement designed to reinforce core values, give more time to the drill instructor to be able to teach and guide recruits and provide a culminating event to recruit training.

Three days later, Krulak sent a message to all Marines:

MCCDC, working with drill instructors and officers of both recruit depots, has designed "The Crucible" -the ultimate and final test of a recruit's mettle in training. This 54 hour evolution will have eight major field events that will emphasize teamwork and core values. It will be physically and mentally challenging, having minimum sleep and over 25 miles of hiking. It will teach our recruits that in order to overcome obstacles, they must rely on, and take care of each other. It will end with the awarding of the Marine Corps emblem by the drill instructor.

In order to accommodate "The Crucible," and to provide more time for the drill instructors to mold recruits, [the Corps] is seeking Congressional approval to lengthen boot camp to 12 weeks. Some elements of basic warrior training will be exported to the Schools of Infantry to provide even more time. It is imperative that our drill instructors be able to impart those core values and that ethos so necessary in today's Marine. Our goal is to have the Crucible in place by this fall.

The following has been approved: The Crucible will be implemented into recruit training; 45 hours of BWT will be exported to the SOI's; funding will be provided for materials for construction for The Crucible; female MCT will be after boot camp; and there will be a 12 week training schedule for recruit training.

As good as boot camp has been in the past, we can make it better. Our Marines need a heightened sense of integrity and spirit. They must exemplify that discipline for which Marines are famous-in combat, in garrison, or on liberty. "The Crucible" is aimed at doing this, and our drill instructors will be given the time to impart those values that our Marines must have. (ALMAR 240302Z Jun 96).

The Implementation of The Crucible June to December 1996

Construction and Preparation

Construction began on the obstacles the afternoon of the brief to the Commandant. BGen Humble had provided a pre-brief to General Krulak and was confident that the

concept and the exercise would be approved as briefed. Marine Reserve, Colonel John Wiley, a construction engineer by occupation, was on active duty at Parris Island. Prior to the brief, Humble, ever confident, had directed that Colonel Wiley could begin construction as soon as possible. Obstacles already being utilized were relatively easy to duplicate, but the location and construction of the new obstacles, particularly the Warrior Stations required extensive staff coordination and architectural drawings (based on my high school mechanical and architectural drawing classes). Budget constraints were a concern as any new construction in excess of \$300,000 required Congressional approval and the implementation timeline of December 1996 would not allow the Corps time to seek approval. Also, as the designated lead school in this endeavor, I was responsible for providing construction drawings for all stations, events, and lesson plans to both Recruit Depots.

Construction began with a walk through of the island grounds with Mr. Lee Bradley, a retired Marine (MGySgt, ret), the Parris Island Environmental Officer to determine construction sites that would not endanger marsh or wet lands. This resulted in minor adjustment to locations of obstacles, but did not affect the location of the six major events. At MCRD San Diego an endangered fresh water shrimp on the grounds of Edson Range affected the placement of some events.

On 10 July 1996, I relinquished my command of Third Recruit Training Battalion and assumed duties as Assistant Chief of Staff G-3, Operations and Training Officer in the midst of a threatened hurricane evacuation while my predecessor was transferred to assume duties as the Depot Inspector.

Construction of the events and obstacles ended in late July at Parris Island. By early August I was able to begin developing lesson plans not only to complete the event or station, but also to train the trainers on how to conduct the event or station.

Construction at Camp Pendleton necessitated more coordination and was not complete until less than one week prior to the implementation of the first Crucible at MCRD San Diego.

Additional academic support was necessary to prepare the 42 new lesson plans that would not only describe how to perform the various Warrior Stations or Reaction Course problems, but would emphasize the values of the intended station. I tasked a film crew from the Depot's Training and Audio Visual Support staff to walk through each station with me. I served as a demonstrator for how the obstacle should be performed to provide a reference tool for Captain Cheryl Blackstone, USMCR, the G-3 Academics Officer and a former teacher before she joined the Marine Corps. She, Major Charles Graham and her two man team used the film to write lesson plans. Additionally lesson plans also needed to be developed to train the trainers who would conduct The Crucible lesson plans.

Lesson Plan Development

Beginning mid to late August, I began testing the Warrior Station lesson plans using small groups of recruits who had been either injured or had failed the initial strength test and were determined not yet fit for training. This initial scrub of the lesson plans was a critical and valuable step to prepare to validate both the lesson plans and the management organization of the course. The Crucible lesson plans needed to be completed no later than Friday 23 August to prepare for the DI School Crucible event of

18-20 September. The critical portion of the lesson plan is, of course, the critique portion where the DI must serve as facilitator. All critiques provided in the lesson plan were to be conducted in the same manner with leading questions to encourage interaction between DI and recruits. This aspect of the lesson plan must also be evaluated. Major Charles Graham, a reserve officer with a Masters degree in Education was brought on active duty and was instrumental in accomplishing this vital portion of the plan. Without the services of these two reserve officers, Captain Blackstone and Major Graham, The Crucible would not have been a reality. Both the Recruit Training Regiment (RTR) and Weapons and Field Training Battalion (WFTBn) developed a phased plan to train their trainers using lesson plans developed by Graham and Blackstone that began 24 September for the company that was scheduled to conduct The Crucible 12 December 1996. The last company to conduct The Crucible for the first time was scheduled to begin training with the lesson plans on 18 December and would be completed prior to their first execution on 6 March 1997. By 8 March 1997, all recruit training companies would have completed their first cycle of training that included The Crucible (Becker email Aug 17, 96).

Pilot Testing

In early September 1996, the staff of WFTBn under the new commander, Colonel Mike Stewart conducted a rehearsal without any troops to gauge safety, management and staffing requirements of The Crucible. Previously, Stewart had served on recruiting duty and at Parris Island as a recruit training battalion commander.

Evaluation Plan

A plan to evaluate all elements of The Crucible was prepared in which the Depot Inspector Office would serve as an evaluation group during a series of tests by Drill Instructor School and recruits prior to the implementation on 12-14 December 1996. Evaluations and tests were conducted by each recruit training battalion prior to the actual implementation with 2d Battalion, H company from 24-26 October; 1st Battalion, A company; and 4th Battalion, N Company from 7-9 November, and finally 3d Battalion, I company 21-23 November 1996. The first evaluation was performed during a test by the Drill Instructor School students from 18-20 September 1996 (Becker email Aug 17, 1996).

Pilot Test with Drill Instructor School

On September 18-20, 1996 we tested The Crucible lesson plans, logistics, and support plans with 73 students from Drill Instructor School. This test was the first opportunity to confirm that the course could be completed safely by both male and female. However, none of eleven women Marine DI School students completed The Crucible due to lower body injuries suffered throughout the course primarily due to the extensive foot movements required of the course. This evaluation by DI School provided valuable input to the conduct of the course as Captain Blackstone and Major Graham re-wrote lesson plans based on student feedback.

Initial Testing with Recruits

On October 4-6, 1996 one recruit training series consisting of four platoons of male recruits with staff from the Second Recruit Training Battalion commanded by LtCol

Sam Christopher conducted the first run through of The Crucible with recruits to validate the management of The Crucible course, lesson plans, logistics, and operations support. After re-writing the lesson plans, two weeks later, October 24-26, the Second Battalion provided H Company, a male recruit training company comprising eight platoons to validate the management of The Crucible course, lesson plans, logistics and operations support. From 7-9 November 1996, another test was conducted with the maximum number of teams the course was designed to accommodate when one male recruit training company, A Company, 1st Recruit Training Battalion, LtCol John Brown of eight platoons and one female recruit training series of two platoons from N Company, 4th Recruit Training Battalion, LtCol Angela Salinas conducted The Crucible training event under the watchful eyes of the Depot Inspectors office to determine if the management of The Crucible course, lesson plans, logistics, operations and safety support plans were valid.

Test Results - Train the Trainer

During the testing process RTR was able to develop a standard playbook to assist in planning and training personnel for The Crucible. A Company Operations Order was developed in addition to a 53 minute video on "Critiquing and leader responsibilities during The Crucible" was prepared for viewing by every DI as part of the training process. All portions of the training package and The Crucible playbook were approved by the medical clinic, the G-3 Training section, and WFTBn. The playbook consisted of eight sections: confirmation brief; lesson plans; preparation checklist; command and control; equipment loads; critiques and hot wash; medical standard operating procedure

and logistics plan. Each of these sections contained a wealth of information to properly prepare the trainers to be able to use The Crucible events to train the recruits.

Among the numerous references used to develop the playbook were: FMFM 0-1, *Unit Training Management Guide*; FMFM 0-1 A, *How to Conduct Training*; FMFMRP 0-1B, *Marine Corps Physical Readiness Training for Combat*; the Marine Corps Winter Mountain Warfare Operations Handbook to prevent cold weather injuries; FM 21-11, *First Aid for Soldiers*; The U. S. Army Medical Research And Development Command Report No, T6-93; as well as recruit training lesson plans on foot care and preventing heat injuries.

Test Results

The results were generally positive except the females recruit results were disconcerting. The previous tests had resulted in approximately three percent of the male recruits' failure to complete The Crucible due to injuries, predominately lower leg injuries. This test resulted in excess of 22% of the female recruits were unable to complete The Crucible due to injury, predominately lower leg injuries. This did not support the Commandants concept of all recruits finishing and was therefore, unacceptable.

Two weeks later, November 21-23 the final test of The Crucible was conducted with the maximum number of teams the course was designed to accommodate when one male recruit training company of eight platoons from I Company, 3d Recruit Training Battalion, LtCol Mike Strain, and one female recruit training series of two platoons of O Company conducted The Crucible training event. This test found nearly 26% of the female recruits were unable to complete The Crucible due to injury. This loss rate was also unacceptable.

Issues

As I observed the female recruits performance on the stations and the injuries incurred, I reviewed the conduct and schedule of The Crucible. Based on my analysis, I concluded that certain sequences of events required much more upper body strength needed on second day of The Crucible than other schedules. If the night hike scheduled for completion by female recruits on the second night of The Crucible, it did not allow enough recovery for female recruits to be able to complete final hike on day three and arrive at the Iwo Jima monument for the emblem ceremony. Krulak's guidance was this event was not about attrition but the team Ranger School and SEAL training show it is relatively easy to design an arduous, challenging course without regard for attrition, but Krulak wanted everyone that started to finish, but be challenged. Therefore, I, without consultation, directed that all female recruit training series would be scheduled to begin The Crucible on Event Five, providing the round robin scheduling plan that would require that the night hike be completed the first night of The Crucible. The need for rest and the potential to reduce lower leg stress is built into The Crucible event schedule for female recruits. This cycle of events allows females to perform events requiring most upper body strength on day one of The Crucible, conduct the night hike the first night. This schedule permits a reduction in lower leg stress and allows adequate rest prior to the final nine mile hike on last morning of The Crucible where most of the female recruits had dropped out previously. The schedule on day two of The Crucible requires more lower body strength than upper body strength for the female recruits. The schedule allows more opportunity for females to rest on Reaction Course problems on day two, thus providing less stress on feet and lower legs prior to the final hike.

First Evolution of The Crucible December 12 - 14, 1996

The Marine Corps had synchronized training schedules on both coasts so recruits at both Depots could receive simultaneous and identical recruit training experiences, except for geographic constraints. Recruits at both Recruit Depots experienced The Crucible as recruit training's capstone event before graduation on December 12-14, 1996.

Specifically designed with a Thursday to Saturday format so visitors from Washington, D.C., Congressmen, General Officers, and others could arrive Friday afternoon to view training events, remain overnight to view the culminating Saturday morning colors ceremony where recruits completed the transformation from recruit to Marine by receiving their eagle globe and anchor from their drill instructor and return home to Washington by noon on Saturday.

Among those present to observe, record and report on the initial 54 hour Crucible challenge involving food and sleep deprivation, mental, moral and physical challenges were members of the press representing 47 different media including representatives of ABC, CBS, NBC, CNN television, the Washington Post, and USA Today. Previous rehearsals and exercises without troops provided a near seamless execution of the training event. New clips from this initial reporting became part of the marketing video created to market The Crucible to members of the Corps during visits to Parris Island and San Diego, but also to recruiters throughout the nation.

The reach plan for visitors to The Crucible at Parris Island in 1997 accounted for 37 members of Congress or their staff, 57 Marine Corps General Officers, 18 Flag or General Officers of other services, 17 Flag or General Officers of other countries, nearly 200 different reunion groups of former Marines, the Secretary of Defense, the Secretary

of the Navy, over 175 members of the media and more than 800 educators from throughout the country.

Conclusion

In the July 1997 Marine Corps Gazette Krulak provided his Commandant's perspective on building Marines for the 21st Century. He said:

The Crucible was not implemented because the Marine Corps found the tried and true methods of recruit training to be flawed. Nothing could be further from the truth. The Crucible was developed for two major reasons. The first reason is that Krulak (and the Corps) say a change in the operating environment in which Marines will be employed. Decentralized operations, high technology, increasing weapons lethality, asymmetric threats, the mixing of combatants and noncombatants, and urban combat will be the order of the day vice the exception in the 21st century. Marines must be good decision makers. They must be trained to the highest standard. They must be self-confident. They must have absolute faith in the members of their unit. This is why ...instituted The Crucible...why we have enhanced the way we transform America's sons and daughter into U. S. Marines....why The Crucible was included as part of the Transformation process. ..ensure that newest Marines fully understand and appreciate what the Marine Corps represents, and that, as members of the world's fighting elite, they must uphold the sacred trust we have with our Great Nation-and the sacred trust we have with each other. The Crucible is designed specifically designed to contribute to the making of this kind of Marine. Preparing our young Marines for battle is the genesis for The Crucible (Krulak, 1997, p. 14).

Krulak goes on to say: The second reason for The Crucible was derived from subtle changes in the societal norms and expectations of America's youth. ...It is important to understand the generation that we recruit Marines who will be our future...important to understand who the young people of today view the world, to understand what motivates them. Two years ago..from a team of psychologists...we learned that young people today are looking for standards and they want to be held accountable...don't mind following, but they can lead and want to lead...want to be a part of something bigger than themselves...be something special...most believe in God...may not recognize it as such, but they want to have faith. These traits manifest themselves in a tendency to join- join gangs, join fraternities and clubs, join causes....looking for real challenge.

What is The Crucible?

The Crucible is the centerpiece of the recruit training phase of a four step process of Transformation: recruiting, recruit training, cohesion and sustainment. It is a three day training evolution that has been added to the end of recruit training, designed specifically to make Marines better warriors. It features little food, little sleep, over 40 miles of forced marches and 32 stations that test the physical toughness and mental agility. The events are designed to focus primarily on two areas- shared hardship and teamwork. We wanted to create a challenge so difficult and arduous that it would be the closest thing possible to actual combat. We wanted to create for the recruits a Crucible that , once experienced, would be a personal touchstone and would demonstrate for each and every recruit the limitless nature of what they could achieve individually and, more importantly, what they could accomplish when they worked as a team. To accommodate this culminating event we lengthened recruit training to 12 weeks. The Crucible has been strategically placed in the 11th week of training designed as the Transformation Week. The drill instructor is still the backbone of the recruit training process. The drill instructor's role in the first ten weeks of training remains as it always has been....The drill instructor guides the recruits, seeking to build confidence in their individual abilities and to emphasize the importance of the team. The objective is to build a sense of unit cohesion to that by the end of The Crucible, the individual recruits see the value of working together, in a common cause, to overcome the most arduous tasks and conditions.

The Opportunity and the Challenge

The results of the first iterations of The Crucible have been impressive. ...We have taken a proven process that produces the finest fighting men and women in the world and actually improved it!...The battles ahead will be violent, chaotic and lethal. It is our responsibility to prepare our Marines for these future trials. They, like their forefathers at Belleau Wood must have complete confidence in their individual abilities and in those of their unit. The Crucible helps instill confidence. But it only helps. It is up to us to do the rest with good, old-fashioned Marine Corps leadership (Krulak, 1997, p. 13-15).

Recognizing one's moral compass as the cornerstone of a Marine's character, and ultimately the bedrock of the Marine Corps' foundation, General Krulak enhanced recruit training by increasing the mental, physical and moral development of recruits. Embracing the Corps values training initiated by his predecessor, General Mundy, he extended

recruit training one week to provide drill instructors ample time to teach Core Values in a mentoring role. This bold initiative, a paradigm shift, was undertaken despite other services' moves to ease the demands of their respective recruit training by shortening its length. General Krulak went on to implement a grueling 54-hour test of leadership and teamwork-The Crucible-to reinforce Marine values such as honor, courage, and commitment taught throughout the preceding 11 weeks for recruit training. The Crucible acts as a 'rite of passage' in the transformation from civilian to "citizen-soldier." The drill instructor facilitates this metamorphosis through leadership by example, as a respected mentor, not as a dominating, feared demagogue (Klimp, 1999).

In the early 1970s, the Marine Corps learned it cannot "make a Marine out of anybody." It is not possible to transform someone who does not already possess a requisite level of virtue. The "Transformation" process of recruit training simply takes young men and women with the right "metal" and forges the "steel" of moral character. It takes one's learned value system, and if consistent with Marine ethos, reinforces those values into Marine Corps core values of honor, courage and commitment. It teaches virtue to those individuals seeking it. The bottom line is that an individual must already possess a moral compass in order for the Marine Corps to "Transform" them.

The Marine Corps recognizes that it is unrealistic to expect that everyone who arrives at Parris Island understands, comprehends, and will instantly abide by every facet and nuance of the Corps' core values. The Corps acknowledges that honor, courage, and commitment are behaviors that must and can be taught and absorbed before they can be applied effectively to their full, intended purpose. By the nature of the person's age and experience, some recruits arrive at Parris Island as near empty vessels that have had to

overcome extraordinary life circumstances and may be lacking in direction and lack some of the values, beliefs and behaviors required for success in the far more rigid and demanding environment that Marines find themselves in. Others arrive with a fairly well developed sense of what is considered as honorable and proper behavior, those with strong moral and family values, while still others may be slightly damaged by society with minor legal or moral problems and have had only a minimum of exposure to what is considered appropriate actions for Marines.

On training day 62, the day before The Crucible, recruits are expected to have learned the difference between right and wrong, and that they will do what is right, and that they have fully embraced ethical behavior and our core values. The Corps' core values of honor, courage, and commitment, values that make up the bedrock of a Marine's character should now be a part of each of them. They aspire to become Marines, and this night, when they step off to challenge The Crucible, they will be measured against these values, and only those who pass will earn the title Marine.

APPENDIX G

A Brief Historical Review of U. S. Marine Corps Recruit Training

Recruit training is a socialization process that transitions a young man or woman from civilian life to a military environment that is Marine. The product of this process is a basic Marine. As General Barrow stated, “recruit training does not try to make complete Marines, only basic Marines.”

The Old Corps

For the first one hundred and fifty years of Marine Corps history, Woulfe (1998) details that no formal structure existed for recruit training. It had been recognized that basic training for civilians just entering the ranks of the Corps was essential to hasten the socialization and transition into the military way of life, but severe personnel shortages, operational commitments, and lack of funding precluded the development of a formal training program. New members learned their trade through the use of "rookie squads" and on-the-job training supervised by seasoned privates at various posts, stations, and ships. Attempts to formalize the training as early as 1805 are evident, when Lieutenant Colonel (LtCol) Franklin Wharton (Commandant of the Marine Corps 1804-1811) tried to standardize how Marines were trained to shoot and march. He organized a school for recruits at the Marine Barracks in Washington, D.C., covering up to two months of rudimentary training in drill, the rifle manual of arms, and marksmanship. The first recruits were often illiterate, unfamiliar with the English language, younger than the recruits of today, and trained by men not much different than themselves. The Commandant's idea was revolutionary for the time, but also impossible to implement with the limited funds and lack of qualified trainers available. It soon faded away.

Fleming (1994) states that several of LtCol Wharton's successors attempted to revive the concept of recruit training during the 1800's, but none were successful until Colonel Archibald Henderson, Commandant from 1820-1859. Woulfe (1998) and Moskin (1992) assert that in addition to lack of funding, the absence of a national transportation system to transport recruits to a centralized location was too large an obstacle to overcome. Despite this, Henderson was successful at enhancing the entry-level training his Marines received.

Fleming (1994) provides insight into the typical training given new recruits, using the program established at the Marine Barracks at Bremerton, Washington in 1901. The routine began with thorough showers, after which the newly arrived men drew their uniforms from the quartermaster sergeant who kept their civilian clothing; the recruits never saw them again. A long-service private taught them the rudiments of close order drill. Only then did they receive their Krag-Jorgensen rifles. Next they learned such subjects as the rifle manual of arms, bayonet fighting, and the loading, unloading, and cleaning of the rifle. This simple training system suited a Marine Corps smaller than the police force of New York City, but as the Corps grew in size, gradually assuming the new mission of seizing advanced naval bases for the U. S. Navy (coaling stations for ship's fuel) while at the same time committing larger numbers of its ranks to expeditionary duty in China, Hawaii, Haiti, Santo Domingo, the Philippines, and Nicaragua, this simple training program became impractical.

It was not until a full century after LtCol Wharton that formal Marine Corps recruit training was established by Major General William P. Biddle (Commandant 1911-1914) in 1911. The Corps needed a more prescribed arrangement for training and

established small recruit depots under the auspices of other Marine organizations on both coasts at Marine Barracks' in Philadelphia, Norfolk, Puget Sound, and Mare Island, California (Fleming, 1994). These locations made sense, being at the seacoasts of the country and near major ports of the Navy. The country now had the infrastructure needed to transport recruits effectively to training locations and the necessity to provide better training on the new M1903 Springfield rifle, made recruit training a practical necessity (Woulfe, 1998). An eight week recruit training program was established consisting largely of close order drill, physical training, close personal combat, and marksmanship training. For the first time, non-commissioned officers were placed directly in charge of training recruits, a practice that continues to this day. The transformation process of young Americans into U. S. Marines had become official.

World War One

In 1911, Mare Island became the sole west coast recruit training facility. Parris Island, the old Naval Station at Port Royal, South Carolina was acquired by the Corps in September 1915 to replace the recruit depot at Norfolk, Virginia and Philadelphia. Within the brief span of two years, according to Alan Alexrod (2007) Parris Island had already acquired a mythological status within the Corps. "It was a world unto itself. The early classes of recruits had to be transported to the island by navy tug or motor launch because there was not road or causeway. Parris Island was ugly and uncomfortable, a sandy island exposed to the wind and overgrown with dwarfish scrub pine" (Alexrod, p. 16).

World War I brought on a great expansion to the by then centralized recruit depots at Parris Island, South Carolina and Mare Island, California. The fourteen week pre-war recruit training syllabus was condensed to eight weeks with heavy emphasis on

marksmanship training and physical conditioning, dedicated exclusively to platoon-level and individual skills (Alexrod, 2007). Presiding over the 64 man training platoons were the drill instructors (DIs), who wore dress blues, just like in the recruiting posters (Alexrod). The drill instructors were experienced noncommissioned officers (NCOs) who, according to Marine author John W. Thomason, Jr., (cited in Fleming, 1994) worked and drilled their recruits "from an hour before day until taps, and they never let up and they never heard of mercy" in training specifically designed to prepare a recruit for the trenches of France in an eight-to-ten week course (p. 10). The training was intense and the living conditions spartan. Three of eight weeks at Parris Island were dedicated to extensive marksmanship training. Drill instructors ensured that every recruit knew his Springfield .03 intimately-could field strip and reassemble it blindfolded. The marksmanship instructors made certain that each recruit knew how to fire the rifle such that every round counted (Alexrod). The Marine Corps emphasized small units and the individual Marine. Historically, the Corps had rarely had enough men in one place and at one time to mass fire as a large combat unit. Every shot, therefore, had to be put on the target.

The strength of the Corps was about 10,000 in 1916, but it would exceed 75,000 by 1918. World War I was the first real test of recruit training. The Germans gave Marines the name "Devil Dogs" during the battle of Belleau Wood to describe their tenacity in combat-Teufelhunden (Krulak, 1984). Training began at Parris Island in 1915 and in 1923 the Marine Corps Recruit Depot at San Diego was established. Today, Parris Island and San Diego remain the two recruit training facilities (depots), boot camps.

World War Two

The draw down period following World War I brought about a drastically reduced Marine Corps with an eight week, formalized recruit training program consisting of three weeks "indoctrination," three weeks of rifle range training, and two weeks of bayonet training, close order drill, and guard duties. Fleming (1994) describes a Marine Corps of 17,000 during the Great Depression which found only 300 recruits a month at Parris Island. Between the wars, recruit training fluctuated from three weeks to ten weeks in length. In an effort to rapidly mobilize to prepare for the imminent war with Japan and Germany, the Marine Corps compacted recruit training by half to just four weeks. The results were disastrous, particularly in the area of marksmanship. The realization surfaced that seven to eight weeks were the minimum amount of time required to adequately prepare recruits for future assignments. However, the one constant throughout this time was the relationship between the drill instructor and the recruit.

After the attack on Pearl Harbor, both recruit depots exploded as the Corps grew from about 54,000 in 1941 to over 485,000 in 1945. More than 450,000 men passed through the gates of the depots at Parris Island and San Diego. Black Marines trained separately at Montford Point, North Carolina. With the large numbers came the need to be more productive and recruit training became even more efficient and organized. Reestablishment of the eight week training syllabus ensured a thorough education in the core curriculum of weapon's instruction (service rifle, pistol, hand and rifle grenades, Browning Automatic Rifle, sub-machineguns, and mortars), field subjects, tactics, and physical conditioning. The Selective Service Act of 1942, which guaranteed a rapid wartime build-up, sprinkled the ranks of the Marine Corps with a noticeable percentage

of the illiterate, unmotivated, and physically weak recruits. Screening units were set up to rid the ranks of the unfit, but it was the drill instructor who shouldered most of the responsibility for transitioning the less than desirables into combat-ready, basically trained Marines. Incidents of physical punishment increased, particularly when recent recruit training graduates became drill instructors. To address this, in 1942 the first drill instructor schools were developed to prepare qualified Marines for service on the drill field.

Korean War

Post-World War II military cuts resulted in the Corps' strength dropping to around 75,000 officers and enlisted, causing manpower turmoil when the Korean conflict began in 1950. Drill Instructor (DI) School had been eliminated in 1947. With the outbreak of the Korean conflict, the Corps once again confronted critical problems-draftees of limited capability, drill instructors with limited experience, short induction times, and subsequent reliance on “physical persuasion” to build Marines (Fleming, 1994). In 1950 the ten week training scheduled was shortened to an eight week mobilization training plan and was later increased to nine weeks in 1952. By the end of the war, recruit training was ten weeks long and a formal school for drill instructors was a permanent part of the recruit depot's organization (Heinl, 1962).

Ribbon Creek

Following the Korean conflict, the peacetime training syllabus remained ten weeks. All drill instructors were required to be NCO's and graduates of the four week DI School. On the surface, the program appeared effective and efficient; the system that had taught Marines to fight and win during the high intensity experience of combat was never

subject to close analytical scrutiny. However, underlying currents of negative leadership, physical abuse, acts of personal humiliation, ridicule, and illegal recruit training practices had crept into the system.

Ricks (1997) states that while a student at Drill Instructor School, every drill instructor is taught that abuse of recruits has given the Corps a black eye in the past. In the most notorious incident, on Sunday night, April 8, 1956, six recruits drowned in Ribbon Creek when their drill instructor, Staff Sergeant McKeon, after an afternoon and night of drinking, decided to lead a platoon into the tidal stream behind the rifle range at Parris Island. In the wake of the Ribbon Creek incident, the most distressing facet of the drill instructor's extra measures were not so much that such an action was dangerous and strictly forbidden, but that it was not an unusual occurrence. The senseless abuses that had permeated the daily routine of recruit training finally surfaced, further highlighting the near impossible task presented to the drill instructor of transforming America's disillusioned youth into combat ready Marines in just two and one half months. Despite reluctance by the DI community, reforms were implemented on the drill field. The Corps instituted a set of boot camp reforms, most notably introducing a new level of supervision, a series commander and a gunnery sergeant, putting an officer and a senior NCO over each group of three platoons of recruits and DI's.

The story of Ribbon Creek has been explored in detail in *The U. S. Marine Corps in Crisis: Ribbon Creek and Recruit Training*, by Keith Fleming, published in 1994 and in *Court-Martial at Parris Island: the Ribbon Creek Incident*, by John C. Stevens, III, published in 1999. Both writers state unequivocally that the [1956] atmosphere at Parris Island, methods of training recruits, and the free hand given to drill instructors all

combined to make the drowning an accident waiting to happen. The defense lawyers believed that the very issue of how you train men for combat was at stake and they believed they were at Parris Island to save the Marine Corps. The lawyer's premise was that the Marine Corps had suffered fewer combat casualties per hour than the Army in Korea and in World War II because they were better trained. Their approach was not to attack the Marine Corps, but to support it. The defense lawyers discovered it was a tradition to march recruits into Ribbon Creek for several reasons: 1) Marines had a history of fighting in swamps dating back to the Seminole Indian War of Archibald Henderson; 2) it was a way of getting the recruits' equipment filthy; 3) the recruits would then have to be up all night cleaning their weapons and equipment. It was strong punishment. As the platoon entered the Creek that fateful night, one of the recruits stepped into a hole, went under the water, panicked, and started screaming. This demonstrated to the lawyers why the recruits needed this training because there was panic, fear, screaming, and yelling. In the midst of this, the drill instructor could not determine where all the recruits were and six drowned. This was McKeon's first training platoon and McKeon was constantly struggling for control of them. His defense lawyers believed that he never should have been a drill instructor (Young, 2006, p. 121-125).

Fueled by public outcry and Congressional interest, the Corps' most senior leadership launched an investigation to eradicate "the illegal methods that were not truly Marine Corps that had crept into the system since 1945." Acts of personal humiliation, ridicule, hazing, profanity, and violations of basic human rights were strictly forbidden. General Randolph Pate (Commandant 1956-1960), testifying before the House Armed Service Committee, vowed that hazing and maltreatment were prohibited. The Marine

Corps was committed to increasing officer supervision and establish special training units to concentrate on the weaker recruits. Other reforms included improving the quality of life for the drill instructor, rotation of DI duty, regulated physical training program, introduction of a 'buddy system' concept (strong recruit teamed with a weak recruit), a clear delineation of DI duties, establishment of the recruit's basic rights, introduction of the campaign cover (Smokey-the-bear hat), and the institutionalization of an eight week DI School, a rigorous physical, mental, and psychological 'test' with 40-50% attrition. BGen Wallace M. Greene, Jr., the recruit training trouble-shooter selected by Gen Pate said "Hazing and maltreatment have no place in the Marine Corps. These men (the recruits) are volunteers. They want to be Marines. Today, recruit training is just as challenging...as it was 50 years ago. Bullying is the lazy way out for an NCO not worth his stripes...I intend to make the drill instructor job recognized as the most honored and coveted job for an NCO in the entire Marine Corps." Despite reluctance by the DI community, reforms were implemented on the drill field. In 1958 entry level training consisted of eleven weeks of recruit training followed by four weeks of infantry training for all male Marines.

Vietnam War

The Vietnam War experience would change Marine Corps recruit training forever. Basic training was reduced to just nine weeks as the Corps expanded to over 300,000 Marines to meet the demands of the war in Southeast Asia. "Project 100,000" inflated the Corps' ranks with intellectually, educationally, and physically deficient personnel. From 1968 to 1971 one quarter to one third of all recruits required remedial training in reading to attain the sixth grade level and physical training, placing tremendous pressure on the

drill instructor to turn out acceptable recruits that would succeed in combat. Recruit training began to buckle under the overload and previously identified illegal practices returned to the drill field.

Recruit Training in Crisis, Again

The recruit training crisis of the 1970s emerged during the Marine Corps traumatic Great Personnel Campaign of 1973-1977. Following the Nixon administration's political decision to end the draft in 1973, doubts were aroused in the minds of the American people and among Congressmen that the Corps could cope with the All-Volunteer Force (AVF) and the Marine Corps itself became increasingly alarmed with the quality of the Marines filling its ranks. Not believing that the end of the draft would drastically affect the Marine Corps (a traditionally volunteer force) the leadership of the Corps entered the decades of the 1970's ill-prepared for the manpower challenges of the All Volunteer Force. For the first time, the Corps became acutely aware of the inextricable link between recruiting and recruit training. Armed with a woefully inadequate recruiting budget and antiquated recruiting techniques, the Marine Corps' senior leadership's chief reliance on mental tests scores rather than high school graduates threatened the very survival of the Corps. The attainment of a high school diploma represented a recruit possessing self-discipline, self-control, and conformity to standards, all indicators of success as a Marine. High school dropouts represented a socialization failure, a quitter, and a non-conformist. The problem of quality began at the Recruiting Stations where recruiters strained under heavy pressure to recruit up to prescribed levels. Struggling recruiters resorted to extra legal means to find 'a few good men'. Recruiters could alter mental scores and gloss over physical defects. Local and state authorities

added to the recruiting difficulties by withholding access to criminal records, thus making it possible for recruiters to process criminal youth. "Yet the chief villain was the Commandant's reliance upon mental test criteria which resulted in the procurement of a large percentage of high school dropouts. These basic errors intertwined with other recruiting problems, threatened to convert the Corps into a way station for America's maladjusted male youth" (Millett, 1980, p. 620).

In 1974, with the accession of just 50% high school graduates, a manpower shortfall of 10,000 and a deteriorating operating force, the Marine Corps still believed that it would preserve its reputation as an elite fighting force through the fabled socialization process of the recruit depots and the miracle work of the DI that "magically" transformed disadvantaged young American males into good citizens. While a noble conviction, the mistaken belief that the recruit depots could take disadvantaged young Americans and make them Marines placed brutal pressure on the DI's to produce basic qualified Marines.

As the quality of recruit input declined, tension and frustration built up at the Recruit Depots. Constrained by Headquarters Marine Corps to limit attrition to ten percent, the trainers admitted they were graduating recruits "not morally, mentally, or physically capable of being Marines" (Fagan, 1974, p. 10-11). Drill instructors adopted the improper and illegal practices of the past. In the name of discipline and motivation, the drill instructors depended more and more on overdoses of improper verbal and physical harassment to accommodate the demands of a tight, inflexible training schedule and the extra attention required for the misfits within every platoon. At best these measures translated to harassment, screaming, profanity, and negative leadership; at

worst, recruits were victims of debasement, maltreatment, and physical abuse. As a group, the drill instructors believed that high stress and their heavy handed approach was the only way to insure that the system produced good Marines (Millett, 1987, p. 620). Conformity was confused with discipline and respect for authority. The perception of how good Marines were made had been reinforced by the belief that their practices were time honored and an integral part of the old Corps' success. The DI's seemingly failed to recognize that completing boot camp did not guarantee stellar performance. Veterans from this era who were the drill instructors might think "what was practiced on me as a recruit was obviously sound and a tradition." Recruit training was viewed as a screening process, an initiation rite, rather than as training, testing, and developmental process that it was intended to be. Incidents of recruit abuse were aberrations until the 1970's, not the practice had become institutionalized.

An architect of change in a very traditional Marine Corps, General Louis H. Wilson became Commandant in 1975 and with the Corps under scrutiny for recruiting shortfalls and disciplinary problems, General Wilson tackled the quality issue as a military priority and a political imperative. Determined to recapture political respect lost during the previous Commandant's tenure, Wilson immediately broadcast to the ranks an absolute insistence on quality from the recruiting effort, through the training pipeline, and into the operating forces. Wilson noted that "the battlefield is no place to find out that our standards should have been higher." Wilson initiated basic reforms in recruiting by shifting the main enlistment criterion from the mental test score to the high school diploma as the most reliable indicator of quality in terms of retention, trainability, and acceptance of discipline. In addition to that long overdue change, Wilson began to

transfer responsibility for recruiting from Headquarters Marine Corps to the Recruit Depots at Parris Island and San Diego. This proposed change resulted in control of recruit input to the two depot's Commanding Generals who were also responsible for boot camp training of quality Marines (Wilson, 1976, p. 16). Working closely with his Manpower chief, LtGen Robert H. Barrow, Wilson created an educated recruiting force capable of competing with the other services for qualified high school graduates. The goal was to attain 75% high school graduates each year. Quality recruits, not quantity was to be supplied to the recruit depots.

Generals Wilson and Barrow believed that the focus of recruit training should be training qualified recruits, not screening recruits to determine if they have the qualifications to enlist and be a Marine. The boot camp experience was to be developmental and positive. Training was expected to remain personally demanding, but recruits were expected to be treated 'firmly, fairly, with dignity, and compassion.' The relationship between DI and recruit could be considered similar to the description of personal relations as described in the Marine Corps Manual...“in no sense that of superior and inferior nor that of master and servant, but rather that of teacher and scholar. In fact it should partake of the nature of the relation between father and son...responsible for the physical, mental, and moral welfare, as well as the discipline and military training of the young men...serving the nation in the Marine Corps” (FMFM 1-0, p. 97). Recruits were expected to put forth 100% and the DI's existed to help, not harass. Positive reforms were introduced to reduce the institutional potential for abuse and create an environment for the drill instructors to train the recruit effectively. Platoons were down-sized to more manageable numbers. Supervision by officers was increased dramatically. Recruits were

afforded one hour of uninterrupted free time each day. The only obstacle remaining was to convince the trainers, the DI's that the present course was the only course (Houk, 1992).

Changing the attitudes and behaviors of the drill instructors proved to be a formidable challenge. Positive leadership and self-discipline were viewed with suspicion and hostility by the drill instructor community. Some DI's believed that high stress and abusively imposed discipline were the only ways to make a Marine. Generals Wilson and Barrow personally briefed each of the recruit depots, clearly defining the problem, detailing courses of action and emphatically stating that there would be no exceptions and no tolerances (Houck, 1992).

Unfortunately, a wide gulf existed between the recruiting policy and the drill instructor practice during this critical time. Refusing to accept that the recruiting service had begun to provide recruits of improved quality, the DI's increased pressure in an effort to purge the recruit ranks through increased attrition. Drill instructor resistance constituted an obstacle to reform and served as a catalyst to three incidents causative to a major political crisis for the Corps.

Private Lawrence J. Warner died of a heat stroke moving his thirty five pound sea bag approximately 0.8 mile during Forming on December 3, 1975 at MCRD, Parris Island, S.C. Private Lynn E. McClure died from a hematoma on 13 March, 1976 after having sustained a blow to the head during his sixth pugil stick bout on a Sunday afternoon while a member of the remedial Motivation Platoon at MCRD, San Diego, CA. Private McClure, a mental category five recruit with a criminal record was also an indictment of the recruiting system's failure to properly screen his qualifications. Private

Harry Hiscock was shot in the hand during a hazing period by his drill instructors on January 2, 1976 at the rifle range MCRD, Parris Island. Both drill instructors and officers involved tried to conceal the shooting incident.

The McClure, Hiscock, and Warner cases resurrected the 20 year old ghost of Ribbon Creek, the nightmarish 1956 episode in which six recruits drowned when a DI marched a platoon into a tidal creek on Parris Island.

The dilemma at Parris Island [in 1956] was a lot of DI's thought they were doing their duty by the rather physical way they did things, thumping recruits...Thumpings covered a myriad of things, from a push to physical abuse. And it worked. Of course it is against the Uniform Code of Military justice...They just got the word out that it [has] got to stop, but what really happened was, the thumping didn't stop. It just went underground. It didn't stop until the late 1970s when McClure was killed by a pugil stick at MCRD San Diego...DI who...shot some recruit with an M-16 at Parris Island, shot him in the hand. Those two things happened as the Marine Corps was coming under Congressional investigation twice within a period of twenty years and that's when the abuse really stopped. The primary weapon for the DI was his voice...it still is. A close face-to-face chewing out usually worked...DI's had to build platoon morale and spirit. That could not be done through abject cruelty (Smith, 2006, p. 138-140).

General Wilson Saves Recruit Training

As General Wilson recalled, "the American public remembrance of Marine training is very long and the Ribbon Creek affair...was constantly brought up as if it happened yesterday" (Wilson, 1977, p. 177). Provoked by these abuses and fueled by their own doubts about the viability of the AVF, the U. S. Congress and the Senate Armed Services Committee launched an investigation into Marine Corps recruiting and recruit training. Because recruit training had become an exceedingly stressful and often painful system, DI's had not infrequently crossed the line between calculated toughness and physical abuse. But by the 1970s the process of debasement and abuse had become

institutionalized at both Parris Island and San Diego. Old supervisory safeguards had proved inadequate. Before Wilson's reforms the percentage of misfit recruits in every platoon had created extraordinary pressure on the DI's and the overloaded system failed. The impending Congressional hearings accelerated the pace and broadened the scope of Wilson's reforms. Before the Armed Services Committee had the Marine Corps on its agenda, General Wilson scheduled a recruit training conference at Parris Island in March 1976. In addition to the transition of centralized recruiting management via the depots to effect an improvement in quality control, the Parris Island conference resulted in three comprehensive revisions of recruit training: 1) reduce the potential for DI abuse at the depots; 2) provide for adequate supervision and enforcement of training policy; and 3) change the attitude of drill instructors (Millet, 1987, p. 622).

An enraged citizenry and concerned Congress demanded accountability and immediate improvements to a system that appeared out of control. By the time of the House Armed Services Committee hearings in May 1976, the Corps was in jeopardy of losing the right to make Marines. Recruit training is one of the things that gives the Corps its identity, so losing control of it could threaten the organization's very existence. In his opening statement before the Military Personnel Subcommittee, the Commandant acknowledged serious imperfections in the recruit training process, but asserted that the shortcomings had been identified and that corrective action had been taken (94th Congress Hearings on Marine Corps Recruit Training and Recruiting Programs, p. 123). Wilson knew that Congress was fully prepared to take over Marine Corps recruit training and to avoid such a disaster for the Corps he declared: "I had to make some changes to ensure that this did not occur" (Wilson, 1977, p. 197).

During the hearings which lasted from May to August 1976, Wilson outlined specific changes and practices to curb abuses and made four commitments to the Congress:

1) To reduce the level of stress on both recruits and drill instructors by eliminating the "motivation platoons," shortening the training syllabus, and permitted recruits a limited amount of free time daily and on weekends. 2) To strengthen and improve supervision of recruit training at all levels by doubling the number of officers assigned to recruit companies and series, and by assigning a brigadier general to each depot to reinforce the supervisory process. 3) To review and improve the processes of screening, selection, and training of drill instructors to include psychiatric evaluation and counseling instruction. 4) To provide the recruits with a protected, confidential channel through which to report abuses (personal interviews with officers) (94th Congress Hearings on Marine Corps Recruit Training and Recruiting Programs, p. 126-216).

Specific reforms included: 1) reduction of 65.5 hours in the training syllabus; 2) training would occur between 0700 and 1700 six days per week. Sunday was to be a holiday; 3) training was to be progressive with special emphasis on the development of self-discipline and self-reliance; 4) one hour of free time was to be scheduled for the recruits each day; 5) psychiatric screening evaluations for the DI's would continue; 6) one Brigadier General was to be assigned to each recruit depot to enhance leadership and evaluation of the process; 7) eighty four additional officers were to be assigned to the recruit training regiments, an increase of 100 %; motivational platoons were eliminated; 8) mandatory physical exams for recruits were to be given before any training commenced; 9) when practical, the two recruit depots were to standardize operation procedures and DI School curricula; 10) an officer orientation course would be formalized for each recruit depot. All company grade officers would attend the course prior to assuming their duties; 11) screening criteria for drill instructors would be improved; 12) instruction in counseling techniques for DI's and series officers would be provided by DI School; 13) screening teams would be formed each year to personally select only the finest non-commissioned officers for the drill field; 14) officers would conduct confidential interviews with recruits at least one time during the training cycle (94th Congress Hearings on Marine Corps Recruit Training and Recruiting Programs, p. 126-216).

The House of Representatives Armed Services Committee was favorably impressed by General Wilson's candor, resolve, and commitment to rectify the situation.

Fortunately, recruit training was allowed to remain in Marine hands, only because the Corps promised to improve the screening and training of drill instructors and to further increase officer supervision. The Armed Services subcommittee presented eight further recommendations to the Marine Corps for consideration:

1. Recruit training intentionally imposes stress in order to create a crucible to test a recruit's capabilities. No scientific evidence existed to support the validity of such testing. The subcommittee recommended a study to isolate the positive aspects of stress.
2. Officer supervision was very impressive. Officers represent a restraining device, a check and balance. Assignment of these additional officers was expected to be a permanent change.
3. Confidential interviews with recruits by officers seemed to be a positive measure, but the subcommittee questioned the validity due to the fear of retribution.
4. Eliminate attrition controls. There was a fine line between the higher level manager's endeavors to allow attrition to reflect appropriate standards and a control that inhibits the discharge of the ill-suited.
5. Expedite the discharge of the ill-suited.
6. The DI burden may be excessive. It may be necessary to assign more than three DI's per platoon. Ensure adequate breaks occur between training cycles.
7. Neuropsychiatric personnel should be assigned to each recruit depot to study and dissect the effects of the program.
8. The Commandant of the Marine Corps must periodically report back to Congress (Houck, 1992).

These tragic incidents resulted in reforms to the standard operating procedure of recruit training that are still evident today (Ricks, 1997). Five graduation requirements were established to clarify standards required for graduation and to earn the title Marine: rifle qualification, swim qualification, physical fitness test, 80 percent on academic tests, and the battalion commander's inspection. Two or less could be waived and were routinely (Becker, 2008; Klimp, 2001). Gradually the Marine Corps began to respond to the reforms and the influx of quality recruits though not immediate, eventually eradicated the thought process that the drill instructor could make a Marine out of anyone through force, fear, and humiliation.

In the final analysis, Wilson's reforms amounted to a rather extensive fine-tuning of tested machinery, not a major paradigm shift of the recruit training process. No one proposal was revolutionary, but collectively, the reforms aimed to destroy the artificial atmosphere of stark terror and institutionalized hysteria which passed for learning and training environment. Wilson sought to reaffirm the traditional leadership philosophy at the recruit depots, with the drill instructors serving in the role of mentors to the recruits. Wilson pledged that "recruit training will be conducted with firmness, fairness, dignity, and compassion" (Wilson, 1977, p. 217).

Changes at the depots did produce discontent among the clannish DI's as Wilson made it clear to the DI's that "not only did I not expect to hear about abuses, but it was not going to happen and their careers rested on this simple demand." In some cases, DI's had to be transferred or disciplined, and others were punished by courts martial. The DI's felt that making Marines was their exclusive preserve. New supervisory procedures which governed the conduct of the 'new training' certainly eroded the DI's authority, but

Wilson vowed the implementation of the reforms. His positive, officer leadership approach struck at the heart of the problem-the old recruit training system had given relatively young NCOs quasi-autonomous authority which invited them to step beyond legitimate bounds (Wilson, interview, 1977, p. 608). The reformed system with greater officer visibility and constant vigilance brought recruit training out of the shadows and opened the depots to public visitations. According to one Parris Island depot commander, the old process produced regimented robots while the new process created a more independent, self-disciplined Marine who ultimately benefited the FMF to a greater degree.

No substantial changes to the recruit training process occurred until 1987. General A.M. Gray (CMC 1987-1991) directed the implementation of the Marine Battle Skills Training Program (MBST) in order to improve basic combat training for all Marines. MBST established a two phased program that required all Marines to participate in six weeks of field training. Phase I consisted of two weeks of field training and weapons familiarization oriented to individual skills and was referred to as Basic Warrior Training (BWT). Phase II, or Marine Combat Training (MCT), consisted of four weeks of training at the School of Infantry (SOI), following completion of recruit training. The implementation of MBST added one hundred hours to the POI and was accommodated by the addition of one week to the training schedule, lengthening recruit training from eleven weeks to twelve (Houck, 1992).

General Krulak's Vision for Recruit Training

By July 1, 1995, General Charles C. Krulak was uniquely positioned to be the Marine Corps' 31st Commandant. General Krulak understood that making Marines was

predicated upon three factors: committing quality Marines to the recruiting and recruit training task; focusing upon the Marine ethos, and recruiting people of unwavering maturity, judgment, and strength of character.

General Krulak's rationale for seeking standardization for the two Marine Corps Recruit Depots was not in response to any single incident. In a letter to commanding officers, he describes his drive for standardization having its genesis in 1966 when he returned from Vietnam and served as the Director of the Special Training Branch at MCRD, San Diego. During that tour of duty, he had the opportunity to visit MCRD, Parris Island for a conference and became aware of the tremendous differences between the way the two Recruit Depots "did business." When he returned to San Diego and raised the issue with the Commander of the Recruit Training Regiment, he was told "to sit down and keep quiet." Years later during his tour of duty as a Lieutenant General at Quantico, he was pleasantly surprised at how far the Corps had come in bringing the two Recruit Depots in line with each other, yet there was still a distance to go to standardize training between the two recruit depots. Krulak went on to say in his letter that "anything and everything that can be done to lessen the variance in 'Making Marines' will add to the Corps' effectiveness in 'Winning Battles.' Any psychiatrist or psychologist will tell you that a common foundation is key to what we [the Marine Corps] call Esprit. Although we often joke about 'Hollywood Marines' versus 'Sand Flea Marines'...the closer we come to 'One Marine', the better off we will be!" (Krulak, 1996).

Krulak's drive for standardization between the two recruit depots and belief that all Marines were riflemen also encompassed female recruit training. In 1995, female recruits were trained in a separate recruit training battalion by female drill instructors and

did not have the same POI as male recruits. Instead of learning the skills of a rifleman as a Marine like their (non-infantry) male counterparts during 28 days of Marine Combat Training (MCT) at Camp Lejeune, NC, female recruits had ten days of MCT at Parris Island as part of boot camp. Neither female Marines nor female recruits ran three miles on the Marine Corps Physical Fitness Test (PFT). As part of the standardization of recruit training, the training schedule for males and females became the same, however the training remained separate, female recruits and female Marines began to run three miles on the PFT and female Marines would undergo MCT with their male counterparts. Krulak used the analogy of a rheostat to describe the EELT: in boot camp the Corps simply made Marines keeping the sexes separate and trained by DI's of the same sex; at MCT the Corps made riflemen, train the female as a platoon in a mixed company with males, with male and female instructors; at the military occupational school Marines are made truck drivers, completely integrated in the classroom and in dormitory style barracks. Krulak's goal was standardized training for recruits at each recruit depot, reduce exclusivity for a training site, and reduce gender differentiation in training.

Women comprise nearly five percent of the Marine Corps. Recognizing that there are problems associated with gender-integrated basic training in no way disparages the valuable role women play in all branches of the armed services, but the Marine Corps maintained gender separated training so recruits could focus solely on becoming a Marine in boot camp.

The length of boot camp has varied in the past seventy years from three weeks during the Depression to up to 16 weeks. At one point during the Vietnam War, boot camp was only six weeks long and while at times it was ten, eleven or twelve weeks in

length, the subjects and Program of Instruction hours have changed only slightly over the years. But one constant throughout the sixty years and variances in length of training time has been the relationship between the DI and the recruit. One generation passes on the ethos of the Corps to the next. Krulak thought that, although recruit training is a very individualistic experience, it needed something to act as a defining experience, a culminating event. This culminating event would be an opportunity for the DI to reinforce, one more last time, the ethos of the Corps; all the lessons that he had inculcated on their recruit during the previous weeks of recruit training. This would allow the DI more time with the recruits, because it is not the POI that “Makes Marines,” it is the drill instructor and his example.

Lieutenant General Victor Krulak in his book *First to Fight* (1984) writes:

In the Marines, recruit training is the genesis of the enduring sense of brotherhood that characterizes the Corps. In that ...period, an almost mystical alchemy occurs. Young adults from diverse areas of the country and backgrounds are immersed in an environment wherein they are able to perceive, understand and fully accept as dogma the essential Marine Corps virtues (p. 159).

General Krulak recognized that shipping a quality, qualified recruit to boot camp was the requirement of the Marine Corps Recruiting Command. Mental, moral, and physical screening was redundant and thorough. He placed three former recruiting station commanders in critical assignments. Serving as Commanding General, Eastern Recruiting Region (CG, ERR)/ MCRD Parris Island was former Recruiting Station St. Louis Commander, Brigadier General (BGen) Jerry D. Humble. The Commanding General, Western Recruiting Region (CG, WRR) / MCRD San Diego was former

Recruiting Station Raleigh Commander, Brigadier General Garry. L. Parks. To ensure proper screening took place prior to shipping. Major General (MajGen) Jack Klimp, former Recruiting Station Phoenix, Commander, former recruit training company commander at MCRD San Diego and past CG, ERR/MCRD Parris Island was assigned to serve in the critical position of Commanding General, Marine Corps Recruiting Command (CG, MCRC). The mission of the recruiters was to provide quality recruits in sufficient quantity to the Recruit Depots by ensuring the recruits were screened and qualified mentally, morally and physically to begin recruit training. The mission of the DI was to train the qualified recruit to be a basic qualified Marine. Prior to Krulak, the Marine Corps had failed to meet its recruiting requirements the two previous years, FY 93 and FY 94. Krulak assumed duties as Commandant on June 30, 1995 and on July 1, 1995 the enlistment standards for Marines were raised. Krulak knew that the failure to recruit quality applicants heightened the potential for recruit abuse cases.

Krulak believed in the need for a paradigm shift (Kuhn, 1960) in boot camp from creating recruits capable of instant, willing obedience to orders to making Marines who were capable of understanding and handling the complexity of modern warfare; capable of decision making under any combat conditions; constantly thinking and situationally aware; and who possess the virtually instinctive impulse to do the right thing, for the right reason in the right way.

Krulak recognized that changes needed to be made on the front end of the training of Marines and he recognized the pivotal role of drill instructors in making Marines while preserving proper Marine Corps traditions (Krulak, 1997). Krulak believed that it wasn't a training schedule or a Program of Instruction (POI) that made Marines; only drill

instructors can “Make Marines.” Krulak recognized that the drill instructors, already overburdened with training schedule requirements, needed more time to train recruits. He chose to provide the drill instructors an extra training week with recruits and more “locker box talk” time with the recruits to strengthen the transformation from civilian to Marine and directed the creation of a culminating exercise-The Crucible (Krulak, 1997).

Krulak believed that boot camp served the Corps well by turning out basic Marines who possessed self-confidence and self-discipline. “Marine Corps basic training is more a matter of cultural indoctrination than of teaching soldiering, which comes later at [Marine] combat training. Before they learn to fight, they must learn to be Marines. Boot camp is about making Marines, not training for combat” (Ricks, 1997, p. 37).

With the sadism of the past largely weeded out, Parris Island today is far more heavily focused on cultural indoctrination. “You can’t really stress them out, so you get to them mentally...” Drill Instructors are acutely aware that NCOs are the backbone of the Corps. And the keepers of the NCO culture are the drill instructors, Parris Island is where the culture is passed on, where recruits are given a new set of aspirations in life...Parris Island does exactly what the Marines want it to do...It instills discipline, the values of the Corps...but they don’t train infantrymen at Parris Island. What they do is turn a civilian into a Marine (Ricks, 1997, p. 37-175).

Krulak wanted the DI’s to shift from an emphasis of influencing the individual’s behavior less by giving explicit instructions and domination to more indirect techniques of group persuasion and by emphasizing and inculcating group goals, individual and group values. “Domination involves threats and negative sanctions rather than positive incentives. It tends to produce mechanical compliance” (Janowitz & Little, 1974, p. 59). By domination, military sociologists Janowitz and Little mean influencing a person’s behavior by giving explicit instruction as to desired behavior without reference to the goal sought (p. 59). Krulak explained that the goal was a Marine that embodied the

virtues of honor, courage and commitment. LtGen Krulak said "In the Marines, recruit training is the genesis of an enduring sense of brotherhood that characterizes the Corps... in an environment wherein they are able to perceive, understand and fully accept as dogma the essential Marine Corps virtues" (1984, p. 161).

Krulak recognized that the Marine Corps and its drill instructors had to shift from dominance ("the mission is attrition") and a reliance on practices based on domination (screening) in boot camp to a wider utilization of persuasive techniques based on the inculcation of values and an attitude of the DI's that the "mission is to train and produce a basic qualified Marine." The techniques of domination produced compliance in the followers in the sense that the recruits accomplished tasks (Schein, 2004). Krulak wanted to ensure that the beliefs and values of the Corps as demonstrated by the drill instructors be confirmed, reinforced and most importantly shared by the recruits. Schein (2004) says that with continued reinforcement [the recruits] would become less conscious of these beliefs and values and would begin to treat them as non-negotiable assumptions. As assumptions come to be taken for granted they become part of identity and are taught to [recruits] as the way to think, feel and act; and if violated produce discomfort and anxiety. Therefore, these nonnegotiable values become assumptions according to Schein and once a set of shared assumptions has come to be taken for granted, it determines behavior (2004).

While the core mission of the drill instructors at boot camp remained the same, Krulak posed the question, "What is our function in the larger scheme of things?" to assist them in understanding that the boot camp mission is a complex multifunctional issue whereby some of the functions are manifest and others remain latent. Internal

debates among members of the Corps for whom the priorities among the different functions were diverse was to force the Marine Corps to confront what collectively it has assumed to be at the top of the hierarchy of functions of boot camp (Schein, 2004, p. 91). The debate revealed a deep lack of semantic agreement on the intended function of boot camp. Schein goes on to say that senior management could not define a clear goal without a consensus on the meaning of the key functions of boot camp and how those key functions reflected the core mission of the Corps (p. 94). The Corps could not achieve its goals and fulfill its missions unless there was a clear consensus on the means by which the goals will be met. The means that are to be used have to do with the day to day behavior and therefore, according to Schein, require a higher level of consensus (p. 95). Eventually, the debate came to agree with Ricks (1997) and LtGen Krulak, that:

Parris Island is where the culture is passed on, where recruits are given a new set of aspirations in life...Parris Island does exactly what the Marines want it to do...It instills discipline, the values of the Corps...but they don't train infantrymen at Parris Island. What they do is turn a civilian into a Marine (Ricks, 1997, p. 37-175).

In the Marines, recruit training is the genesis of an enduring sense of brotherhood that characterizes the Corps... in an environment wherein they are able to perceive, understand and fully accept as dogma the essential Marine Corps virtues (Krulak, 1984, p. 161).

Janowitz and Little (1974) said it is understandable that such a trend is resisted by military traditionalists [like drill instructors] who typically are concerned that indirect control should not undermine the basic authority structure. Internal issues of drill instructor status and identity highlighted some of the complexity of both the analysis of means and the issues surrounding the efforts to change the paradigm of how the recruit training accomplished its goals (Schein, 2004, p. 99).

Consequently, because Krulak was convinced that the older techniques of military domination would break down under the three block war requirements, the new paradigm based on inculcation of values emerged as highly unstable and loaded with tension for the drill instructors. The DI's job, after all, was to "Make Marines," not "Make Recruits" nor train recruits for combat.

Devices for maintaining organization balance under conflicting requirements were slow to develop at both Parris Island and San Diego. This became a source of tension and confusion, since changes offered by The Crucible were obvious and easily criticized. The wide difference between the official and the unofficial was perpetuated, since the realities of 'what happened to me as a recruit' were passed on from one generation to the next by personal contacts, or informally, and not officially or explicitly (Janowitz & Little, 1974). Disruptive to the orderly incorporation and implementation of The Crucible was the ideological orientation of portions of both drill instructors and officers holding a basic conservative, ideological orientation and were alarmed at, and misinterpreted the new requirements for the three block war. Segments of drill instructors saw the new requirements as potentially undermining the entire recruit training process and their basis of authority and as a barrier. Concern with the change in warfare, the three block war, did not necessarily imply concern with organizational change. Such drill instructors and officers failed to see how the techniques of inculcating values supply the basis for developing strong sub leadership required to operate effectively with a well managed and closely supervised military formation in three block warfare. In fact, they failed to see that indirect control of the rank and file leadership based on positive group cohesion is

essential to maintain both decentralized initiative and operational control over widely dispersed military formations in the three block war scenario (Janowitz & Little, 1974).

The shift away from organizational discipline based on domination by drill instructors to an increased reliance on new forms of authority, the inculcation of values, is based on the organizational requirements of the three block war, the severity and uncertain nature of combat and past public pressure from recruit abuse incidents. The Marine Corps and Krulak were compelled to react dramatically and extensively (Janowitz & Little, 1974, p. 61).

Krulak knew the background and history of recruit abuse incidents of 1956 and 1976. Poor quality recruits had forced drill instructors to adopt improper and illegal practices. In the name of discipline and motivation, the drill instructors depended more and more on overdoses of improper verbal and physical harassment or maltreatment. As a group, the drill instructors believed that high stress and their heavy handed approach was the only way to insure that the system produced good Marines. The DI's failed to recognize that completing boot camp did not guarantee stellar performance. Conformity was confused with discipline and respect for authority. The perception of how good Marines were made had been reinforced by the belief that their practices were time honored and an integral part of the old Corps' success. "What was practiced on me as a recruit was obviously sound and a tradition." Recruit training was incorrectly viewed as a screening process, the responsibility of the Recruiting Command, rather than as training, testing, and the developmental process that it was intended to be.

The inculcation of values that Krulak envisioned implied a high degree of individual attention. Janowitz and Little (1974) call this technique manipulation and say

it is impossible to analyze modern institutions without reference to a concept descriptive of the techniques used to exert authority, such as manipulation, or some more socially acceptable equivalent. This research will use the term inculcation.

Krulak expected the DI's to emphasize the values of the Corps in everything the recruits did at boot camp because he firmly believed that it wasn't a training schedule or a Program of Instruction (POI), but drill instructors that "Make Marines." However, Krulak also recognized that the drill instructors, already overburdened with training schedule requirements, needed more time to train recruits. He chose to provide the drill instructors an extra training week with recruits and more "locker box talk" time with the recruits to strengthen the transformation from civilian to Marine and directed the creation of a culminating exercise-The Crucible (Krulak, 1997).

Socio-Historical Analysis of U. S. Marine Corps Recruit Training

Recruit training may seem to be a constantly changing, ever evolving process. However, a historical analysis of recruit training reveals that the essential elements remain constant. The length of the program fluctuates with the needs of the Corps as it expands in war and draws down during times of peace. A core curriculum established ninety years ago remains relevant today. The essential elements of recruit training are: close order drill, marksmanship, combat conditioning, close combat training, self discipline and Marine Corps history and traditions. These essential elements and the application of these elements in combination with how a recruit interacts with the drill instructor and the relationship between the drill instructor and the recruit have remained essentially unchanged.

The Corps today requires thinking Marines. Leaders need to be able to exercise their good judgment and make tough decisions themselves. They have learned to be flexible and to continuously ask themselves "what makes sense here?" and then do it. The combat Marine, when committed to Krulak's "three block war" is hardly the model of Max Weber's ideal bureaucrat following rigid rules and regulations, in certain respects he is the antithesis of this. He is not detached, routinized and self-contained; rather his role is one of constant improvisation. Improvisation is the keynote of the individual fighter or combat group. The impact of battle destroys men, equipment and organization, which need constantly to be brought back to some form of unity through on the spot improvisation. In battle the planned division of labor breaks down (Janowitz & Little, 1974, p. 58).

The Marine Corps nurtures a devotion to reconciling the twin ying/yang cultural precepts of Order and Disorder. Finding a balance within this dichotomy is problematic; both cultures exert a strong pull on Marines. The culture of Order is the Marine in dress blues, spotless and pristine, medals perfectly measured, hair perfectly trimmed. Sharp creases with starched uniforms, drill with gleaming, spit shined polished boots; these types of things comprise the culture that is orderly, functional, prepared and disciplined. This represents strength and power and everything stereotypically military.

However, war and combat is anything but orderly. Combat is filled with uncertainties, half-truths, bad information, changing directives from seemingly incompetent higher headquarters and unexplained explosions. War is chaos, the ultimate form of Disorder. The culture of Disorder embraces this. These are Marines covered in dirt and sweat, wearing filthy clothes in hideous weather, they haven't slept for days, their

rations are low and they are hungry, thirsty and perhaps under attack and somebody expects them to perform or decide or figure it out with honor, courage, and commitment. This challenge may be why they joined.

APPENDIX H

Enlistment Criteria Screening

Military life is fundamentally different from civilian life. The military has its own laws, rules, customs, and traditions, including numerous restrictions on personal behavior that would not be acceptable in civilian society. These are necessary because military units and personnel must maintain high standards of morale, good order and discipline, and unit cohesion that are essential to combat effectiveness. The Armed Forces must be ready at all times for world-wide deployment. Military law and regulations, including the Uniform Code of Military Justice, apply to service members at all times, both on and off base, from the time the member enters the Service until the member is discharged or otherwise separated from the Armed Forces (MPPM, 2004, p. 3-165).

The Marine Corps details the requirements and standards for recruiting a quality Marine Corps in the Military Manual for Personnel Procurement (MPPM). The Commanding General, Marine Corps Recruiting Command must authorize any deviation from this punitive order. Violations are subject to disciplinary proceedings under the Uniform Code of Military Justice. The chapter on enlistment contains sections of enlistment criteria for age, citizenship, dependents, education, drug and alcohol involvement, mental aptitude, physical aptitude, moral, and prior service waivers of enlistment criteria.

All applicants who meet the prescribed standards are acceptable for enlistment. No applicant will be refused enlistment because of race, color, religion, national origin, or gender, if otherwise qualified in accordance with the provisions of the MPPM. The objective of enlistment processing is that all applicants for enlistment possess the

required qualifications. During all phases of processing, particular care must be taken to prevent erroneous or fraudulent enlistment. Once it is established that an applicant does not meet enlistment qualifications, processing should stop unless the applicant is exceptionally qualified and recommended for a waiver. Article 84 of the Uniform Code of Military Justice expressly states: “any person...who effects an enlistment... in the Armed Forces of any person known to them to be ineligible for enlistment...because it is prohibited by law, regulation, or order, shall be punished as a court-martial may direct.”

Criteria standards for enlistment are established to ensure that the Marine Corps enlists only those applicants who are capable of successfully completing their contractual term of service. Any applicant who does not meet these standards will not be enlisted without a criteria waiver being granted by the command authorized to approve the deviation from the standard. The waiver process is not an administrative addendum by which unqualified applicants are enlisted. Waivers are recommended for only two reasons: highly favorable traits or mitigating circumstances exist which outweigh the reason for disqualification; or the enlistment is clearly in the best interests of the Marine Corps (MPPM, 2004, p. 3-137). About half of Marine recruits enter with enlistment waivers which can be granted for a variety of reasons. These include drug use, felonies, serious and minor misdemeanors, dependents, physical reasons, age, prior service, education, or hostile country (alien) among others. (CNA Study CMED00118362, June 2008).

Each applicant for service as a U. S. Marine is screened mentally, morally, and physically on at least six different occasions during the enlistment process to ensure they

meet the enlistment criteria for age, citizenship, dependents, drug use, felonies, serious and minor misdemeanors, physical reasons, or education.

Age

All applicants must meet the age standards. Minors are prohibited by law from enlisting. According to the Military Personnel Procurement Manual, Volume 2, Enlisted Procurement (MPPM) dated February 10, 2004; older enlistees are higher attrition risks. The Marine Corps is under no obligation to enlist applicants who apply if they have not commenced active duty before becoming ineligible because of age (MPPM, 2004, p. 3-9).

Citizenship

Enlistment in the U. S. Armed Forces is voluntary and no applicant is entitled to the right to enlist. Additionally, all enlistees must swear (or affirm) their support and defense of the Constitution of the United States. U. S. citizenship is, therefore, the preferred status for enlistment to create a legally binding obligation from the service member based on the premise that these individuals are more capable of fulfilling their contractual military obligation (MPPR, 2004, p. 3-25). Waivers of the citizenship requirements for enlistment are not authorized and are not considered.

Dependents

To eliminate from consideration those who cannot balance the demands of family and service, enlistment screening reviews the number of dependents an applicant may have.

Education

For the last two decades, the Department of Defense has been found traditional education credentials to strongly correlate with success at recruit training and with completion of the first term of enlistment. Educational status determines testing procedures and mental requirements for enlistment and eligibility for waivers in processing. Educational status, organized according to the Department of Defense three-tiered system, uses the traditional high school curriculum as the standard measurement. Traditional high school graduate is used to define an environment of four years of formal academic education type curriculum, nine months a year, five days a week in a teacher-student environment. Applicants will not be enlisted without having their educational level formally verified. Tier I includes traditional high school diploma graduates and those who have completed some college; Tier II consists of those with alternative credentials, such as a home school diploma or General Educational Development (GED) Certificate; and Tier III identifies those without any secondary credentials (nongraduates) (MPPM, 2004, p. 3-47). A Center for Naval Analysis (CNA) June 2008 study of Marine recruits examined their performance in the Marine Corps and updated a previous study. The performance measures used were boot camp attrition, 24 month attrition, and meritorious promotion. The 45 month attrition showed Tier II/Tier III attrition 28 percent higher than those accessed with drug waivers and 25 percent higher than those accessed with a legal waiver.

Drug and Alcohol Use

According to the MPPM (2004), the Marine Corps does not condone the illegal or improper use of drugs or alcohol. Marine Corps policy intends to prevent and eliminate

such abuse and illegal uses. All applicants will be carefully screened as to the extent of their drug or alcohol involvement. Any history of drug use is potentially disqualifying. During the screening process, recruiters are required to ask all applicants the following four questions at a minimum:

- a. Have you ever used drugs?
- b. Have you been charged with or convicted of a drug or drug related offense?
- c. Have you ever been psychologically or physically dependent upon any drug or alcohol?
- d. Have you ever trafficked, sold, or traded in illegal drugs?
- e. If the answer to the first or second questions is "yes" a personal statement, as well as the Drug Abuse Screening Form...will be prepared to explain specific details (MPPM, p. 3-58).

The Marine Corps defines a drug experimenter as one who has illegally, wrongfully, or improperly used any narcotic substance, marijuana, or dangerous drug for reasons of curiosity, peer pressure, or other similar reason. The exact number of times drugs were used is not necessarily as important as determining the category of use and the impact on the user's life style, the intent of the users and the circumstances of use. The Marine Corps is the only military service to require waiver for one time use (MPPM, p. 3-58). CNA studies indicate that those Marines who required a drug waiver fail to complete their first term of enlistment at a higher rate than those that do not have a waiver to enlist (CNA Study CMED00118362, June 2008).

Mental Aptitude

All applicants are tested to determine if they meet the mental aptitude standards established for enlistment and to further determine appropriate occupational assignment. For example, after the applicant has produced proof of a high school diploma, the mental screening requires that each applicant pass the Armed Forces Vocational Aptitude

Battery (ASVAB) which measures aptitude in a broad range of career fields. A product of more than 50 years of research, the ASVAB is a series of tests developed by the Department of Defense in the 1960s consisting of ten individual tests of the following subjects: Word Knowledge, Paragraph Comprehension, Arithmetic Reasoning, Mathematics Knowledge, General Science, Auto & Shop Information, Mechanical Comprehension, Electronics Information, and Assembling Objects. The ASVAB is not an IQ test. It does not measure intelligence. The batteries of tests were designed specifically to measure an individual's aptitude to be trained in specific military jobs. The person's score is a percentile score, based on the population of test-takers in a 1980 study, known as the "Profile of American Youth," conducted by the Department of Defense (DOD) in cooperation with the Department of Labor. DOD administered the ASVAB to a total of 11,914 individuals, ranging in age from 16 to 23, from July to October 1980. The purpose of the Profile of American Youth was to obtain data on the vocational aptitudes of current youth and to establish current national norms for the ASVAB. The percentile scores are based upon a 99 point scale with 99 being the highest.

Physical Aptitude

Applicants are required to meet specific physical standards to ensure they can adequately perform under varied and rigorous conditions to which they may be exposed in the Marine Corps. Physical examinations are vitally important because everyone entering the armed forces must be in good health to endure the challenges of recruit training and military service.

Medical screening

Physical screening begins with a medical "prescreening" performed by the recruiter. In performing this medical prescreening, the recruiter has the applicant complete the DOD *Medical Prescreen of Medical History Report*. The recruiter sends the results of this screening to be reviewed by Military Entrance Processing Station (MEPS) medical personnel. If the prescreening shows a medical condition which is obviously disqualifying, with no chance of a waiver (blind, or missing a limb), then the processing stops at that point. Some medical conditions require additional medical records. The prescreening is designed to identify those conditions so that the recruiter can help the applicant obtain required medical records before the enlistment physical. The enlistment physical begins with the completion of the Report of *Medical History*, an abbreviated form of the Medical Prescreening Form completed in the recruiter's office. If there are discrepancies between answers on this form and the answers the applicant gave on the Medical Prescreening Form, the enlistment process will stop, and the applicant will be returned to the recruiter to obtain additional medical records and information. After completing the Medical Questionnaire, the applicant will take a blood and urine test (including a test for drugs). Females will be tested for pregnancy. Blood will be tested for HIV, Hemoglobin, Hematocrit, RPR, and Alcohol. There are also two different urine tests; one is the legal drug urine and the other tests for pH, blood, protein, and specific gravity. The physical examination consists of: height and weight measurements; hearing and vision examinations; urine and blood tests; drug and alcohol tests; muscle group and joint maneuvers, in underclothing; complete physical examination and interview.

Initial Strength Test (IST)

Applicants for the Marine Corps must pass the Initial Strength Test (IST) before they can ship out to boot camp. The minimum standards for passing the Initial Strength Test are as follows: Males must perform 2 pulls, complete 44 sit up crunches in two minutes and run 1.5 miles in less than 13 minutes and 30 seconds; females must perform a flex arm hang for 12 seconds, complete 44 sit up crunches in two minutes, and run 1.5 miles in less than 15 minutes.

Moral Screening

Police and Criminal Involvement

The moral character of an applicant must be determined to prevent enlistment of persons whose social habits, such as theft, arson, resistance to authority, are a threat to unit morale and cohesiveness; to screen out persons who would likely become serious disciplinary problems in the Marine Corps, and who would consequently divert resources from the performance of military missions; to ensure enlistees and their parents that the enlistee will not be thrown into close association with criminals. Applicants with no criminal convictions, fines, or periods of restraint are morally eligible for enlistment. However, the voluntary disclosure, self-admitted, or recruiter discovered, of any form of police /criminal involvement by an applicant may require waiver as a moral disqualification (MPPM, 2004, p. 3-95).

A Center for Naval Analysis (CNA) June 2008 study of Marine recruits granted legal waivers for enlistment examined their performance in the Marine Corps. The performance measures used were boot camp attrition, 24 month attrition and meritorious

promotion. The Corps terms those relating to felony, serious misdemeanor, or minor misdemeanor as “legal” waivers; about 16 percent of recruits enter with these types of waivers (CNA Study CMED00118362, June 2008).

While the study found that the Marine Corps enlistment waiver process appears to work well, boot camp attrition rates for recruits accessing with most types of legal waivers are comparable to those for all recruits, but 24 month attrition rates were above average. Recruits with legal waivers are more likely to be separated for misconduct. The 45 month attrition rate for those with and legal waiver is more than ten percent higher than those with no waiver. Recruits with felony waivers are about five percent more likely to attrite by 45 months than those without a waiver (CNA Study CMED00118362, June 2008).

Military Entrance Processing Station (MEPS) Screening

After the Marine Corps recruiter and the non-commissioned officer in charge have conducted a one-on-one interview with the applicant, in private and asked questions concerning possible law violations and drug/alcohol use the applicant is sent to the Military Entrance Processing Station (MEPS) for further screening and processing. After the applicant has passed the mental and physical screening at the MEPS, the applicant will undergo a “one-on-one”, private Pre-Enlistment Interview (PEI) with a MEPS Military Processing Clerk (MPC). The MPC will fingerprint the applicant for a FBI check and ask questions concerning possible law violations, drug/alcohol use, and other issues that may affect entry into the Armed Forces. The MPC will brief the applicant on the

Uniform Code of Military Justice (UCMJ) Fraudulent Enlistment Policy, and Restrictions on Personal Conduct while in the Delayed Enlistment Program (DEP).

Right before taking the active duty oath, the applicant will meet with a MEPS Interviewer and complete MEPCOM Form 601-23-5-R-E. The interviewer will go over the form with the applicant. The primary purpose of this session is to give the applicant one final chance to "come clean" on any false information that may be included on the enlistment documents, or to provide information about any additional medical, drug, or criminal problems that occurred while you were in the DEP.

Some of the questions asked on this form are:

- Have you used or sold drugs during your DEP enlistment?
- Did you have trouble of any kind because of marijuana or alcohol during your DEP enlistment, or at any other time?
- Have you told the Service Counselor EVERYTHING about illegal use or sale of drugs?
- Have you told your Service Counselor everything about any problems you've had with law enforcement agencies?
- Has anyone promised you anything that is not identified on your enlistment documents or annexes?
- Did you have any physical problems during your DEP period that you did not disclose to the MEPS doctor?
- Is there anything else the doctor does not know about, but should know, that could prevent you from completing basic training, such as major surgeries, allergies,

reactions to bee stings, heart murmurs, asthma, migraine headaches, knee problems, back problems, psychiatric care and counseling, or attempted suicide?

- Did anyone tell you to hide any information or lie about traffic tickets, juvenile or adult convictions, police records (sealed or stricken)?

After completing the form, and going over each answer with the MEPS interviewer, the applicant will be briefed on the contents of Article 83, Article 85, and Article 86 of the Uniform Code of Military Justice (UCMJ). Article 83 covers fraudulent enlistments. Articles 85 and 86 are concerned with Desertion and Absent without Leave (AWOL). All three articles are applicable once the active duty oath is taken.

Screening at Boot Camp

The first two days of recruit training are long bureaucratic processes during which the recruits are screened again to ensure they are mentally, morally for police or criminal involvement, and physically qualified to begin recruit training. The recruits are interviewed about past drug use, any police involvement, will receive a urinalysis, a medical exam, a dental exam, are issued their rifle and perform an initial strength test to ensure they are qualified for and ready to begin recruit training.

APPENDIX I

Stata Commands

Honor

The data for this study is cross-sectional time series data where there are many more subjects than occasions (i.e., many more clusters as each recruit identifies a cluster of responses).

A Multilevel Mixed-Effects Linear Regression Model, which has the ability to model data with a random intercept was utilized.

1. Stata Commands and output for the Honor dependent variable are below:

```
. xtmixed honor c.age i.minority i.ed i.famil i.delay i.relattend##i.time  
i.sprt_yr i.extrcur_yr i.pltorder##i.time||id:,mle
```

Performing EM optimization:

Performing gradient-based optimization:

```
Iteration 0:   log likelihood = -1902.7374  
Iteration 1:   log likelihood = -1902.7374
```

Computing standard errors:

```
Mixed-effects ML regression      Number of obs      =      738  
Group variable: id              Number of groups    =      246  
  
Obs per group: min =          3  
                  avg =         3.0  
                  max =          3
```

```
Log likelihood = -1902.7374      Wald chi2(44)       =      245.81  
                                Prob > chi2            =      0.0000
```

honor	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
age	-.0325331	.0926708	-0.35	0.726	-.2141645	.1490984
1.minority	-.0432354	.4117544	-0.11	0.916	-.8502591	.7637884
1.ed	-.1969413	.4072516	-0.48	0.629	-.9951398	.6012571
1.famil	-.3436976	.4010257	-0.86	0.391	-1.129693	.4422982
1.delay	-.0485651	.4381483	-0.11	0.912	-.9073201	.8101899
relattend						
1	1.846387	.6280755	2.94	0.003	.6153816	3.077392
2	1.524398	.5451906	2.80	0.005	.4558439	2.592952
time						
2	3.683822	.716326	5.14	0.000	2.279849	5.087795
3	4.763483	.716326	6.65	0.000	3.35951	6.167456
relattend#time						

```

      1 2 | -2.038045 .6350264 -3.21 0.001 -3.282674 -.7934162
      1 3 | -1.696184 .6350264 -2.67 0.008 -2.940813 -.4515554
      2 2 | -.5749478 .5457907 -1.05 0.292 -1.644678 .4947824
      2 3 | -.3112328 .5457907 -0.57 0.569 -1.380963 .7584974

      sprt_yr
      1 | 1.518793 .956966 1.59 0.112 -.3568259 3.394412
      2 | 1.809336 .6541631 2.77 0.006 .5271996 3.091472
      3 | 1.255413 .7611857 1.65 0.099 -.2364832 2.74731
      4 | 1.488365 .6153267 2.42 0.016 .282347 2.694383
      5 | 1.594508 .5286239 3.02 0.003 .5584246 2.630592

      extrcur_yr
      1 | -.3386055 .7921122 -0.43 0.669 -1.891117 1.213906
      2 | -.4671247 .7003203 -0.67 0.505 -1.839727 .9054777
      3 | .3909167 .887926 0.44 0.660 -1.349386 2.13122
      4 | .2775269 .6296195 0.44 0.659 -.9565046 1.511558
      5 | .6302035 .5305433 1.19 0.235 -.4096424 1.670049

      pltorder
      2 | 3.272181 .9269939 3.53 0.000 1.455306 5.089056
      3 | 1.682874 .9091358 1.85 0.064 -.0989989 3.464748
      4 | 1.009706 .8912046 1.13 0.257 -.7370231 2.756435
      5 | 1.795635 .9398429 1.91 0.056 -.0464232 3.637693
      6 | 2.858968 .9645708 2.96 0.003 .9684442 4.749492
      7 | 3.321658 .948334 3.50 0.000 1.462957 5.180358
      8 | .4882255 .964208 0.51 0.613 -1.401587 2.378038

      pltorder#time
      2 2 | -.5001807 .9061364 -0.55 0.581 -2.276175 1.275814
      2 3 | -1.787573 .9061364 -1.97 0.049 -3.563568 -.0115786
      3 2 | -2.055318 .9180768 -2.24 0.025 -3.854715 -.2559202
      3 3 | -2.341685 .9180768 -2.55 0.011 -4.141083 -.5422879
      4 2 | -1.330861 .906133 -1.47 0.142 -3.106849 .4451271
      4 3 | -1.108433 .906133 -1.22 0.221 -2.884421 .6675547
      5 2 | -1.078478 .9523217 -1.13 0.257 -2.944994 .7880388
      5 3 | -1.840623 .9523217 -1.93 0.053 -3.707139 .0258935
      6 2 | -1.637915 .9687088 -1.69 0.091 -3.536549 .2607198
      6 3 | -1.510217 .9687088 -1.56 0.119 -3.408851 .3884175
      7 2 | -.479388 .9559794 -0.50 0.616 -2.353073 1.394297
      7 3 | -2.375967 .9559794 -2.49 0.013 -4.249652 -.5022815
      8 2 | .4743826 .9703827 0.49 0.625 -1.427533 2.376298
      8 3 | -.5020862 .9703827 -0.52 0.605 -2.404001 1.399829

      _cons | 7.237571 2.023368 3.58 0.000 3.271843 11.2033

```

-

```

-----
Random-effects Parameters | Estimate Std. Err. [95% Conf. Interval]
-----+-----
id: Identity
      sd(_cons) | 2.408066 .1526336 2.126746 2.726599
-----+-----
      sd(Residual) | 2.571158 .0819655 2.415424 2.736932
-----

```

LR test vs. linear regression: $\chi^2(01) = 147.51$ Prob >= $\chi^2 = 0.0000$

--

To test the model with and without random intercept to see if the model with the random intercept is better

```

. quietly xtmixed honor c.age i.minority i.ed i.famil i.delay
i.relattend##i.time i.sprt_yr i.extrcur_yr i.pltorder##i.time || id:, mle

```

```

. estimates store ri

. quietly xtmixed honor c.age i.minority i.ed i.famil i.delay
i.relattend##i.time i.sprt_yr i.extrcur_yr i.pltorder##i.time, mle

. lrtest ri

Likelihood-ratio test                                LR chi2(1)  =    147.51
(Assumption: . nested in ri)                        Prob > chi2 =    0.0000

Residuals
. quietly xtmixed honor c.age i.minority i.ed i.famil i.delay
i.relattend##i.time i.sprt_yr i.extrcur_yr i.pltorder##i.time||id:,mle

. predict level2honor, reffects
(6 missing values generated)

. predict comp_sehonor, reses
(6 missing values generated)

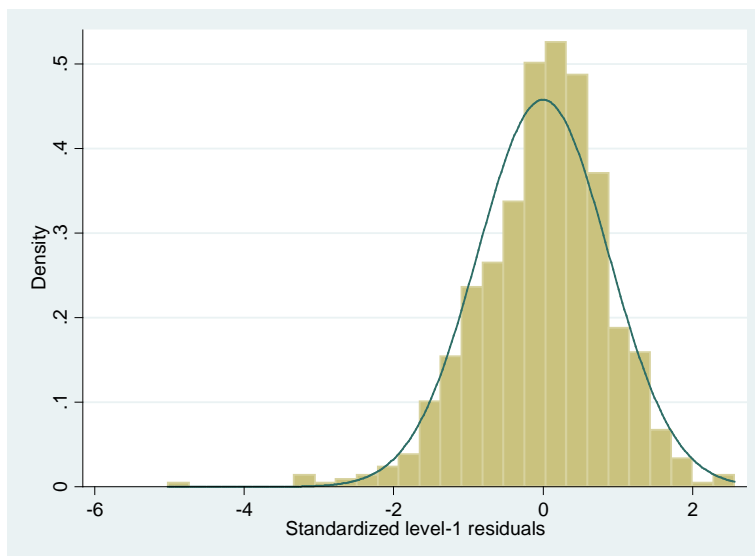
. generate diag_sehonor = sqrt(exp(2*[lns1_1_1]_cons) - comp_sehonor^2)
(6 missing values generated)

. replace level2honor=level2honor/diag_sehonor
(738 real changes made)

. predict level1honor, rstandard
(6 missing values generated)

. hist level1honor, norm xtitle(Standardized level-1 residuals)
(bin=27, start=-4.9731884, width=.2743407)

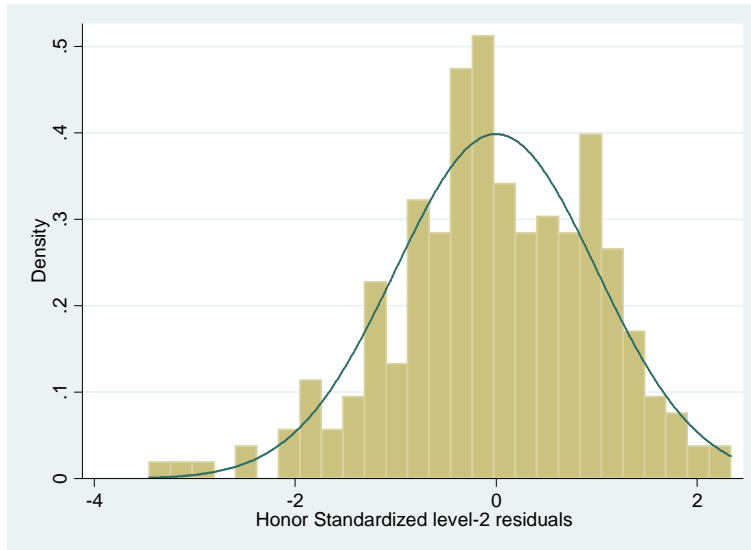
```



```

. hist level2honor, norm xtitle(Honor Standardized level-2 residuals)
(bin=27, start=-3.4528048, width=.2143777)

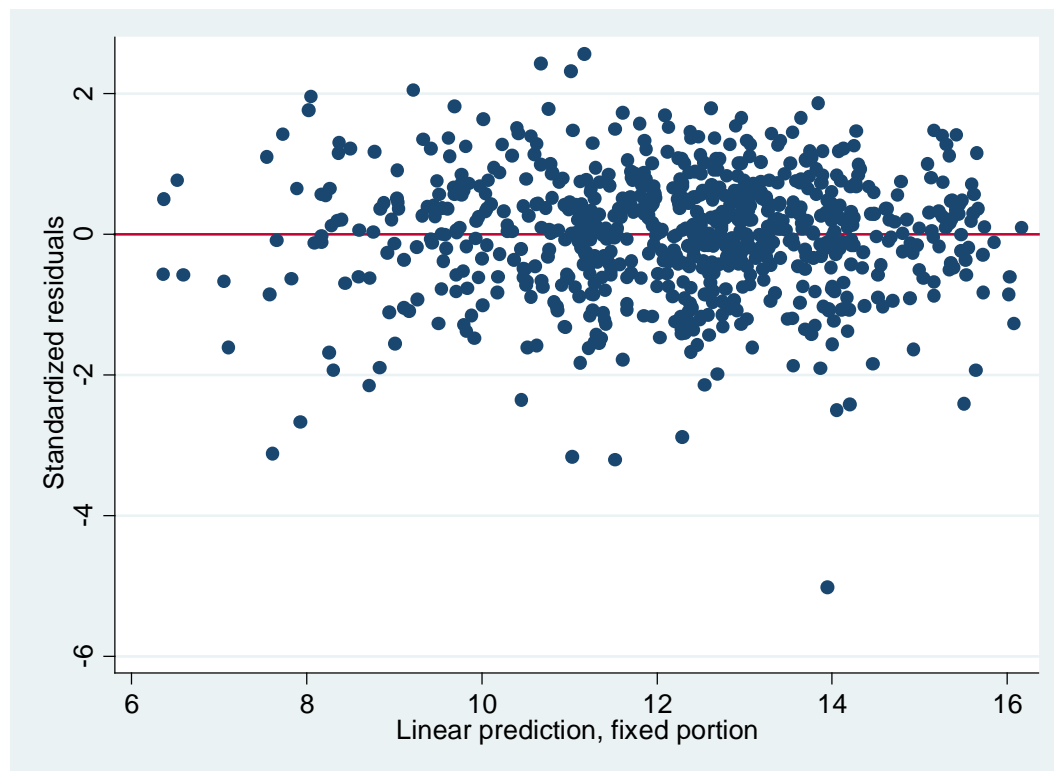
```



```
. quietly xtmixed honor c.age i.minority i.ed i.famil i.delay
i.relatend##i.time i.sprt_yr i.extrcur_yr i.pltorder##i.time||id:,mle

. predict yhatlhonor,xb
(6 missing values generated)

. graph twoway scatter level1honor yhatlhonor,ylines(0)
```



To compare the null model to the full model

```

NULL MODEL
. quietly xtreg honor,mle

. dis e(sigma_u)
2.61403

. dis e(sigma_e)
3.0232077

FULL MODEL
. quietly xtreg honor c.age i.minority i.ed i.famil i.delay i.relattend##i.time
i.sprt_yr i.extrcur_yr i.pltorder##i.time,mle

. dis e(sigma_u)
2.4080655

. dis e(sigma_e)
2.571158

. dis e(rho)
.46728052

. xtmixed honor c.age i.minority i.ed i.famil i.delay i.relattend##i.time
i.sprt_yr i.extrcur_yr i.pltorder##i.time||id:,mle vce(robust)

```

Performing EM optimization:

Performing gradient-based optimization:

```

Iteration 0:   log pseudolikelihood = -1902.7374
Iteration 1:   log pseudolikelihood = -1902.7374

```

Computing standard errors:

```

Mixed-effects regression              Number of obs   =       738
Group variable: id                   Number of groups  =       246

                                   Obs per group: min =         3
                                           avg =        3.0
                                           max =         3

```

```

Log pseudolikelihood = -1902.7374      Wald chi2(44)      =      255.79
                                           Prob > chi2       =      0.0000

```

(Std. Err. adjusted for 246 clusters in id)

honor	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	

age	-.0325331	.0904555	-0.36	0.719	-.2098226	.1447565
1.minority	-.0432354	.3939947	-0.11	0.913	-.8154507	.72898
1.ed	-.1969413	.4029043	-0.49	0.625	-.9866194	.5927367
1.famil	-.3436976	.3993856	-0.86	0.389	-1.126479	.4390837
1.delay	-.0485651	.4218683	-0.12	0.908	-.8754117	.7782815
relattend						
1	1.846387	.6499654	2.84	0.005	.5724782	3.120296
2	1.524398	.6072891	2.51	0.012	.3341331	2.714662
time						
2	3.683822	.8506003	4.33	0.000	2.016676	5.350968
3	4.763483	.8893431	5.36	0.000	3.020402	6.506563
relattend#time						
1 2	-2.038045	.6055098	-3.37	0.001	-3.224823	-.8512676
1 3	-1.696184	.7120327	-2.38	0.017	-3.091743	-.3006259

2 2	-.5749478	.6120617	-0.94	0.348	-1.774567	.624671
2 3	-.3112328	.6677957	-0.47	0.641	-1.620088	.9976227
sprt_yr						
1	1.518793	1.217938	1.25	0.212	-.8683212	3.905907
2	1.809336	.6048138	2.99	0.003	.6239226	2.994749
3	1.255413	.7117168	1.76	0.078	-.1395257	2.650353
4	1.488365	.5824645	2.56	0.011	.3467558	2.629975
5	1.594508	.5277524	3.02	0.003	.5601328	2.628884
extrcur_yr						
1	-.3386055	.6578817	-0.51	0.607	-1.62803	.9508189
2	-.4671247	.667015	-0.70	0.484	-1.77445	.8402007
3	.3909167	.9962443	0.39	0.695	-1.561686	2.34352
4	.2775269	.5207157	0.53	0.594	-.7430572	1.298111
5	.6302035	.5482276	1.15	0.250	-.4443029	1.70471
pltorder						
2	3.272181	.9289342	3.52	0.000	1.451503	5.092858
3	1.682874	.9142918	1.84	0.066	-.1091046	3.474853
4	1.009706	.9539927	1.06	0.290	-.8600853	2.879497
5	1.795635	1.031631	1.74	0.082	-.2263243	3.817595
6	2.858968	1.044527	2.74	0.006	.8117326	4.906204
7	3.321658	.9174173	3.62	0.000	1.523553	5.119762
8	.4882255	1.053833	0.46	0.643	-1.57725	2.5537
pltorder#time						
2 2	-.5001807	1.001555	-0.50	0.617	-2.463192	1.462831
2 3	-1.787573	1.10525	-1.62	0.106	-3.953824	.3786778
3 2	-2.055318	.9103831	-2.26	0.024	-3.839636	-.2709996
3 3	-2.341685	1.006215	-2.33	0.020	-4.313829	-.3695411
4 2	-1.330861	.9166743	-1.45	0.147	-3.127509	.4657877
4 3	-1.108433	1.069006	-1.04	0.300	-3.203646	.9867797
5 2	-1.078478	1.222801	-0.88	0.378	-3.475123	1.318168
5 3	-1.840623	1.273098	-1.45	0.148	-4.335848	.6546024
6 2	-1.637915	1.194176	-1.37	0.170	-3.978457	.7026279
6 3	-1.510217	1.053587	-1.43	0.152	-3.57521	.5547766
7 2	-.479388	1.030922	-0.47	0.642	-2.499959	1.541183
7 3	-2.375967	1.178904	-2.02	0.044	-4.686575	-.0653582
8 2	.4743826	.9634966	0.49	0.622	-1.414036	2.362801
8 3	-.5020862	1.079135	-0.47	0.642	-2.617153	1.61298
_cons	7.237571	2.010638	3.60	0.000	3.296793	11.17835

Random-effects Parameters		Estimate	Robust Std. Err.	[95% Conf. Interval]	
id: Identity					
	sd(_cons)	2.408066	.1665208	2.102842	2.757592
	sd(Residual)	2.571158	.1185608	2.348974	2.814357

Testing the H_0 that Honor does not vary at different levels of relattend

```
. margins r.relattend,contrast(effects)
```

```
Contrasts of predictive margins
Model VCE      : Robust
```

```
Expression     : Linear prediction, fixed portion, predict()
```

	df	chi2	P>chi2
relattend			

(1 vs 0)	1	1.27	0.2606
(2 vs 0)	1	7.81	0.0052
Joint	2	7.93	0.0190

	Contrast	Delta-method Std. Err.	z	P> z	[95% Conf. Interval]	
relattend						
(1 vs 0)	.6016439	.5348072	1.12	0.261	-.446559	1.649847
(2 vs 0)	1.229004	.4398144	2.79	0.005	.3669839	2.091025

```
. margins relattend,pwcompare(effects)
```

Pairwise comparisons of predictive margins
Model VCE : Robust

Expression : Linear prediction, fixed portion, predict()

	Contrast	Delta-method Std. Err.	Unadjusted z	Unadjusted P> z	Unadjusted [95% Conf. Interval]	
relattend						
1 vs 0	.6016439	.5348072	1.12	0.261	-.446559	1.649847
2 vs 0	1.229004	.4398144	2.79	0.005	.3669839	2.091025
2 vs 1	.6273604	.4891205	1.28	0.200	-.3312981	1.586019

```
. margins relattend
```

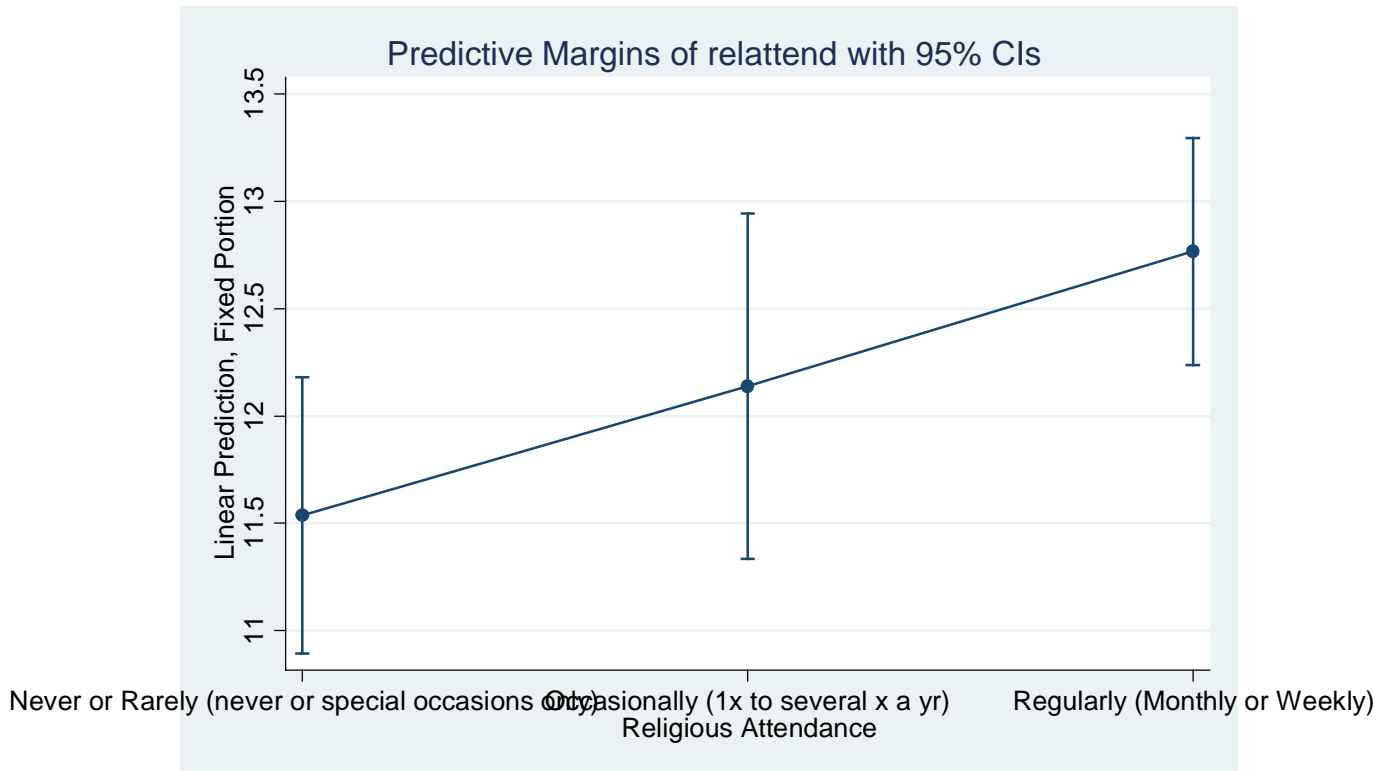
Predictive margins
Model VCE : Robust

Number of obs = 738

Expression : Linear prediction, fixed portion, predict()

	Margin	Delta-method Std. Err.	z	P> z	[95% Conf. Interval]	
relattend						
0	11.53751	.3284399	35.13	0.000	10.89378	12.18124
1	12.13916	.4108834	29.54	0.000	11.33384	12.94448
2	12.76652	.2699868	47.29	0.000	12.23735	13.29568

```
. marginsplot
```

Testing the H_0 that Honor does not vary at different levels of time

```
. margins r.time, contrast(effects)
```

Contrasts of predictive margins
Model VCE : Robust

Expression : Linear prediction, fixed portion, predict()

	df	chi2	P>chi2
time			
(2 vs 1)	1	76.99	0.0000
(3 vs 1)	1	110.95	0.0000
Joint	2	113.59	0.0000

	Contrast	Delta-method Std. Err.	z	P> z	[95% Conf. Interval]	
time						
(2 vs 1)	2.101626	.2395128	8.77	0.000	1.63219	2.571063
(3 vs 1)	2.776423	.2635892	10.53	0.000	2.259797	3.293048

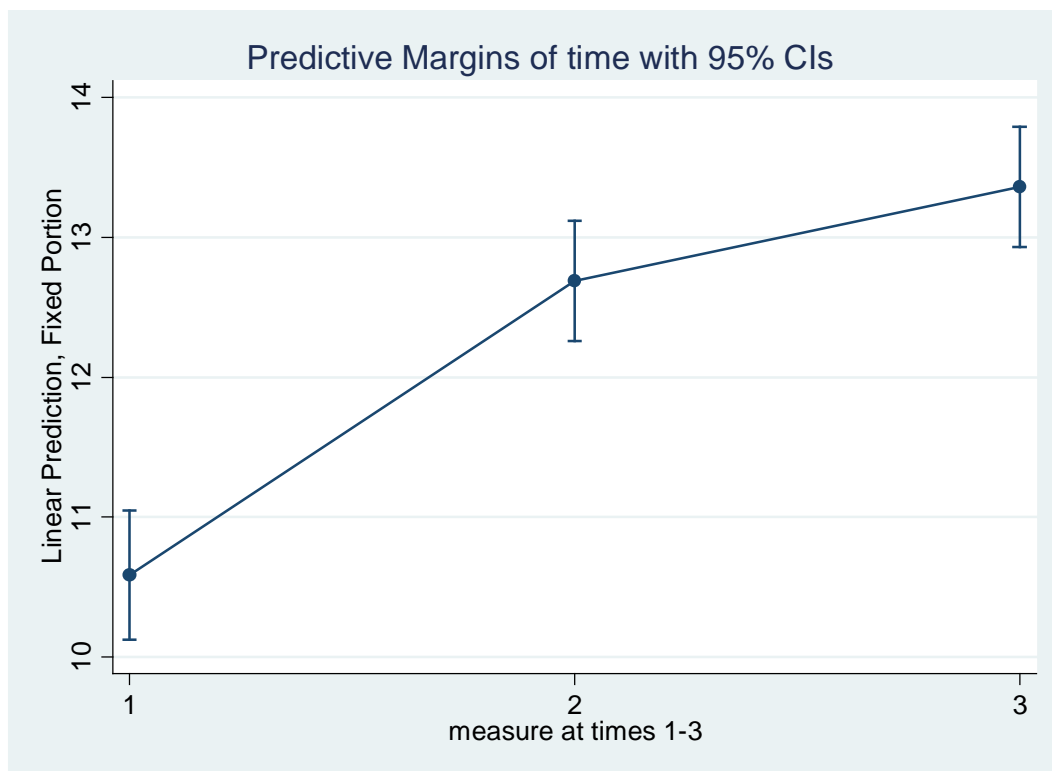
```
. margins time, pwcompare(effects)
```

Pairwise comparisons of predictive margins
Model VCE : Robust

Expression : Linear prediction, fixed portion, predict()

	Contrast	Delta-method Std. Err.	Unadjusted z	Unadjusted P> z	Unadjusted [95% Conf. Interval]
time					
2 vs 1	2.101626	.2395128	8.77	0.000	1.63219 2.571063
3 vs 1	2.776423	.2635892	10.53	0.000	2.259797 3.293048
3 vs 2	.6747967	.1872239	3.60	0.000	.3078446 1.041749

	Delta-method					
	Margin	Std. Err.	z	P> z	[95% Conf. Interval]	
time						
1	10.58537	.2354899	44.95	0.000	10.12381	11.04692
2	12.68699	.2195461	57.79	0.000	12.25669	13.11729
3	13.36179	.2197697	60.80	0.000	12.93105	13.79253



Testing the H_0 that Honor does not vary at different levels of sprt_yr

```
. margins r.sprt_yr, contrast(effects)
```

Contrasts of predictive margins

Model VCE : Robust

Expression : Linear prediction, fixed portion, predict()

	df	chi2	P>chi2
sprt_yr			
(1 vs 0)	1	1.56	0.2124
(2 vs 0)	1	8.95	0.0028
(3 vs 0)	1	3.11	0.0777
(4 vs 0)	1	6.53	0.0106
(5 vs 0)	1	9.13	0.0025
Joint	5	12.73	0.0261

	Contrast	Delta-method Std. Err.	z	P> z	[95% Conf. Interval]	
sprt_yr						
(1 vs 0)	1.518793	1.217938	1.25	0.212	-.8683212	3.905907
(2 vs 0)	1.809336	.6048138	2.99	0.003	.6239226	2.994749
(3 vs 0)	1.255413	.7117168	1.76	0.078	-.1395257	2.650353
(4 vs 0)	1.488365	.5824645	2.56	0.011	.3467558	2.629975
(5 vs 0)	1.594508	.5277524	3.02	0.003	.5601328	2.628884

```
. margins sprt_yr, pwcompare(effects)
```

Pairwise comparisons of predictive margins

Model VCE : Robust

Expression : Linear prediction, fixed portion, predict()

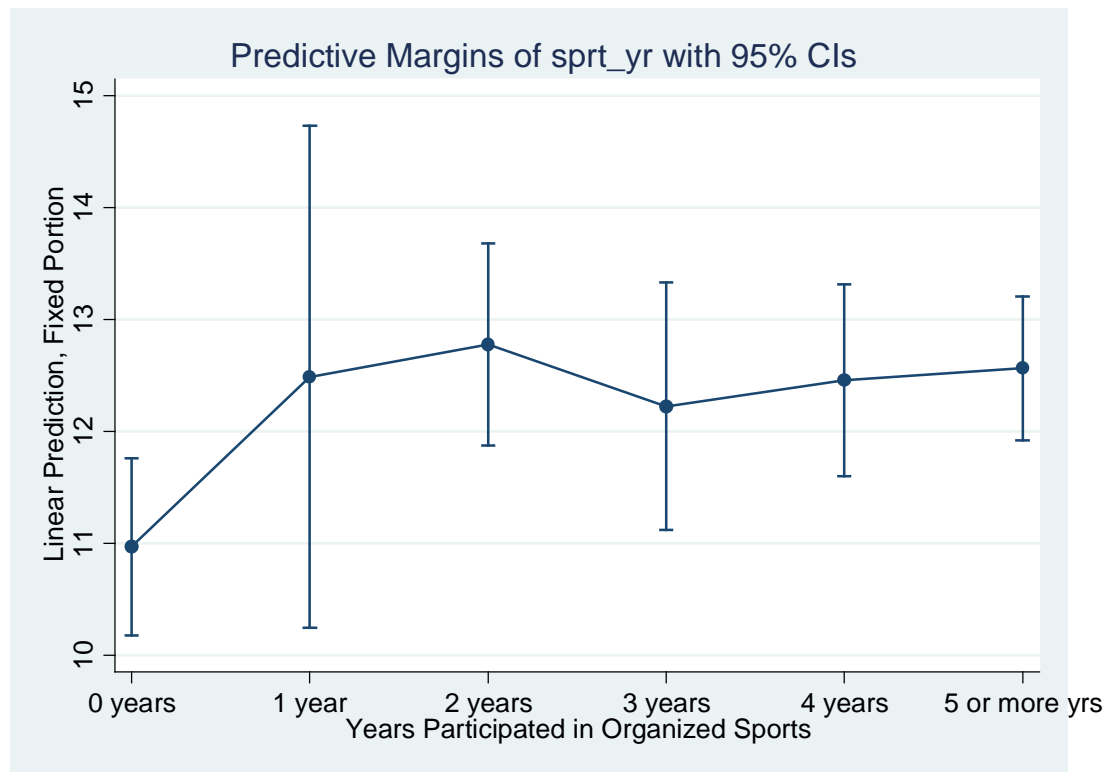
	Contrast	Delta-method Std. Err.	Unadjusted z	Unadjusted P> z	Unadjusted [95% Conf. Interval]	
sprt_yr						
1 vs 0	1.518793	1.217938	1.25	0.212	-.8683212	3.905907
2 vs 0	1.809336	.6048138	2.99	0.003	.6239226	2.994749
3 vs 0	1.255413	.7117168	1.76	0.078	-.1395257	2.650353
4 vs 0	1.488365	.5824645	2.56	0.011	.3467558	2.629975
5 vs 0	1.594508	.5277524	3.02	0.003	.5601328	2.628884
2 vs 1	.2905427	1.229846	0.24	0.813	-2.119911	2.700997
3 vs 1	-.2633796	1.273093	-0.21	0.836	-2.758597	2.231838
4 vs 1	-.0304279	1.227727	-0.02	0.980	-2.436728	2.375873
5 vs 1	.0757154	1.209981	0.06	0.950	-2.295803	2.447234
3 vs 2	-.5539223	.7283453	-0.76	0.447	-1.981453	.8736084
4 vs 2	-.3209706	.6172004	-0.52	0.603	-1.530661	.8887199
5 vs 2	-.2148273	.5652291	-0.38	0.704	-1.322656	.8930013
4 vs 3	.2329517	.7177388	0.32	0.746	-1.17379	1.639694
5 vs 3	.339095	.6648744	0.51	0.610	-.964035	1.642225
5 vs 4	.1061433	.569722	0.19	0.852	-1.010491	1.222778

```
. margins sprt_yr
```

Predictive margins
 Model VCE : Robust
 Expression : Linear prediction, fixed portion, predict()
 Number of obs = 738

	Delta-method		z	P> z	[95% Conf. Interval]	
	Margin	Std. Err.				
sprt_yr						
0	10.96903	.403376	27.19	0.000	10.17843	11.75963
1	12.48782	1.144091	10.92	0.000	10.24544	14.7302
2	12.77836	.460897	27.72	0.000	11.87502	13.68171
3	12.22444	.5637592	21.68	0.000	11.11949	13.32939
4	12.45739	.4377958	28.45	0.000	11.59933	13.31546
5	12.56354	.3287233	38.22	0.000	11.91925	13.20782

.marginsplot



tab sprt_yr

Years Participated in Organized Sports	Freq.	Percent	Cum.
0 years	153	20.56	20.56
1 year	36	4.84	25.40
2 years	102	13.71	39.11
3 years	66	8.87	47.98
4 years	123	16.53	64.52
5 or more yrs	264	35.48	100.00

Total	744	100.00
-------	-----	--------

Testing the H_0 that Honor does not vary at different levels of pltorder

```
. margins r.pltorder, contrast(effects)
```

Contrasts of predictive margins

Model VCE : Robust

Expression : Linear prediction, fixed portion, predict()

	df	chi2	P>chi2
pltorder			
(2 vs 1)	1	13.30	0.0003
(3 vs 1)	1	0.07	0.7882
(4 vs 1)	1	0.07	0.7903
(5 vs 1)	1	1.30	0.2541
(6 vs 1)	1	4.77	0.0290
(7 vs 1)	1	12.63	0.0004
(8 vs 1)	1	0.37	0.5412
Joint	7	31.94	0.0000

	Contrast	Delta-method Std. Err.	z	P> z	[95% Conf. Interval]
pltorder					
(2 vs 1)	2.509596	.6881538	3.65	0.000	1.160839 3.858353
(3 vs 1)	.2172068	.8085135	0.27	0.788	-1.36745 1.801864
(4 vs 1)	.1966079	.7392721	0.27	0.790	-1.252339 1.645555
(5 vs 1)	.8226017	.7212501	1.14	0.254	-.5910225 2.236226
(6 vs 1)	1.809591	.828965	2.18	0.029	.1848495 3.434333
(7 vs 1)	2.369873	.6668296	3.55	0.000	1.062911 3.676835
(8 vs 1)	.4789909	.7839107	0.61	0.541	-1.057446 2.015428

```
. margins pltorder, pwcompare(effects)
```

Pairwise comparisons of predictive margins

Model VCE : Robust

Expression : Linear prediction, fixed portion, predict()

	Contrast	Delta-method Std. Err.	Unadjusted z	Unadjusted P> z	[95% Conf. Interval]
pltorder					
2 vs 1	2.509596	.6881538	3.65	0.000	1.160839 3.858353
3 vs 1	.2172068	.8085135	0.27	0.788	-1.36745 1.801864
4 vs 1	.1966079	.7392721	0.27	0.790	-1.252339 1.645555
5 vs 1	.8226017	.7212501	1.14	0.254	-.5910225 2.236226
6 vs 1	1.809591	.828965	2.18	0.029	.1848495 3.434333
7 vs 1	2.369873	.6668296	3.55	0.000	1.062911 3.676835
8 vs 1	.4789909	.7839107	0.61	0.541	-1.057446 2.015428
3 vs 2	-2.292389	.7383416	-3.10	0.002	-3.739512 -.8452664
4 vs 2	-2.312988	.6790378	-3.41	0.001	-3.643878 -.9820988
5 vs 2	-1.686995	.6507589	-2.59	0.010	-2.962459 -.4115304

6 vs 2	-.7000052	.7452772	-0.94	0.348	-2.160722	.7607114
7 vs 2	-.1397235	.5728031	-0.24	0.807	-1.262397	.9829499
8 vs 2	-2.030605	.7019355	-2.89	0.004	-3.406374	-.6548371
4 vs 3	-.0205989	.8413258	-0.02	0.980	-1.669567	1.628369
5 vs 3	.6053949	.8358787	0.72	0.469	-1.032897	2.243687
6 vs 3	1.592384	.8887374	1.79	0.073	-.1495092	3.334278
7 vs 3	2.152666	.7523182	2.86	0.004	.6781493	3.627182
8 vs 3	.2617841	.8905106	0.29	0.769	-1.483585	2.007153
5 vs 4	.6259938	.6982402	0.90	0.370	-.7425319	1.99452
6 vs 4	1.612983	.8084077	2.00	0.046	.0285332	3.197433
7 vs 4	2.173265	.6687679	3.25	0.001	.8625038	3.484026
8 vs 4	.282383	.7599814	0.37	0.710	-1.207153	1.771919
6 vs 5	.9869893	.8006442	1.23	0.218	-.5822444	2.556223
7 vs 5	1.547271	.6092122	2.54	0.011	.3532371	2.741305
8 vs 5	-.3436108	.7254342	-0.47	0.636	-1.765436	1.078214
7 vs 6	.5602816	.7676223	0.73	0.465	-.9442304	2.064794
8 vs 6	-1.3306	.8306878	-1.60	0.109	-2.958718	.297518
8 vs 7	-1.890882	.7149552	-2.64	0.008	-3.292168	-.4895953

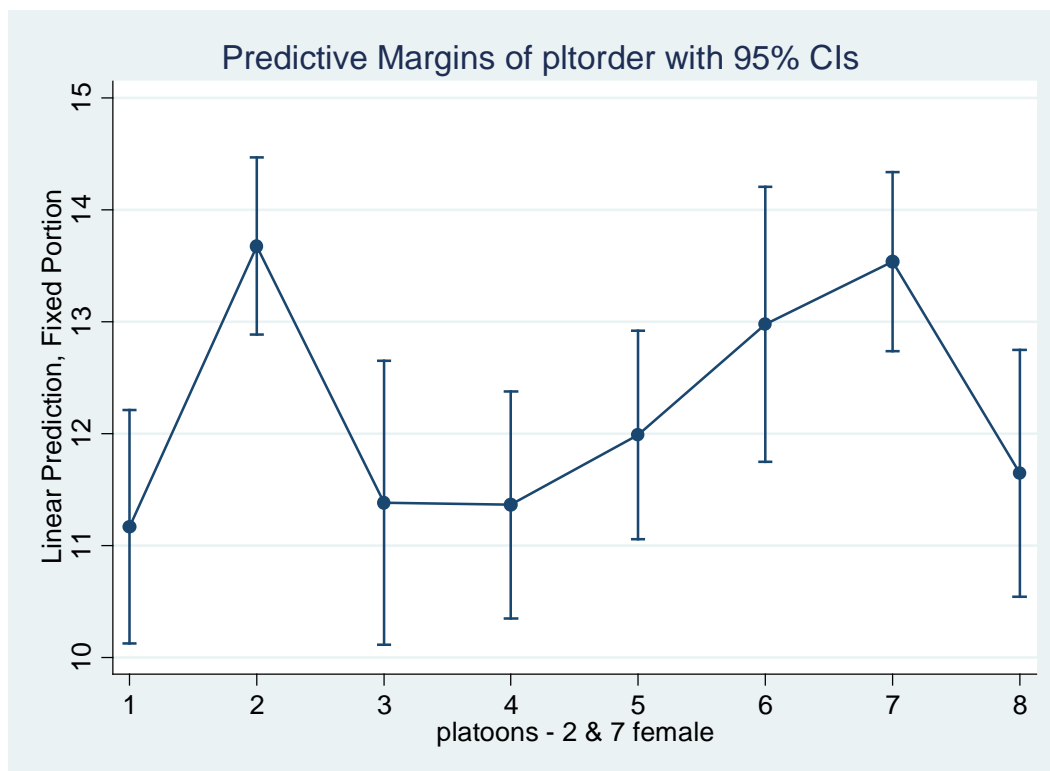
```
. margins pltorder
```

```
Predictive margins                                Number of obs    =          738
Model VCE      : Robust
```

```
Expression      : Linear prediction, fixed portion, predict()
```

	Delta-method					
	Margin	Std. Err.	z	P> z	[95% Conf. Interval]	
pltorder						
1	11.16773	.5319308	20.99	0.000	10.12517	12.2103
2	13.67733	.4041499	33.84	0.000	12.88521	14.46945
3	11.38494	.6477399	17.58	0.000	10.11539	12.65449
4	11.36434	.5177108	21.95	0.000	10.34965	12.37904
5	11.99034	.4750976	25.24	0.000	11.05916	12.92151
6	12.97733	.6281937	20.66	0.000	11.74609	14.20856
7	13.53761	.4089162	33.11	0.000	12.73615	14.33907
8	11.64672	.5620501	20.72	0.000	10.54513	12.74832

```
. marginsplot
```



Testing the H_0 's related to the significant interaction relattend#time

```
. margins r.relattend#rb2.time,contrast(effects nowald) mcompare(scheffe)
```

Contrasts of predictive margins

Model VCE : Robust

Expression : Linear prediction, fixed portion, predict()

	Number of Comparisons
relattend#time	4

	Contrast	Delta-method Std. Err.	Scheffe z	P> z	Scheffe [95% Conf. Interval]
relattend#time					
(1 vs 0) (1 vs 2)	2.038045	.6055098	3.37	0.023	.1729442 3.903146
(1 vs 0) (3 vs 2)	.3418608	.4385517	0.78	0.962	-1.008973 1.692695
(2 vs 0) (1 vs 2)	.5749478	.6120617	0.94	0.927	-1.310334 2.46023
(2 vs 0) (3 vs 2)	.263715	.4346303	0.61	0.985	-1.07504 1.60247

```
. margins relattend#time,pwcompare(effects) mcompare(scheffe)
```

Pairwise comparisons of predictive margins

Model VCE : Robust

Expression : Linear prediction, fixed portion, predict()

	Number of Comparisons
relattend#time	36

	Contrast	Delta-method Std. Err.	Scheffe z	P> z	Scheffe [95% Conf. Interval]
relattend#time					
(0 2) vs (0 1)	2.838167	.4670729	6.08	0.000	.9988657 4.677469
(0 3) vs (0 1)	3.31734	.5269308	6.30	0.000	1.242322 5.392357
(1 1) vs (0 1)	1.846387	.6499654	2.84	0.427	-.7131329 4.405907
(1 2) vs (0 1)	2.646509	.6374252	4.15	0.028	.1363718 5.156646
(1 3) vs (0 1)	3.467542	.6882497	5.04	0.001	.7572613 6.177823
(2 1) vs (0 1)	1.524398	.6072891	2.51	0.614	-.8670656 3.915861
(2 2) vs (0 1)	3.787617	.584	6.49	0.000	1.487864 6.08737
(2 3) vs (0 1)	4.530505	.5696658	7.95	0.000	2.287199 6.77381
(0 3) vs (0 2)	.4791724	.2799375	1.71	0.939	-.6232027 1.581548
(1 1) vs (0 2)	-.9917802	.6007529	-1.65	0.950	-3.357505 1.373944
(1 2) vs (0 2)	-.1916581	.5925264	-0.32	1.000	-2.524987 2.141671
(1 3) vs (0 2)	.6293752	.6467664	0.97	0.999	-1.917547 3.176298
(2 1) vs (0 2)	-1.313769	.5451077	-2.41	0.669	-3.460367 .8328281
(2 2) vs (0 2)	.94945	.5270818	1.80	0.918	-1.126163 3.025063
(2 3) vs (0 2)	1.692337	.5103166	3.32	0.202	-.3172551 3.70193
(1 1) vs (0 3)	-1.470953	.6150473	-2.39	0.679	-3.892967 .9510622
(1 2) vs (0 3)	-.6708305	.6068847	-1.11	0.996	-3.060702 1.719041
(1 3) vs (0 3)	.1502027	.6631997	0.23	1.000	-2.461433 2.761839
(2 1) vs (0 3)	-1.792942	.554371	-3.23	0.234	-3.976017 .3901338
(2 2) vs (0 3)	.4702776	.5358589	0.88	0.999	-1.639899 2.580454
(2 3) vs (0 3)	1.213165	.5197943	2.33	0.709	-.8337501 3.26008
(1 2) vs (1 1)	.8001221	.3770377	2.12	0.809	-.684627 2.284871
(1 3) vs (1 1)	1.621155	.467992	3.46	0.151	-.2217655 3.464076
(2 1) vs (1 1)	-.3219892	.6035516	-0.53	1.000	-2.698735 2.054756
(2 2) vs (1 1)	1.94123	.5826213	3.33	0.196	-.3530933 4.235554
(2 3) vs (1 1)	2.684118	.5605485	4.79	0.003	.4767155 4.89152
(1 3) vs (1 2)	.8210333	.3311451	2.48	0.631	-.4829938 2.12506
(2 1) vs (1 2)	-1.122111	.5768939	-1.95	0.876	-3.39388 1.149658
(2 2) vs (1 2)	1.141108	.5571916	2.05	0.839	-1.053075 3.335291
(2 3) vs (1 2)	1.883996	.5397745	3.49	0.143	-.2415999 4.009591
(2 1) vs (1 3)	-1.943145	.6175949	-3.15	0.272	-4.375191 .4889023
(2 2) vs (1 3)	.3200748	.6043231	0.53	1.000	-2.059709 2.699858
(2 3) vs (1 3)	1.062962	.5865955	1.81	0.915	-1.247011 3.372936
(2 2) vs (2 1)	2.263219	.384767	5.88	0.000	.748033 3.778406
(2 3) vs (2 1)	3.006107	.4014414	7.49	0.000	1.425258 4.586956
(2 3) vs (2 2)	.7428874	.3318206	2.24	0.756	-.5637997 2.049575

. margins relattend#time

Predictive margins
Model VCE : Robust

Number of obs = 738

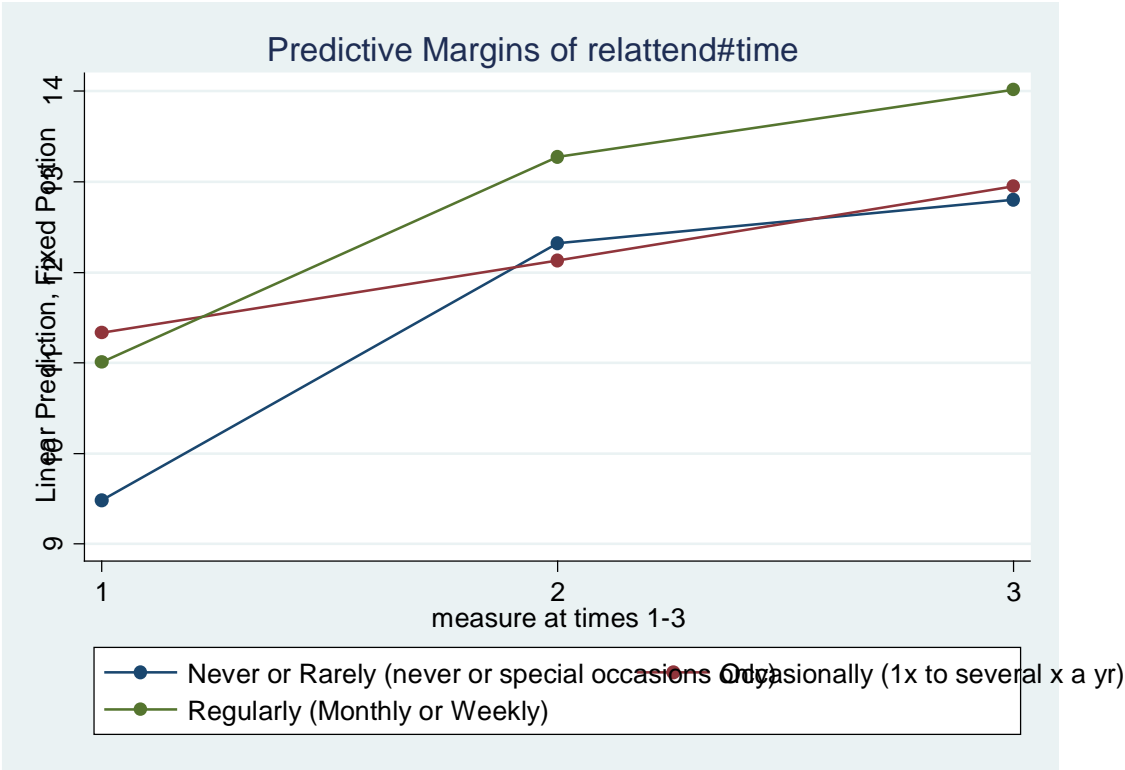
Expression : Linear prediction, fixed portion, predict()

	Margin	Delta-method Std. Err.	z	P> z	[95% Conf. Interval]
relattend#time					
0 1	9.485679	.4577422	20.72	0.000	8.588521 10.38284
0 2	12.32385	.3855238	31.97	0.000	11.56823 13.07946
0 3	12.80302	.3960485	32.33	0.000	12.02678 13.57926
1 1	11.33207	.4637359	24.44	0.000	10.42316 12.24097
1 2	12.13219	.4423801	27.42	0.000	11.26514 12.99924
1 3	12.95322	.502661	25.77	0.000	11.96802 13.93842
2 1	11.01008	.367579	29.95	0.000	10.28963 11.73052

2 2		13.2733	.3458903	38.37	0.000	12.59536	13.95123
2 3		14.01618	.3220135	43.53	0.000	13.38505	14.64732

```
. marginsplot,noci xdimension(time)

Variables that uniquely identify margins: relattend time
```



```
. margins r.relattend#r.time,contrast(effects)

Contrasts of predictive margins
Model VCE      : Robust

Expression     : Linear prediction, fixed portion, predict()
```

	df	chi2	P>chi2
relattend#time			
(1 vs 0) (2 vs 1)	1	11.33	0.0008
(1 vs 0) (3 vs 1)	1	5.67	0.0172
(2 vs 0) (2 vs 1)	1	0.88	0.3475
(2 vs 0) (3 vs 1)	1	0.22	0.6412
Joint	4	13.87	0.0077

	Contrast	Delta-method Std. Err.	z	P> z	[95% Conf. Interval]
--	----------	---------------------------	---	------	----------------------

```

      relattend#time |
(1 vs 0) (2 vs 1) | -2.038045 .6055098 -3.37 0.001 -3.224823 -.8512676
(1 vs 0) (3 vs 1) | -1.696184 .7120327 -2.38 0.017 -3.091743 -.3006259
(2 vs 0) (2 vs 1) | -.5749478 .6120617 -0.94 0.348 -1.774567 .624671
(2 vs 0) (3 vs 1) | -.3112328 .6677957 -0.47 0.641 -1.620088 .9976227
-----

```

```
. margins relattend#time,pwcompare(effects)
```

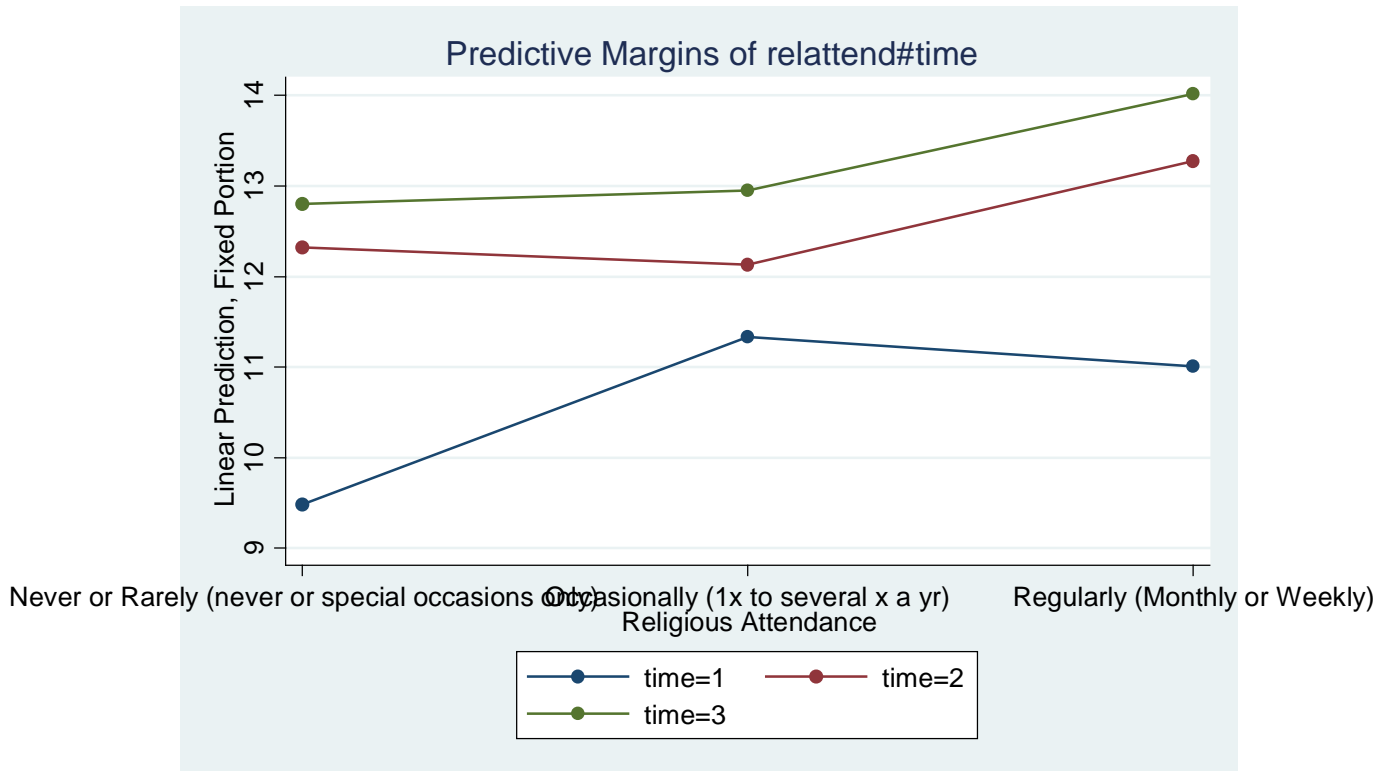
```
Pairwise comparisons of predictive margins
Model VCE      : Robust
```

```
Expression      : Linear prediction, fixed portion, predict()
```

```

-----
      |               Delta-method      Unadjusted      Unadjusted
      | Contrast      Std. Err.      z      P>|z|      [95% Conf. Interval]
-----+-----
relattend#time
(0 2) vs (0 1) | 2.838167 .4670729 6.08 0.000 1.922721 3.753613
(0 3) vs (0 1) | 3.31734 .5269308 6.30 0.000 2.284574 4.350105
(1 1) vs (0 1) | 1.846387 .6499654 2.84 0.005 .5724782 3.120296
(1 2) vs (0 1) | 2.646509 .6374252 4.15 0.000 1.397179 3.895839
(1 3) vs (0 1) | 3.467542 .6882497 5.04 0.000 2.118598 4.816487
(2 1) vs (0 1) | 1.524398 .6072891 2.51 0.012 .3341331 2.714662
(2 2) vs (0 1) | 3.787617 .584 6.49 0.000 2.642998 4.932236
(2 3) vs (0 1) | 4.530505 .5696658 7.95 0.000 3.41398 5.647029
(0 3) vs (0 2) | .4791724 .2799375 1.71 0.087 -.069495 1.02784
(1 1) vs (0 2) | -.9917802 .6007529 -1.65 0.099 -2.169234 .1856738
(1 2) vs (0 2) | -.1916581 .5925264 -0.32 0.746 -1.352988 .9696722
(1 3) vs (0 2) | .6293752 .6467664 0.97 0.330 -.6382637 1.897014
(2 1) vs (0 2) | -1.313769 .5451077 -2.41 0.016 -2.382161 -.2453779
(2 2) vs (0 2) | .94945 .5270818 1.80 0.072 -.0836114 1.982511
(2 3) vs (0 2) | 1.692337 .5103166 3.32 0.001 .6921352 2.69254
(1 1) vs (0 3) | -1.470953 .6150473 -2.39 0.017 -2.676423 -.2654821
(1 2) vs (0 3) | -.6708305 .6068847 -1.11 0.269 -1.860303 .5186417
(1 3) vs (0 3) | .1502027 .6631997 0.23 0.821 -1.149645 1.45005
(2 1) vs (0 3) | -1.792942 .554371 -3.23 0.001 -2.879489 -.7063946
(2 2) vs (0 3) | .4702776 .5358589 0.88 0.380 -.5799866 1.520542
(2 3) vs (0 3) | 1.213165 .5197943 2.33 0.020 .1943868 2.231943
(1 2) vs (1 1) | .8001221 .3770377 2.12 0.034 .0611417 1.539102
(1 3) vs (1 1) | 1.621155 .467992 3.46 0.001 .7039079 2.538403
(2 1) vs (1 1) | -.3219892 .6035516 -0.53 0.594 -1.504929 .8609502
(2 2) vs (1 1) | 1.94123 .5826213 3.33 0.001 .7993134 3.083147
(2 3) vs (1 1) | 2.684118 .5605485 4.79 0.000 1.585463 3.782772
(1 3) vs (1 2) | .8210333 .3311451 2.48 0.013 .1720008 1.470066
(2 1) vs (1 2) | -1.122111 .5768939 -1.95 0.052 -2.252802 .0085799
(2 2) vs (1 2) | 1.141108 .5571916 2.05 0.041 .0490326 2.233184
(2 3) vs (1 2) | 1.883996 .5397745 3.49 0.000 .826057 2.941934
(2 1) vs (1 3) | -1.943145 .6175949 -3.15 0.002 -3.153608 -.7326809
(2 2) vs (1 3) | .3200748 .6043231 0.53 0.596 -.8643766 1.504526
(2 3) vs (1 3) | 1.062962 .5865955 1.81 0.070 -.0867438 2.212668
(2 2) vs (2 1) | 2.263219 .384767 5.88 0.000 1.50909 3.017349
(2 3) vs (2 1) | 3.006107 .4014414 7.49 0.000 2.219296 3.792918
(2 3) vs (2 2) | .7428874 .3318206 2.24 0.025 .092531 1.393244
-----

```



Testing the H_0 's related to the significant interaction pltorder#time

```
. margins r.pltorder#rb2.time,contrast(effects)
```

Contrasts of predictive margins
Model VCE : Robust

Expression : Linear prediction, fixed portion, predict()

	df	chi2	P>chi2
pltorder#time			
(2 vs 1) (1 vs 2)	1	0.25	0.6175
(2 vs 1) (3 vs 2)	1	3.58	0.0584
(3 vs 1) (1 vs 2)	1	5.10	0.0240
(3 vs 1) (3 vs 2)	1	0.17	0.6836
(4 vs 1) (1 vs 2)	1	2.11	0.1465
(4 vs 1) (3 vs 2)	1	0.11	0.7358
(5 vs 1) (1 vs 2)	1	0.78	0.3778
(5 vs 1) (3 vs 2)	1	1.17	0.2791
(6 vs 1) (1 vs 2)	1	1.88	0.1702
(6 vs 1) (3 vs 2)	1	0.02	0.8880
(7 vs 1) (1 vs 2)	1	0.22	0.6419
(7 vs 1) (3 vs 2)	1	6.46	0.0110
(8 vs 1) (1 vs 2)	1	0.24	0.6225
(8 vs 1) (3 vs 2)	1	1.93	0.1643
Joint	14	28.33	0.0129

	Delta-method					
	Contrast	Std. Err.	z	P> z	[95% Conf. Interval]	
pltorder#time						
(2 vs 1) (1 vs 2)	.5001807	1.001555	0.50	0.617	-1.462831	2.463192
(2 vs 1) (3 vs 2)	-1.287393	.6800654	-1.89	0.058	-2.620296	.045511
(3 vs 1) (1 vs 2)	2.055318	.9103831	2.26	0.024	.2709996	3.839636
(3 vs 1) (3 vs 2)	-.2863677	.7027343	-0.41	0.684	-1.663702	1.090966
(4 vs 1) (1 vs 2)	1.330861	.9166743	1.45	0.147	-.4657877	3.127509
(4 vs 1) (3 vs 2)	.2224276	.6591807	0.34	0.736	-1.069543	1.514398
(5 vs 1) (1 vs 2)	1.078478	1.222801	0.88	0.378	-1.318168	3.475123
(5 vs 1) (3 vs 2)	-.7621453	.7041134	-1.08	0.279	-2.142182	.6178917
(6 vs 1) (1 vs 2)	1.637915	1.194176	1.37	0.170	-.7026279	3.978457
(6 vs 1) (3 vs 2)	.1276977	.9069591	0.14	0.888	-1.64991	1.905305
(7 vs 1) (1 vs 2)	.479388	1.030922	0.47	0.642	-1.541183	2.499959
(7 vs 1) (3 vs 2)	-1.896579	.7459316	-2.54	0.011	-3.358578	-.4345796
(8 vs 1) (1 vs 2)	-.4743826	.9634966	-0.49	0.622	-2.362801	1.414036
(8 vs 1) (3 vs 2)	-.9764688	.7021305	-1.39	0.164	-2.352619	.3996817

```
. margins pltorder#time,pwcompare(effects)
```

Pairwise comparisons of predictive margins
Model VCE : Robust

Expression : Linear prediction, fixed portion, predict()

	Delta-method		Unadjusted		Unadjusted	
	Contrast	Std. Err.	z	P> z	[95% Conf. Interval]	
pltorder#time						
(1 2) vs (1 1)	2.947281	.7771567	3.79	0.000	1.424081	4.47048
(1 3) vs (1 1)	4.222566	.8188405	5.16	0.000	2.617668	5.827464
(2 1) vs (1 1)	3.272181	.9289342	3.52	0.000	1.451503	5.092858
(2 2) vs (1 1)	5.719281	.8546719	6.69	0.000	4.044155	7.394407
(2 3) vs (1 1)	5.707173	.8870417	6.43	0.000	3.968604	7.445743
(3 1) vs (1 1)	1.682874	.9142918	1.84	0.066	-.1091046	3.474853
(3 2) vs (1 1)	2.574837	1.00114	2.57	0.010	.6126381	4.537037
(3 3) vs (1 1)	3.563755	.9780339	3.64	0.000	1.646844	5.480666
(4 1) vs (1 1)	1.009706	.9539927	1.06	0.290	-.8600853	2.879497
(4 2) vs (1 1)	2.626126	.8755171	3.00	0.003	.9101436	4.342108
(4 3) vs (1 1)	4.123839	.9237261	4.46	0.000	2.313369	5.934309
(5 1) vs (1 1)	1.795635	1.031631	1.74	0.082	-.2263243	3.817595
(5 2) vs (1 1)	3.664438	.9014908	4.06	0.000	1.897549	5.431328
(5 3) vs (1 1)	4.177578	.9731628	4.29	0.000	2.270214	6.084942
(6 1) vs (1 1)	2.858968	1.044527	2.74	0.006	.8117326	4.906204
(6 2) vs (1 1)	4.168334	1.099808	3.79	0.000	2.012749	6.323919
(6 3) vs (1 1)	5.571317	.9976107	5.58	0.000	3.616036	7.526598
(7 1) vs (1 1)	3.321658	.9174173	3.62	0.000	1.523553	5.119762
(7 2) vs (1 1)	5.78955	.8628339	6.71	0.000	4.098427	7.480673
(7 3) vs (1 1)	5.168257	.8939917	5.78	0.000	3.416065	6.920448
(8 1) vs (1 1)	.4882255	1.053833	0.46	0.643	-1.57725	2.5537
(8 2) vs (1 1)	3.909889	.9377504	4.17	0.000	2.071932	5.747846
(8 3) vs (1 1)	4.208705	.8931666	4.71	0.000	2.458131	5.959279
(1 3) vs (1 2)	1.275285	.4850399	2.63	0.009	.3246246	2.225946
(2 1) vs (1 2)	.3249003	.8872499	0.37	0.714	-1.414077	2.063878
(2 2) vs (1 2)	2.772	.8174786	3.39	0.001	1.169772	4.374229
(2 3) vs (1 2)	2.759893	.8501571	3.25	0.001	1.093616	4.42617
(3 1) vs (1 2)	-1.264406	.8851029	-1.43	0.153	-2.999176	.4703638
(3 2) vs (1 2)	-.3724431	.9752221	-0.38	0.703	-2.283843	1.538957
(3 3) vs (1 2)	.6164745	.9514441	0.65	0.517	-1.248322	2.481271
(4 1) vs (1 2)	-1.937575	.9151741	-2.12	0.034	-3.731283	-.1438663
(4 2) vs (1 2)	-.3211549	.8364434	-0.38	0.701	-1.960554	1.318244
(4 3) vs (1 2)	1.176558	.8900606	1.32	0.186	-.5679286	2.921045
(5 1) vs (1 2)	-1.151645	1.004416	-1.15	0.252	-3.120264	.8169731
(5 2) vs (1 2)	.7171576	.8693597	0.82	0.409	-.9867562	2.421071
(5 3) vs (1 2)	1.230298	.9498129	1.30	0.195	-.6313014	3.091897
(6 1) vs (1 2)	-.0883124	1.002314	-0.09	0.930	-2.052812	1.876187
(6 2) vs (1 2)	1.221054	1.05992	1.15	0.249	-.8563522	3.298459

(6 3) vs (1 2)	2.624037	.9580593	2.74	0.006	.746275	4.501798
(7 1) vs (1 2)	.374377	.8746973	0.43	0.669	-1.339998	2.088752
(7 2) vs (1 2)	2.84227	.8277355	3.43	0.001	1.219938	4.464601
(7 3) vs (1 2)	2.220976	.8571911	2.59	0.010	.5409126	3.90104
(8 1) vs (1 2)	-2.459055	1.013297	-2.43	0.015	-4.445081	-1.4730296
(8 2) vs (1 2)	.962608	.8977643	1.07	0.284	-.7969777	2.722194
(8 3) vs (1 2)	1.261425	.8481097	1.49	0.137	-.4008399	2.923689
(2 1) vs (1 3)	-.950385	.9230214	-1.03	0.303	-2.759474	.8587036
(2 2) vs (1 3)	1.496715	.8550696	1.75	0.080	-.1791909	3.172621
(2 3) vs (1 3)	1.484608	.8861171	1.68	0.094	-.2521501	3.221365
(3 1) vs (1 3)	-2.539691	.9121218	-2.78	0.005	-4.327417	-.7519655
(3 2) vs (1 3)	-1.647728	.9997685	-1.65	0.099	-3.607239	.3117819
(3 3) vs (1 3)	-.6588108	.9759413	-0.68	0.500	-2.571621	1.253999
(4 1) vs (1 3)	-3.21286	.9385205	-3.42	0.001	-5.052326	-1.373394
(4 2) vs (1 3)	-1.59644	.8653006	-1.84	0.065	-3.292398	.0995177
(4 3) vs (1 3)	-.0987273	.9141617	-0.11	0.914	-1.890451	1.692997
(5 1) vs (1 3)	-2.426931	1.024823	-2.37	0.018	-4.435546	-.4183151
(5 2) vs (1 3)	-.5581277	.8995528	-0.62	0.535	-2.321219	1.204963
(5 3) vs (1 3)	-.0449877	.9718476	-0.05	0.963	-1.949774	1.859799
(6 1) vs (1 3)	-1.363598	1.027921	-1.33	0.185	-3.378287	.6510911
(6 2) vs (1 3)	-.0542317	1.088218	-0.05	0.960	-2.1871	2.078636
(6 3) vs (1 3)	1.348751	.9831787	1.37	0.170	-.5782434	3.275746
(7 1) vs (1 3)	-.9009083	.910715	-0.99	0.323	-2.685877	.8840602
(7 2) vs (1 3)	1.566984	.8627537	1.82	0.069	-.123982	3.257951
(7 3) vs (1 3)	.9456909	.9001077	1.05	0.293	-.8184878	2.70987
(8 1) vs (1 3)	-3.73434	1.039827	-3.59	0.000	-5.772363	-1.696318
(8 2) vs (1 3)	-.3126773	.9248719	-0.34	0.735	-2.125393	1.500038
(8 3) vs (1 3)	-.0138608	.8882294	-0.02	0.988	-1.754758	1.727037
(2 2) vs (2 1)	2.4471	.6209878	3.94	0.000	1.229986	3.664214
(2 3) vs (2 1)	2.434993	.7360489	3.31	0.001	.9923632	3.877622
(3 1) vs (2 1)	-1.589306	.8414147	-1.89	0.059	-3.238449	.0598361
(3 2) vs (2 1)	-.6973435	.9427824	-0.74	0.460	-2.545163	1.150476
(3 3) vs (2 1)	.2915742	.9069784	0.32	0.748	-1.486071	2.069219
(4 1) vs (2 1)	-2.262475	.8986269	-2.52	0.012	-4.023751	-.5011986
(4 2) vs (2 1)	-.6460553	.823318	-0.78	0.433	-2.259729	.9676183
(4 3) vs (2 1)	.8516577	.8745487	0.97	0.330	-.8624262	2.565742
(5 1) vs (2 1)	-1.476546	.9969051	-1.48	0.139	-3.430444	.4773524
(5 2) vs (2 1)	.3922573	.8419328	0.47	0.641	-1.257901	2.042415
(5 3) vs (2 1)	.9053973	.9219389	0.98	0.326	-.9015697	2.712364
(6 1) vs (2 1)	-.4132127	.948234	-0.44	0.663	-2.271717	1.445292
(6 2) vs (2 1)	.8961533	1.060839	0.84	0.398	-1.183053	2.975359
(6 3) vs (2 1)	2.299136	.9018081	2.55	0.011	.531625	4.066648
(7 1) vs (2 1)	.0494767	.8531103	0.06	0.954	-1.622589	1.721542
(7 2) vs (2 1)	2.517369	.7951785	3.17	0.002	.958848	4.07589
(7 3) vs (2 1)	1.896076	.8350301	2.27	0.023	.2594469	3.532705
(8 1) vs (2 1)	-2.783955	.9783136	-2.85	0.004	-4.701415	-.866496
(8 2) vs (2 1)	.6377077	.8767915	0.73	0.467	-1.080772	2.356187
(8 3) vs (2 1)	.9365242	.815581	1.15	0.251	-.6619853	2.535034
(2 3) vs (2 2)	-.0121073	.4771388	-0.03	0.980	-.9472822	.9230677
(3 1) vs (2 2)	-4.036406	.7793099	-5.18	0.000	-5.563826	-2.508987
(3 2) vs (2 2)	-3.144443	.8915506	-3.53	0.000	-4.89185	-1.397036
(3 3) vs (2 2)	-2.155526	.8520197	-2.53	0.011	-3.825454	-.4855977
(4 1) vs (2 2)	-4.709575	.8263862	-5.70	0.000	-6.329262	-3.089888
(4 2) vs (2 2)	-3.093155	.7485903	-4.13	0.000	-4.560365	-1.625945
(4 3) vs (2 2)	-1.595442	.8047508	-1.98	0.047	-3.172725	-.0181595
(5 1) vs (2 2)	-3.923646	.9275681	-4.23	0.000	-5.741646	-2.105645
(5 2) vs (2 2)	-2.054843	.7654118	-2.68	0.007	-3.555022	-.554663
(5 3) vs (2 2)	-1.541703	.8529437	-1.81	0.071	-3.213441	.1300364
(6 1) vs (2 2)	-2.860313	.884635	-3.23	0.001	-4.594165	-1.12646
(6 2) vs (2 2)	-1.550947	1.007766	-1.54	0.124	-3.526132	.4242388
(6 3) vs (2 2)	-.1479635	.8378962	-0.18	0.860	-1.79021	1.494283
(7 1) vs (2 2)	-2.397623	.7731781	-3.10	0.002	-3.913024	-.882222
(7 2) vs (2 2)	.0702694	.7044235	0.10	0.921	-1.310375	1.450914
(7 3) vs (2 2)	-.551024	.7480563	-0.74	0.461	-2.017187	.9151394
(8 1) vs (2 2)	-5.231055	.9197962	-5.69	0.000	-7.033823	-3.428288
(8 2) vs (2 2)	-1.809392	.8011653	-2.26	0.024	-3.379647	-.2391369
(8 3) vs (2 2)	-1.510576	.734034	-2.06	0.040	-2.949256	-.0718954
(3 1) vs (2 3)	-4.024299	.8234885	-4.89	0.000	-5.638307	-2.410291
(3 2) vs (2 3)	-3.132336	.9289648	-3.37	0.001	-4.953074	-1.311598
(3 3) vs (2 3)	-2.143418	.8934123	-2.40	0.016	-3.894474	-.3923625
(4 1) vs (2 3)	-4.697468	.8588269	-5.47	0.000	-6.380737	-3.014198

(4 2) vs (2 3)	-3.081048	.7844173	-3.93	0.000	-4.618478	-1.543618
(4 3) vs (2 3)	-1.583335	.8408042	-1.88	0.060	-3.231281	.064611
(5 1) vs (2 3)	-3.911538	.9556732	-4.09	0.000	-5.784623	-2.038453
(5 2) vs (2 3)	-2.042735	.7995756	-2.55	0.011	-3.609875	-.475596
(5 3) vs (2 3)	-1.529595	.889148	-1.72	0.085	-3.272293	.2131028
(6 1) vs (2 3)	-2.848205	.9173733	-3.10	0.002	-4.646224	-1.050187
(6 2) vs (2 3)	-1.538839	1.035947	-1.49	0.137	-3.569258	.4915792
(6 3) vs (2 3)	-.1358562	.8695374	-0.16	0.876	-1.840118	1.568406
(7 1) vs (2 3)	-2.385516	.8132763	-2.93	0.003	-3.979508	-.7915237
(7 2) vs (2 3)	.0823766	.7471517	0.11	0.912	-1.382014	1.546767
(7 3) vs (2 3)	-.5389167	.787382	-0.68	0.494	-2.082157	1.004324
(8 1) vs (2 3)	-5.218948	.9497068	-5.50	0.000	-7.080339	-3.357557
(8 2) vs (2 3)	-1.797285	.8356524	-2.15	0.031	-3.435133	-.1594363
(8 3) vs (2 3)	-1.498468	.7722792	-1.94	0.052	-3.012108	.0151711
(3 2) vs (3 1)	.891963	.472786	1.89	0.059	-.0346806	1.818607
(3 3) vs (3 1)	1.880881	.5848876	3.22	0.001	.7345221	3.027239
(4 1) vs (3 1)	-.6731685	.9416129	-0.71	0.475	-2.518696	1.172359
(4 2) vs (3 1)	.9432512	.8456616	1.12	0.265	-.7142152	2.600717
(4 3) vs (3 1)	2.440964	.8945396	2.73	0.006	.6876987	4.19423
(5 1) vs (3 1)	.1127607	1.02458	0.11	0.912	-1.895378	2.1209
(5 2) vs (3 1)	1.981564	.8824392	2.25	0.025	.2520146	3.711113
(5 3) vs (3 1)	2.494704	.9662207	2.58	0.010	.600946	4.388462
(6 1) vs (3 1)	1.176094	.9816146	1.20	0.231	-.7478355	3.100023
(6 2) vs (3 1)	2.48546	1.070069	2.32	0.020	.388163	4.582757
(6 3) vs (3 1)	3.888443	.9407889	4.13	0.000	2.04453	5.732355
(7 1) vs (3 1)	1.638783	.8709041	1.88	0.060	-.0681575	3.345724
(7 2) vs (3 1)	4.106676	.8110472	5.06	0.000	2.517052	5.696299
(7 3) vs (3 1)	3.485382	.8523735	4.09	0.000	1.814761	5.156004
(8 1) vs (3 1)	-1.194649	1.031452	-1.16	0.247	-3.216257	.8269591
(8 2) vs (3 1)	2.227014	.9234584	2.41	0.016	.4170689	4.036959
(8 3) vs (3 1)	2.525831	.8808213	2.87	0.004	.7994527	4.252209
(3 3) vs (3 2)	.9889176	.5097405	1.94	0.052	-.0101554	1.987991
(4 1) vs (3 2)	-1.565132	1.025684	-1.53	0.127	-3.575435	.4451716
(4 2) vs (3 2)	.0512882	.9395719	0.05	0.956	-1.790239	1.892815
(4 3) vs (3 2)	1.549001	.984634	1.57	0.116	-.380846	3.478848
(5 1) vs (3 2)	-.7792023	1.104191	-0.71	0.480	-2.943377	1.384972
(5 2) vs (3 2)	1.089601	.971645	1.12	0.262	-.8147885	2.99399
(5 3) vs (3 2)	1.602741	1.051262	1.52	0.127	-.457694	3.663176
(6 1) vs (3 2)	.2841307	1.056858	0.27	0.788	-1.787273	2.355535
(6 2) vs (3 2)	1.593497	1.139469	1.40	0.162	-.6398211	3.826815
(6 3) vs (3 2)	2.99648	1.021702	2.93	0.003	.9939801	4.998979
(7 1) vs (3 2)	.7468201	.9624063	0.78	0.438	-1.139462	2.633102
(7 2) vs (3 2)	3.214713	.9133164	3.52	0.000	1.424645	5.00478
(7 3) vs (3 2)	2.593419	.950963	2.73	0.006	.729566	4.457273
(8 1) vs (3 2)	-2.086612	1.107654	-1.88	0.060	-4.257573	.0843495
(8 2) vs (3 2)	1.335051	1.01023	1.32	0.186	-.6449627	3.315065
(8 3) vs (3 2)	1.633868	.9731986	1.68	0.093	-.2735666	3.541302
(4 1) vs (3 3)	-2.554049	1.005542	-2.54	0.011	-4.524876	-.5832225
(4 2) vs (3 3)	-.9376294	.9184415	-1.02	0.307	-2.737742	.8624828
(4 3) vs (3 3)	.5600835	.9649172	0.58	0.562	-1.331119	2.451287
(5 1) vs (3 3)	-1.76812	1.09045	-1.62	0.105	-3.905364	.3691238
(5 2) vs (3 3)	.1006831	.9592247	0.10	0.916	-1.779363	1.980729
(5 3) vs (3 3)	.6138232	1.037855	0.59	0.554	-1.420335	2.647981
(6 1) vs (3 3)	-.7047869	1.03711	-0.68	0.497	-2.737486	1.327912
(6 2) vs (3 3)	.6045791	1.123605	0.54	0.591	-1.597646	2.806805
(6 3) vs (3 3)	2.007562	.9990129	2.01	0.044	.0495328	3.965592
(7 1) vs (3 3)	-.2420975	.9433142	-0.26	0.797	-2.090959	1.606764
(7 2) vs (3 3)	2.225795	.8939818	2.49	0.013	.473623	3.977967
(7 3) vs (3 3)	1.604502	.930249	1.72	0.085	-.2187529	3.427756
(8 1) vs (3 3)	-3.07553	1.093564	-2.81	0.005	-5.218876	-.9321836
(8 2) vs (3 3)	.3461335	.996509	0.35	0.728	-1.606988	2.299255
(8 3) vs (3 3)	.64495	.9547057	0.68	0.499	-1.226239	2.516139
(4 2) vs (4 1)	1.61642	.480264	3.37	0.001	.6751195	2.55772
(4 3) vs (4 1)	3.114133	.6786536	4.59	0.000	1.783996	4.444269
(5 1) vs (4 1)	.7859292	.9938671	0.79	0.429	-1.162015	2.733873
(5 2) vs (4 1)	2.654732	.8520599	3.12	0.002	.9847256	4.324739
(5 3) vs (4 1)	3.167872	.9393148	3.37	0.001	1.326849	5.008895
(6 1) vs (4 1)	1.849262	1.003108	1.84	0.065	-.1167942	3.815319
(6 2) vs (4 1)	3.158628	1.068828	2.96	0.003	1.063764	5.253493
(6 3) vs (4 1)	4.561611	.9582162	4.76	0.000	2.683542	6.439681
(7 1) vs (4 1)	2.311952	.8935639	2.59	0.010	.5605986	4.063305

(7 2) vs (4 1)	4.779844	.8426765	5.67	0.000	3.128229	6.43146
(7 3) vs (4 1)	4.158551	.8841614	4.70	0.000	2.425626	5.891475
(8 1) vs (4 1)	-.5214805	1.006928	-0.52	0.605	-2.495022	1.452062
(8 2) vs (4 1)	2.900183	.9026731	3.21	0.001	1.130976	4.669389
(8 3) vs (4 1)	3.198999	.8496629	3.77	0.000	1.53369	4.864308
(4 3) vs (4 2)	1.497713	.4526358	3.31	0.001	.6105631	2.384863
(5 1) vs (4 2)	-.8304905	.937473	-0.89	0.376	-2.667904	1.006923
(5 2) vs (4 2)	1.038313	.7804267	1.33	0.183	-.4912956	2.567921
(5 3) vs (4 2)	1.551453	.8769013	1.77	0.077	-.1672424	3.270148
(6 1) vs (4 2)	.2328425	.9330936	0.25	0.803	-1.595987	2.061672
(6 2) vs (4 2)	1.542209	1.003533	1.54	0.124	-.4246807	3.509098
(6 3) vs (4 2)	2.945192	.886974	3.32	0.001	1.206755	4.683629
(7 1) vs (4 2)	.695532	.8164868	0.85	0.394	-.9047527	2.295817
(7 2) vs (4 2)	3.163424	.7620912	4.15	0.000	1.669753	4.657096
(7 3) vs (4 2)	2.542131	.8056561	3.16	0.002	.9630743	4.121188
(8 1) vs (4 2)	-2.1379	.9402418	-2.27	0.023	-.398074	-.29506
(8 2) vs (4 2)	1.283763	.8252866	1.56	0.120	-.333769	2.901295
(8 3) vs (4 2)	1.582579	.7634253	2.07	0.038	.0862933	3.078866
(5 1) vs (4 3)	-2.328203	.9860124	-2.36	0.018	-4.260752	-.3956547
(5 2) vs (4 3)	-.4594004	.8402466	-0.55	0.585	-2.106254	1.187453
(5 3) vs (4 3)	.0537396	.9251623	0.06	0.954	-1.759545	1.867024
(6 1) vs (4 3)	-1.26487	.973599	-1.30	0.194	-3.173089	.6433485
(6 2) vs (4 3)	.0444956	1.043153	0.04	0.966	-2.000048	2.089039
(6 3) vs (4 3)	1.447479	.9302497	1.56	0.120	-.3757772	3.270734
(7 1) vs (4 3)	-.802181	.8726358	-0.92	0.358	-2.512516	.9081537
(7 2) vs (4 3)	1.665712	.8199308	2.03	0.042	.0586767	3.272746
(7 3) vs (4 3)	1.044418	.8621984	1.21	0.226	-.6454596	2.734296
(8 1) vs (4 3)	-3.635613	.9892878	-3.67	0.000	-5.574582	-1.696645
(8 2) vs (4 3)	-.21395	.8776933	-0.24	0.807	-1.934197	1.506297
(8 3) vs (4 3)	.0848665	.8194633	0.10	0.918	-1.521252	1.690985
(5 2) vs (5 1)	1.868803	.9448581	1.98	0.048	.0169151	3.720691
(5 3) vs (5 1)	2.381943	.9689348	2.46	0.014	.4828657	4.28102
(6 1) vs (5 1)	1.063333	1.104452	0.96	0.336	-1.101353	3.228019
(6 2) vs (5 1)	2.372699	1.153487	2.06	0.040	.1119067	4.633491
(6 3) vs (5 1)	3.775682	1.05524	3.58	0.000	1.707449	5.843915
(7 1) vs (5 1)	1.526022	.9684756	1.58	0.115	-.372155	3.4242
(7 2) vs (5 1)	3.993915	.9162748	4.36	0.000	2.198049	5.78978
(7 3) vs (5 1)	3.372622	.9490574	3.55	0.000	1.512503	5.23274
(8 1) vs (5 1)	-1.30741	1.089696	-1.20	0.230	-3.443174	.8283551
(8 2) vs (5 1)	2.114253	.986	2.14	0.032	.1817289	4.046778
(8 3) vs (5 1)	2.41307	.9390197	2.57	0.010	.5726252	4.253515
(5 3) vs (5 2)	.5131401	.5211311	0.98	0.325	-.5082582	1.534538
(6 1) vs (5 2)	-.80547	.9640612	-0.84	0.403	-2.694995	1.084055
(6 2) vs (5 2)	.503896	1.022157	0.49	0.622	-1.499494	2.507286
(6 3) vs (5 2)	1.906879	.9193305	2.07	0.038	.1050244	3.708734
(7 1) vs (5 2)	-.3427806	.8153246	-0.42	0.674	-1.940787	1.255226
(7 2) vs (5 2)	2.125112	.7625731	2.79	0.005	.6304961	3.619728
(7 3) vs (5 2)	1.503819	.8027168	1.87	0.061	-.0694775	3.077115
(8 1) vs (5 2)	-3.176213	.9527479	-3.33	0.001	-5.043564	-1.308861
(8 2) vs (5 2)	.2454504	.8327442	0.29	0.768	-1.386698	1.877599
(8 3) vs (5 2)	.5442669	.7714811	0.71	0.481	-.9678083	2.056342
(6 1) vs (5 3)	-1.31861	1.031827	-1.28	0.201	-3.340954	.703734
(6 2) vs (5 3)	-.009244	1.094267	-0.01	0.993	-2.153968	2.13548
(6 3) vs (5 3)	1.393739	.9909485	1.41	0.160	-.5484844	3.335962
(7 1) vs (5 3)	-.8559206	.8973222	-0.95	0.340	-2.61464	.9027985
(7 2) vs (5 3)	1.611972	.8506684	1.89	0.058	-.0553075	3.279251
(7 3) vs (5 3)	.9906786	.8879103	1.12	0.265	-.7495937	2.730951
(8 1) vs (5 3)	-3.689353	1.027882	-3.59	0.000	-5.703964	-1.674741
(8 2) vs (5 3)	-.2676896	.9134735	-0.29	0.769	-2.058065	1.522686
(8 3) vs (5 3)	.0311269	.8576997	0.04	0.971	-1.649934	1.712187
(6 2) vs (6 1)	1.309366	.9065472	1.44	0.149	-.4674338	3.086166
(6 3) vs (6 1)	2.712349	.6585735	4.12	0.000	1.421569	4.003129
(7 1) vs (6 1)	.4626894	.9764928	0.47	0.636	-1.451201	2.37658
(7 2) vs (6 1)	2.930582	.9367324	3.13	0.002	1.09462	4.766544
(7 3) vs (6 1)	2.309289	.9714716	2.38	0.017	.4052392	4.213338
(8 1) vs (6 1)	-2.370743	1.059043	-2.24	0.025	-4.446429	-.295056
(8 2) vs (6 1)	1.05092	.9735132	1.08	0.280	-.8571303	2.958971
(8 3) vs (6 1)	1.349737	.9209634	1.47	0.143	-.4553181	3.154792
(6 3) vs (6 2)	1.402983	.7741676	1.81	0.070	-.1143575	2.920324
(7 1) vs (6 2)	-.8466766	1.062358	-0.80	0.425	-2.928861	1.235507
(7 2) vs (6 2)	1.621216	1.024798	1.58	0.114	-.387352	3.629784

(7 3) vs (6 2)	.9999226	1.046952	0.96	0.340	-1.052065	3.05191
(8 1) vs (6 2)	-3.680109	1.147174	-3.21	0.001	-5.928528	-1.43169
(8 2) vs (6 2)	-.2584456	1.064863	-0.24	0.808	-2.345539	1.828648
(8 3) vs (6 2)	.0403709	1.009344	0.04	0.968	-1.937907	2.018649
(7 1) vs (6 3)	-2.24966	.9449931	-2.38	0.017	-4.101812	-.3975072
(7 2) vs (6 3)	.2182329	.8911929	0.24	0.807	-1.528473	1.964939
(7 3) vs (6 3)	-.4030605	.9293968	-0.43	0.665	-2.224645	1.418524
(8 1) vs (6 3)	-5.083092	1.031005	-4.93	0.000	-7.103825	-3.062359
(8 2) vs (6 3)	-1.661429	.930212	-1.79	0.074	-3.484611	.1617533
(8 3) vs (6 3)	-1.362612	.8807569	-1.55	0.122	-3.088864	.3636396
(7 2) vs (7 1)	2.467893	.6645342	3.71	0.000	1.165429	3.770356
(7 3) vs (7 1)	1.846599	.834319	2.21	0.027	.211364	3.481834
(8 1) vs (7 1)	-2.833432	.9949162	-2.85	0.004	-4.783432	-.8834323
(8 2) vs (7 1)	.588231	.8938765	0.66	0.510	-1.163735	2.340197
(8 3) vs (7 1)	.8870475	.8313474	1.07	0.286	-.7423634	2.516458
(7 3) vs (7 2)	-.6212933	.5522054	-1.13	0.261	-1.703596	.4610095
(8 1) vs (7 2)	-5.301325	.9590221	-5.53	0.000	-7.180973	-3.421676
(8 2) vs (7 2)	-1.879662	.8323325	-2.26	0.024	-3.511003	-.2483198
(8 3) vs (7 2)	-1.580845	.7658107	-2.06	0.039	-3.081806	-.0798837
(8 1) vs (7 3)	-4.680031	.991465	-4.72	0.000	-6.623267	-2.736796
(8 2) vs (7 3)	-1.258368	.8704149	-1.45	0.148	-2.96435	.4476137
(8 3) vs (7 3)	-.9595517	.8052313	-1.19	0.233	-2.537776	.6186726
(8 2) vs (8 1)	3.421663	.5603166	6.11	0.000	2.323463	4.519863
(8 3) vs (8 1)	3.72048	.6881159	5.41	0.000	2.371797	5.069162
(8 3) vs (8 2)	.2988165	.4873082	0.61	0.540	-.6562901	1.253923

```
. margins rb2.time,contrast(effects) at(pltorder=(1 2 3 4 5 6 7 8))
```

Contrasts of predictive margins
Model VCE : Robust

Expression : Linear prediction, fixed portion, predict()

```
1._at      : pltorder      =      1
2._at      : pltorder      =      2
3._at      : pltorder      =      3
4._at      : pltorder      =      4
5._at      : pltorder      =      5
6._at      : pltorder      =      6
7._at      : pltorder      =      7
8._at      : pltorder      =      8
```

	df	chi2	P>chi2

time@_at			
(1 vs 2) 1	1	14.38	0.0001
(1 vs 2) 2	1	15.53	0.0001
(1 vs 2) 3	1	3.56	0.0592
(1 vs 2) 4	1	11.33	0.0008
(1 vs 2) 5	1	3.91	0.0479
(1 vs 2) 6	1	2.09	0.1486
(1 vs 2) 7	1	13.79	0.0002
(1 vs 2) 8	1	37.29	0.0000
(3 vs 2) 1	1	6.91	0.0086
(3 vs 2) 2	1	0.00	0.9798
(3 vs 2) 3	1	3.76	0.0524

(3 vs 2) 4	1	10.95	0.0009
(3 vs 2) 5	1	0.97	0.3248
(3 vs 2) 6	1	3.28	0.0699
(3 vs 2) 7	1	1.27	0.2605
(3 vs 2) 8	1	0.38	0.5397
Joint	16	150.26	0.0000

	Delta-method				[95% Conf. Interval]	
	Contrast	Std. Err.	z	P> z		
time@_at						
(1 vs 2) 1	-2.947281	.7771567	-3.79	0.000	-4.47048	-1.424081
(1 vs 2) 2	-2.4471	.6209878	-3.94	0.000	-3.664214	-1.229986
(1 vs 2) 3	-.891963	.472786	-1.89	0.059	-1.818607	.0346806
(1 vs 2) 4	-1.61642	.480264	-3.37	0.001	-2.55772	-.6751195
(1 vs 2) 5	-1.868803	.9448581	-1.98	0.048	-3.720691	-.0169151
(1 vs 2) 6	-1.309366	.9065472	-1.44	0.149	-3.086166	.4674338
(1 vs 2) 7	-2.467893	.6645342	-3.71	0.000	-3.770356	-1.165429
(1 vs 2) 8	-3.421663	.5603166	-6.11	0.000	-4.519863	-2.323463
(3 vs 2) 1	1.275285	.4850399	2.63	0.009	.3246246	2.225946
(3 vs 2) 2	-.0121073	.4771388	-0.03	0.980	-.9472822	.9230677
(3 vs 2) 3	.9889176	.5097405	1.94	0.052	-.0101554	1.987991
(3 vs 2) 4	1.497713	.4526358	3.31	0.001	.6105631	2.384863
(3 vs 2) 5	.5131401	.5211311	0.98	0.325	-.5082582	1.534538
(3 vs 2) 6	1.402983	.7741676	1.81	0.070	-.1143575	2.920324
(3 vs 2) 7	-.6212933	.5522054	-1.13	0.261	-1.703596	.4610095
(3 vs 2) 8	.2988165	.4873082	0.61	0.540	-.6562901	1.253923

```
. margins rbl.time,contrast(effects nowald) at(pltorder=(1 2 3 4 5 6 7 8))
```

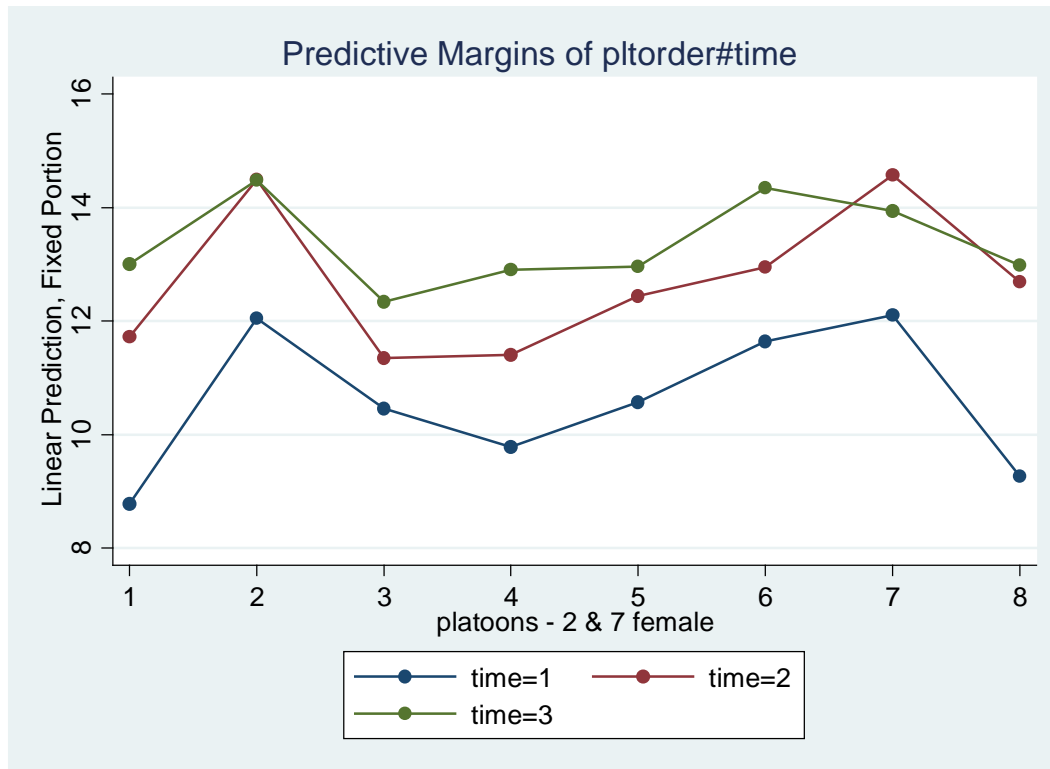
Contrasts of predictive margins

Model VCE : Robust

Expression : Linear prediction, fixed portion, predict()

```
1._at      : pltorder      =          1
2._at      : pltorder      =          2
3._at      : pltorder      =          3
4._at      : pltorder      =          4
5._at      : pltorder      =          5
6._at      : pltorder      =          6
7._at      : pltorder      =          7
8._at      : pltorder      =          8
```

	Delta-method				[95% Conf. Interval]	
	Contrast	Std. Err.	z	P> z		
time@_at						
(2 vs 1) 1	2.947281	.7771567	3.79	0.000	1.424081	4.47048
(2 vs 1) 2	2.4471	.6209878	3.94	0.000	1.229986	3.664214
(2 vs 1) 3	.891963	.472786	1.89	0.059	-.0346806	1.818607
(2 vs 1) 4	1.61642	.480264	3.37	0.001	.6751195	2.55772



5. Mean Comparisons with pltf (i.e., females coded 1 and males coded 0)

```

NULL MODEL
. quietly xtreg honor,mle

. dis e(sigma_u)
2.61403

. dis e(sigma_e)
3.0232077

FULL MODEL
. quietly xtreg honor c.age i.minority i.ed i.famil i.delay i.relattend##i.time
i.sprt_yr i.extrcur_yr i.pltf##i.time,mle

. dis e(sigma_u)
2.4413708

. dis e(sigma_e)
2.6106709

. dis e(rho)
.46652637

. xtmixed honor c.age i.minority i.ed i.famil i.delay i.relattend##i.time
i.sprt_yr i.extrcur_yr i.pltf##i.
> time||id:,mle vce(robust)

Performing EM optimization:

```


id: Identity					
	sd(_cons)	2.441371	.1681527	2.133075	2.794226
	sd(Residual)	2.610671	.1213687	2.383308	2.859723

Testing the H_0 that the mean of honor does not differ at the two levels of pltf

```
. margins pltf,contrast(effects nowald)
```

Contrasts of predictive margins

Model VCE : Robust

Expression : Linear prediction, fixed portion, predict()

		Delta-method				
	Contrast	Std. Err.	z	P> z	[95% Conf. Interval]	
pltf						
(1 vs base)	1.857689	.3830875	4.85	0.000	1.106851	2.608527

```
. margins pltf
```

Predictive margins

Number of obs = 738

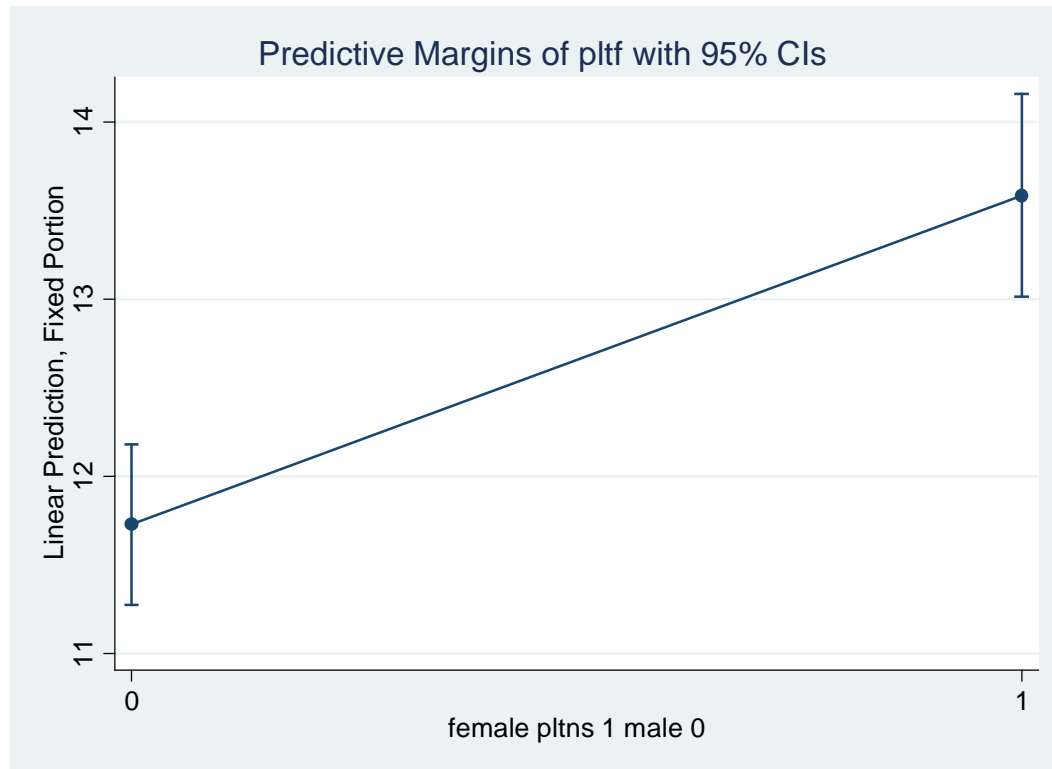
Model VCE : Robust

Expression : Linear prediction, fixed portion, predict()

		Delta-method				
	Margin	Std. Err.	z	P> z	[95% Conf. Interval]	
pltf						
0	11.72808	.2314241	50.68	0.000	11.2745	12.18166
1	13.58577	.2922757	46.48	0.000	13.01292	14.15862

```
. marginsplot
```

Variables that uniquely identify margins: pltf



Testing the H_0 's relate to the interaction pltf#time

```
. margins r.pltf#r.time,contrast(effects)
```

Contrasts of predictive margins

Model VCE : Robust

Expression : Linear prediction, fixed portion, predict()

	df	chi2	P>chi2
pltf#time			
(1 vs 0) (2 vs 1)	1	0.78	0.3783
(1 vs 0) (3 vs 1)	1	1.68	0.1954
Joint	2	9.17	0.0102

	Contrast	Delta-method Std. Err.	z	P> z	[95% Conf. Interval]
pltf#time					
(1 vs 0) (2 vs 1)	.4776494	.5421953	0.88	0.378	-.5850339 1.540333
(1 vs 0) (3 vs 1)	-.8231939	.6357192	-1.29	0.195	-2.069181 .4227928

```
. margins pltf#time,pwcompare(effects)
```

Pairwise comparisons of predictive margins

Model VCE : Robust

Expression : Linear prediction, fixed portion, predict()

	Contrast	Delta-method Std. Err.	Unadjusted z	P> z	Unadjusted [95% Conf. Interval]
pltf#time					
(0 2) vs (0 1)	1.977359	.2907341	6.80	0.000	1.407531 2.547188
(0 3) vs (0 1)	2.990587	.305227	9.80	0.000	2.392353 3.588821
(1 1) vs (0 1)	1.97287	.5187074	3.80	0.000	.9562224 2.989518
(1 2) vs (0 1)	4.427879	.4709223	9.40	0.000	3.504888 5.35087
(1 3) vs (0 1)	4.140263	.5051186	8.20	0.000	3.150249 5.130278
(0 3) vs (0 2)	1.013228	.2245764	4.51	0.000	.5730659 1.453389
(1 1) vs (0 2)	-.0044893	.5164568	-0.01	0.993	-1.016726 1.007748
(1 2) vs (0 2)	2.45052	.4714098	5.20	0.000	1.526573 3.374466
(1 3) vs (0 2)	2.162904	.5030708	4.30	0.000	1.176903 3.148904
(1 1) vs (0 3)	-1.017717	.5058893	-2.01	0.044	-2.009242 -.026192
(1 2) vs (0 3)	1.437292	.4570553	3.14	0.002	.5414801 2.333104
(1 3) vs (0 3)	1.149676	.4941836	2.33	0.020	.1810942 2.118258
(1 2) vs (1 1)	2.455009	.4545991	5.40	0.000	1.564011 3.346007
(1 3) vs (1 1)	2.167393	.5556701	3.90	0.000	1.0783 3.256487
(1 3) vs (1 2)	-.2876158	.3642628	-0.79	0.430	-1.001558 .4263261

. margins pltf#time

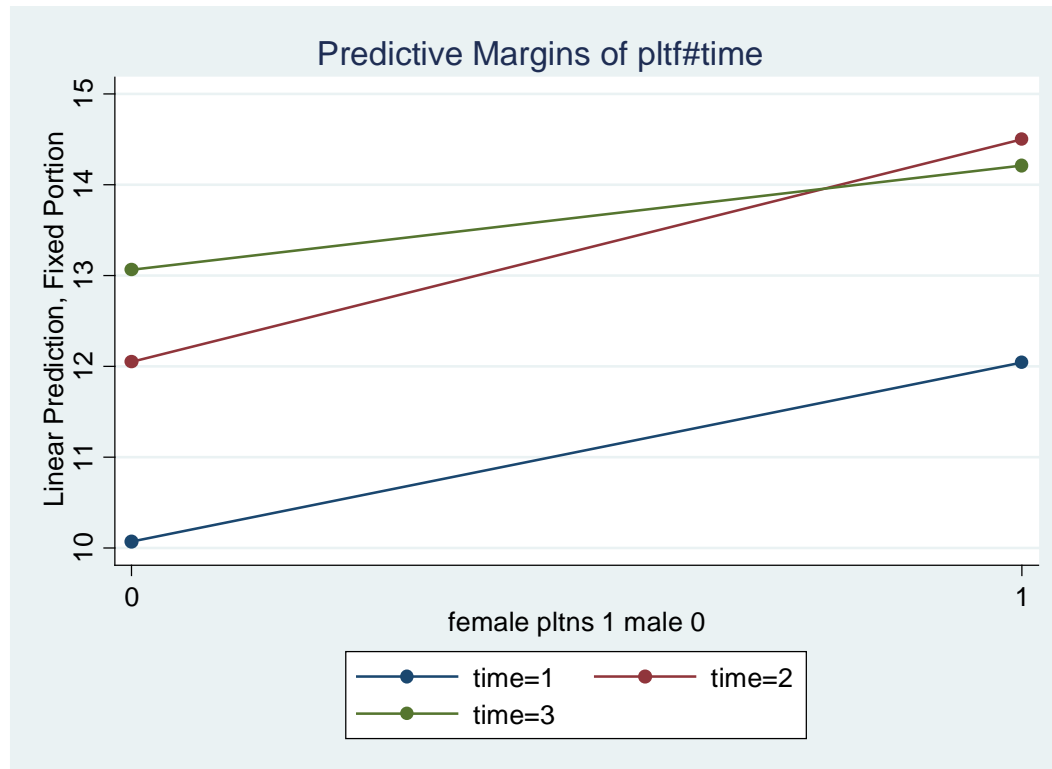
Predictive margins
Model VCE : Robust

Number of obs = 738

Expression : Linear prediction, fixed portion, predict()

	Margin	Delta-method Std. Err.	z	P> z	[95% Conf. Interval]
pltf#time					
0 1	10.0721	.2905918	34.66	0.000	9.502549 10.64165
0 2	12.04946	.2815448	42.80	0.000	11.49764 12.60128
0 3	13.06269	.2701884	48.35	0.000	12.53313 13.59225
1 1	12.04497	.4248327	28.35	0.000	11.21231 12.87763
1 2	14.49998	.35934	40.35	0.000	13.79568 15.20427
1 3	14.21236	.4033686	35.23	0.000	13.42177 15.00295

. marginsplot,noci



```
. margins r.pltf,contrast(effects nowald) at(time=(1 2 3))
```

```
Contrasts of predictive margins
Model VCE      : Robust
```

```
Expression     : Linear prediction, fixed portion, predict()
```

```
1._at          : time              =              1
2._at          : time              =              2
3._at          : time              =              3
```

	Delta-method					
	Contrast	Std. Err.	z	P> z	[95% Conf. Interval]	
pltf@_at						
(1 vs 0) 1	1.97287	.5187074	3.80	0.000	.9562224	2.989518
(1 vs 0) 2	2.45052	.4714098	5.20	0.000	1.526573	3.374466
(1 vs 0) 3	1.149676	.4941836	2.33	0.020	.1810942	2.118258

```
. margins pltf#time
```

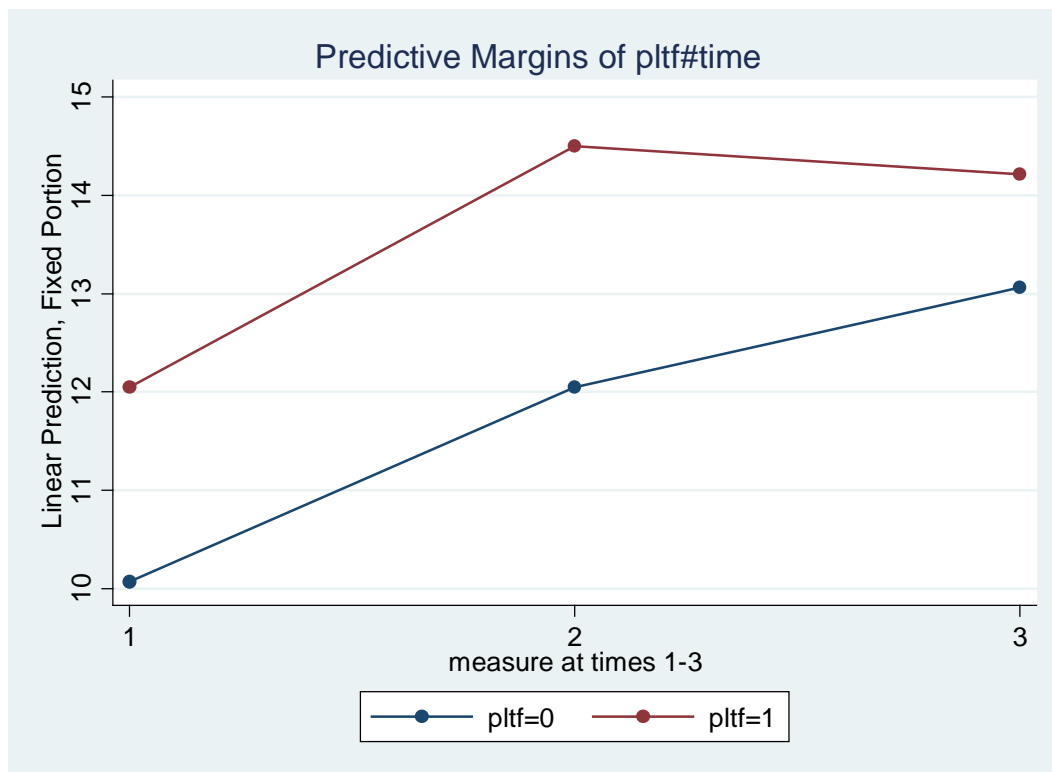
```
Predictive margins                                Number of obs   =           738
Model VCE      : Robust
```

```
Expression     : Linear prediction, fixed portion, predict()
```


		Delta-method		z	P> z	[95% Conf. Interval]	
		Margin	Std. Err.				
<hr/>							
pltf#time							
0	1	10.0721	.2905918	34.66	0.000	9.502549	10.64165
0	2	12.04946	.2815448	42.80	0.000	11.49764	12.60128
0	3	13.06269	.2701884	48.35	0.000	12.53313	13.59225
1	1	12.04497	.4248327	28.35	0.000	11.21231	12.87763
1	2	14.49998	.35934	40.35	0.000	13.79568	15.20427
1	3	14.21236	.4033686	35.23	0.000	13.42177	15.00295

```
. marginsplot, noci xdimension(time)
```

Variables that uniquely identify margins: pltf time



Courage

1. Stata Commands and output for the Courage dependent variable are below:

```
. xtmixed courage c.age i.minority i.ed i.famil i.delay i.relattend i.sprt_yr
i.extrcur_yr##time i.pltorder||id:,mle
```

Performing EM optimization:

Performing gradient-based optimization:

```
Iteration 0:   log likelihood =  -1710.039
Iteration 1:   log likelihood =  -1710.039
```

Computing standard errors:

```
Mixed-effects ML regression      Number of obs      =       738
Group variable: id              Number of groups    =       246

                                Obs per group: min =         3
                                avg =         3.0
                                max =         3

                                Wald chi2(36)      =       244.46
                                Prob > chi2        =       0.0000

Log likelihood =  -1710.039
```

courage	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
age	-.0640869	.0709211	-0.90	0.366	-.2030897	.074916
1.minority	-.4873638	.3151163	-1.55	0.122	-1.10498	.1302528
1.ed	-.4264364	.3116704	-1.37	0.171	-1.037299	.1844262
1.famil	-.1802026	.3069056	-0.59	0.557	-.7817266	.4213214
1.delay	.0852176	.3353157	0.25	0.799	-.5719891	.7424242
relattend						
1	-.0170821	.3902734	-0.04	0.965	-.7820039	.7478397
2	.481479	.3404835	1.41	0.157	-.1858564	1.148815
sprt_yr						
1	1.062777	.7323678	1.45	0.147	-.3726373	2.498191
2	.2946006	.5006322	0.59	0.556	-.6866205	1.275822
3	.5008546	.5825368	0.86	0.390	-.6408965	1.642606
4	.2361408	.4709106	0.50	0.616	-.686827	1.159109
5	1.079279	.4045568	2.67	0.008	.2863621	1.872196
extrcur_yr						
1	-.1311866	.7442141	-0.18	0.860	-1.589819	1.327446
2	.4115075	.6591403	0.62	0.532	-.8803838	1.703399
3	-1.285836	.8283005	-1.55	0.121	-2.909276	.3376027
4	.5791018	.5872241	0.99	0.324	-.5718363	1.73004
5	1.874045	.4927107	3.80	0.000	.9083499	2.83974
time						
2	1.608333	.2564717	6.27	0.000	1.105658	2.111009
3	2.458333	.2564717	9.59	0.000	1.955658	2.961009
extrcur_yr#time						
1 2	.5166667	.7477371	0.69	0.490	-.9488711	1.982204
1 3	-.6458333	.7477371	-0.86	0.388	-2.111371	.8197044
2 2	-.1321429	.6645679	-0.20	0.842	-1.434672	1.170386
2 3	.1130952	.6645679	0.17	0.865	-1.189434	1.415624
3 2	2.160897	.8203395	2.63	0.008	.5530616	3.768733
3 3	2.157051	.8203395	2.63	0.009	.5492155	3.764887
4 2	.3227011	.5813445	0.56	0.579	-.8167132	1.462116
4 3	-.0100575	.5813445	-0.02	0.986	-1.149472	1.129357
5 2	-.6508865	.4834469	-1.35	0.178	-1.598425	.296652

5 3	-1.288121	.4834469	-2.66	0.008	-2.235659	-.3405821
pltorder						
2	.5369613	.585655	0.92	0.359	-.6109015	1.684824
3	-.4981709	.5652741	-0.88	0.378	-1.606088	.609746
4	-.8852	.5521605	-1.60	0.109	-1.967415	.1970147
5	.5372637	.5833383	0.92	0.357	-.6060583	1.680586
6	.5555635	.6014307	0.92	0.356	-.623219	1.734346
7	.6076692	.5901788	1.03	0.303	-.5490599	1.764398
8	.6260786	.6005625	1.04	0.297	-.5510023	1.80316
_cons	5.664371	1.523011	3.72	0.000	2.679324	8.649417

Random-effects Parameters	Estimate	Std. Err.	[95% Conf. Interval]
id: Identity			
sd(_cons)	1.836122	.1173252	1.619986 2.081095
sd(Residual)	1.986621	.0633312	1.866293 2.114708

LR test vs. linear regression: chibar2(01) = 143.14 Prob >= chibar2 = 0.0000

```
. quietly xtmixed courage c.age i.minority i.ed i.famil i.delay i.relattend
i.sprt_yr i.extrcur_yr##time i.pltorder||id:,mle
```

```
. estimates store ri
```

```
. quietly xtmixed courage c.age i.minority i.ed i.famil i.delay i.relattend
i.sprt_yr i.extrcur_yr##time i.pltorder,mle
```

```
. lrtest ri
```

```
Likelihood-ratio test                                LR chi2(1) = 143.14
(Assumption: . nested in ri)                        Prob > chi2 = 0.0000
```

Note: The reported degrees of freedom assumes the null hypothesis is not on the boundary of the parameter space. If this is not true, then the reported test is conservative.

```
. estimates drop ri
```

```
Explore the Residuals
```

```
. quietly xtmixed courage c.age i.minority i.ed i.famil i.delay i.relattend
i.sprt_yr i.ext
> rcur_yr##time i.pltorder||id:,mle
```

```
. predict level2courage,reffects
(6 missing values generated)
```

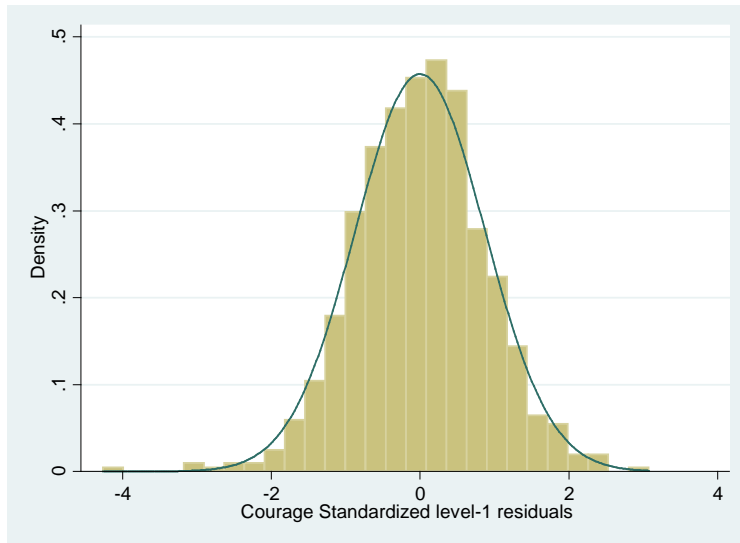
```
. predict comp_secourage,reses
(6 missing values generated)
```

```
. generate diag_secourage = sqrt(exp(2*[lnsl_1_1]_cons) - comp_secourage^2)
(6 missing values generated)
```

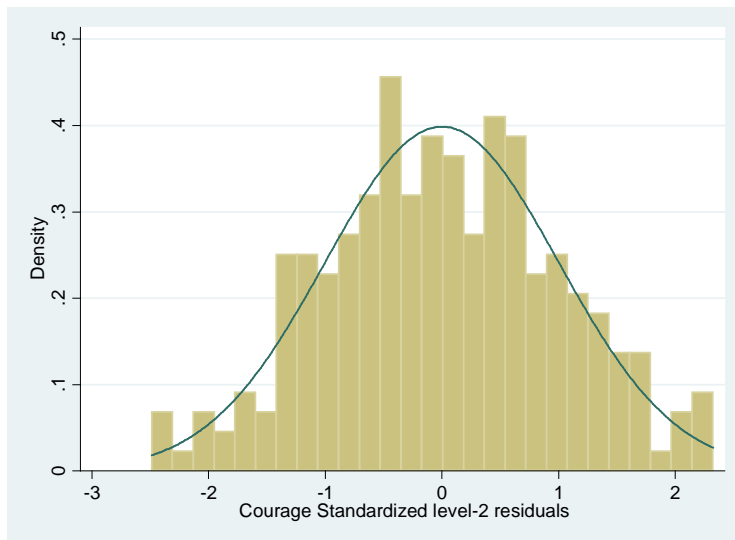
```
. replace level2courage=level2courage/diag_secourage
(738 real changes made)
```

```
. predict level1courage,rstandard
(6 missing values generated)
```

```
. hist level1courage,norm xtitle(Courage Standardized level-1 residuals)
(bin=27, start=-4.2701063, width=.27210648)
```



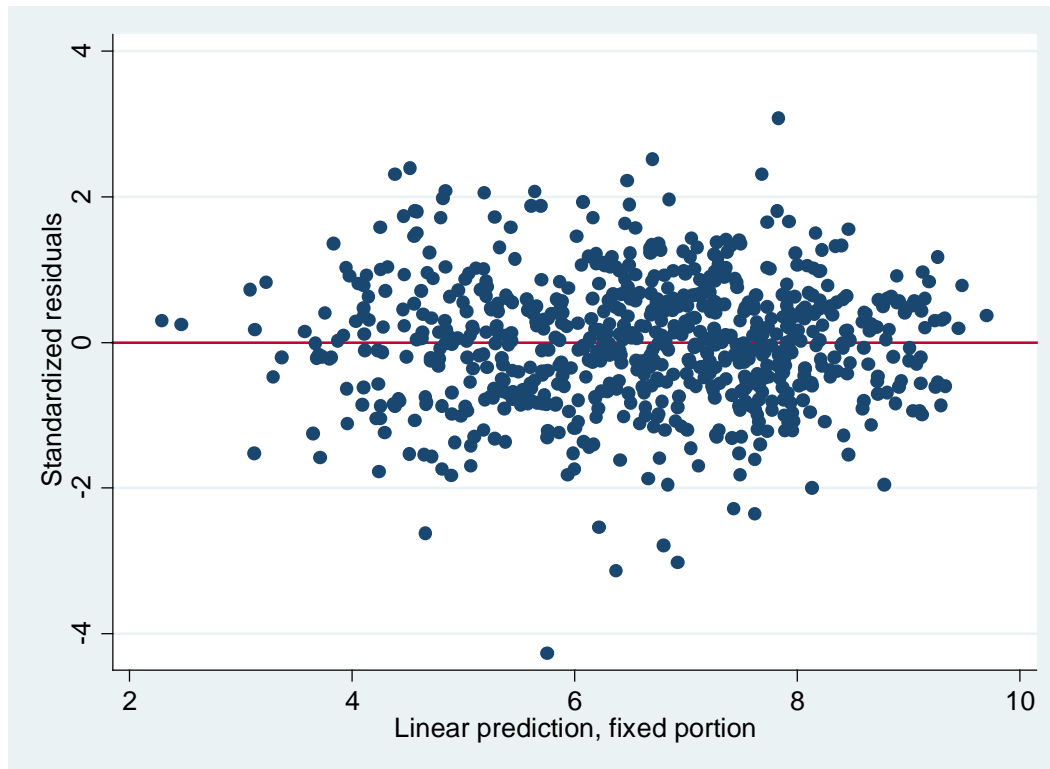
```
. hist level2courage,norm xtitle(Courage Standardized level-2 residuals)
(bin=27, start=-2.4885077, width=.17823077)
```



```
. quietly xtmixed courage c.age i.minority i.ed i.famil i.delay i.relattend
i.sprrt_yr i.extrcur_yr##time i.pltorder||id:,mle
```

```
. predict yhat1courage,xb
(6 missing values generated)
```

```
. graph twoway scatter level1courage yhat1courage,yline(0)
```



```
. quietly xtreg courage, mle

. dis e(sigma_u)
1.9402155

. dis e(sigma_e)
2.3497884

FULL MODEL
. quietly xtreg courage c.age i.minority i.ed i.famil i.delay i.relattend
i.sprrt_yr i.extrc
> ur_yr##time i.pltorder,mle

. dis e(sigma_u)
1.8361218

. dis e(sigma_e)
1.9866214

. dis e(rho)
.46069139

. xtmixed courage c.age i.minority i.ed i.famil i.delay i.relattend i.sprrt_yr
i.extrcur_yr##time i.pltorder||id:,mle vce(robust)

Performing EM optimization:

Performing gradient-based optimization:
```


Random-effects Parameters		Estimate	Robust Std. Err.	[95% Conf. Interval]	
id: Identity	sd(_cons)	1.836122	.1058684	1.639919	2.055799
	sd(Residual)	1.986621	.090631	1.816698	2.172438

Testing the H₀ that Courage does not vary at different levels of extrcur_yr

```
. margins r.extrcur_yr,contrast(effects)
```

Contrasts of predictive margins
Model VCE : Robust

Expression : Linear prediction, fixed portion, predict()

	df	chi2	P>chi2
extrcur_yr			
(1 vs 0)	1	0.12	0.7342
(2 vs 0)	1	0.63	0.4267
(3 vs 0)	1	0.07	0.7950
(4 vs 0)	1	1.55	0.2125
(5 vs 0)	1	10.59	0.0011
Joint	5	12.01	0.0347

	Delta-method					
	Contrast	Std. Err.	z	P> z	[95% Conf. Interval]	
extrcur_yr						
(1 vs 0)	-.1742422	.5131971	-0.34	0.734	-1.18009	.8316056
(2 vs 0)	.4051583	.5096969	0.79	0.427	-.5938293	1.404146
(3 vs 0)	.1534798	.5905834	0.26	0.795	-1.004042	1.311002
(4 vs 0)	.6833163	.548135	1.25	0.213	-.3910085	1.757641
(5 vs 0)	1.227709	.3773221	3.25	0.001	.4881717	1.967247

```
. margins extrcur_yr,pwcompare(effects)
```

Pairwise comparisons of predictive margins
Model VCE : Robust

Expression : Linear prediction, fixed portion, predict()

	Delta-method		Unadjusted		Unadjusted	
	Contrast	Std. Err.	z	P> z	[95% Conf. Interval]	
extrcur_yr						
1 vs 0	-.1742422	.5131971	-0.34	0.734	-1.18009	.8316056
2 vs 0	.4051583	.5096969	0.79	0.427	-.5938293	1.404146
3 vs 0	.1534798	.5905834	0.26	0.795	-1.004042	1.311002
4 vs 0	.6833163	.548135	1.25	0.213	-.3910085	1.757641

5 vs 0	1.227709	.3773221	3.25	0.001	.4881717	1.967247
2 vs 1	.5794005	.6643113	0.87	0.383	-.7226257	1.881427
3 vs 1	.3277219	.7226308	0.45	0.650	-1.088608	1.744052
4 vs 1	.8575585	.6638081	1.29	0.196	-.4434814	2.158598
5 vs 1	1.401952	.5705262	2.46	0.014	.2837408	2.520162
3 vs 2	-.2516786	.735866	-0.34	0.732	-1.693949	1.190592
4 vs 2	.278158	.662175	0.42	0.674	-1.019681	1.575997
5 vs 2	.8225511	.5553718	1.48	0.139	-.2659577	1.91106
4 vs 3	.5298366	.7156583	0.74	0.459	-.872828	1.932501
5 vs 3	1.07423	.6187583	1.74	0.083	-.1385142	2.286974
5 vs 4	.5443931	.549264	0.99	0.322	-.5321445	1.620931

```
-----
. margins extrcur_yr
```

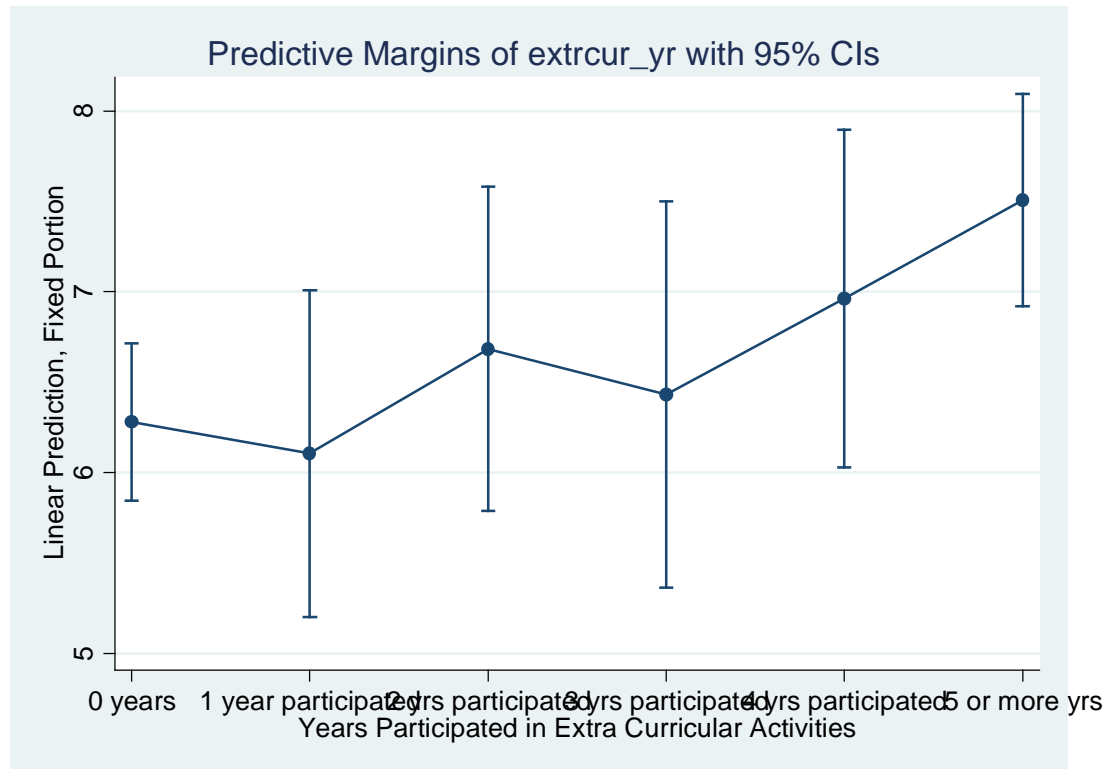
```
Predictive margins                                Number of obs    =          738
Model VCE      : Robust
```

```
Expression     : Linear prediction, fixed portion, predict()
```

	Delta-method					
	Margin	Std. Err.	z	P> z	[95% Conf. Interval]	
extrcur_yr						
0	6.279536	.2215452	28.34	0.000	5.845315	6.713756
1	6.105294	.461605	13.23	0.000	5.200564	7.010023
2	6.684694	.4577711	14.60	0.000	5.787479	7.581909
3	6.433016	.5445959	11.81	0.000	5.365627	7.500404
4	6.962852	.4765375	14.61	0.000	6.028856	7.896848
5	7.507245	.2992899	25.08	0.000	6.920648	8.093843

```
-----
. marginsplot
```

```
Variables that uniquely identify margins: extrcur_yr
```

```
. tab extrcur_yr
```

Years Participated in Extra Curricular Activities	Freq.	Percent	Cum.
0 years	363	48.79	48.79
1 year participated	48	6.45	55.24
2 yrs participated	63	8.47	63.71
3 yrs participated	42	5.65	69.35
4 yrs participated	87	11.69	81.05
5 or more yrs	141	18.95	100.00
Total	744	100.00	

Testing the H_0 that Courage does not vary at different levels of treatment (time)

```
. margins r.time, contrast(effects)
```

Contrasts of predictive margins
Model VCE : Robust

Expression : Linear prediction, fixed portion, predict()

	df	chi2	P>chi2
time			
(2 vs 1)	1	75.37	0.0000
(3 vs 1)	1	138.93	0.0000
Joint	2	139.30	0.0000

```
-----
```

		Delta-method		z	P> z	[95% Conf. Interval]	
	Contrast	Std. Err.					
time							
(2 vs 1)	1.658537	.1910415	8.68	0.000	1.284102	2.032971	
(3 vs 1)	2.292683	.1945098	11.79	0.000	1.911451	2.673915	

```
-----
```

```
. margins time, pwcompare(effects)
```

Pairwise comparisons of predictive margins

Model VCE : Robust

Expression : Linear prediction, fixed portion, predict()

```
-----
```

		Delta-method		Unadjusted		Unadjusted	
	Contrast	Std. Err.		z	P> z	[95% Conf. Interval]	
time							
2 vs 1	1.658537	.1910415	8.68	0.000	1.284102	2.032971	
3 vs 1	2.292683	.1945098	11.79	0.000	1.911451	2.673915	
3 vs 2	.6341463	.1494058	4.24	0.000	.3413163	.9269764	

```
-----
```

```
. margins time
```

Predictive margins
Model VCE : Robust

Number of obs = 738

Expression : Linear prediction, fixed portion, predict()

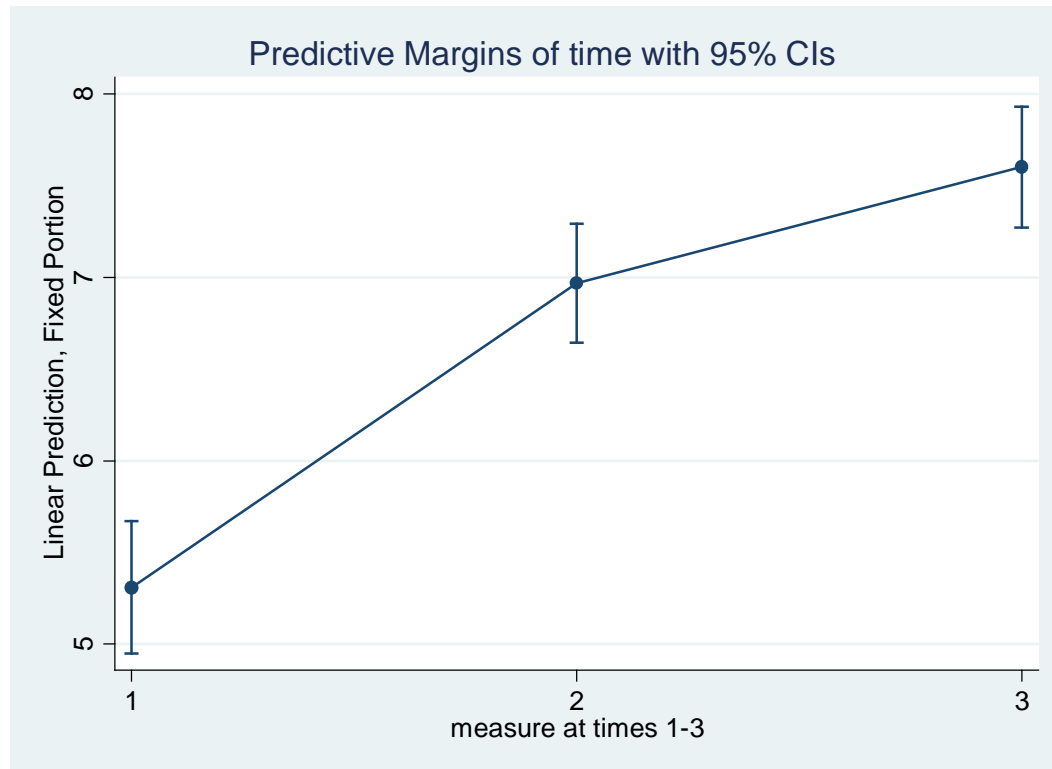
```
-----
```

		Delta-method		z	P> z	[95% Conf. Interval]	
	Margin	Std. Err.					
time							
1	5.308943	.1837531	28.89	0.000	4.948794	5.669093	
2	6.96748	.165593	42.08	0.000	6.642923	7.292036	
3	7.601626	.1685883	45.09	0.000	7.271199	7.932053	

```
-----
```

```
. marginsplot
```

Variables that uniquely identify margins: time



Testing the H_0 that Courage does not vary at different levels of pltorder

```
. margins r.pltorder,contrast(effects)
```

```
Contrasts of predictive margins
Model VCE      : Robust
```

```
Expression     : Linear prediction, fixed portion, predict()
```

	df	chi2	P>chi2
pltorder			
(2 vs 1)	1	0.86	0.3528
(3 vs 1)	1	0.61	0.4354
(4 vs 1)	1	2.43	0.1192
(5 vs 1)	1	0.93	0.3355
(6 vs 1)	1	0.94	0.3319
(7 vs 1)	1	1.03	0.3102
(8 vs 1)	1	1.00	0.3170
Joint	7	16.75	0.0191

	Contrast	Delta-method Std. Err.	z	P> z	[95% Conf. Interval]
pltorder					
(2 vs 1)	.5369613	.5779041	0.93	0.353	-.59571 1.669633
(3 vs 1)	-.4981709	.6386347	-0.78	0.435	-1.749872 .7535302
(4 vs 1)	-.8852	.5681686	-1.56	0.119	-1.99879 .22839
(5 vs 1)	.5372637	.557866	0.96	0.336	-.5561335 1.630661
(6 vs 1)	.5555635	.5725149	0.97	0.332	-.5665451 1.677672

(7 vs 1)		.6076692	.5987592	1.01	0.310	-.5658772	1.781216
(8 vs 1)		.6260786	.6257113	1.00	0.317	-.6002929	1.85245

```
. margins pltorder,pwcompare(effects)
```

Pairwise comparisons of predictive margins
Model VCE : Robust

Expression : Linear prediction, fixed portion, predict()

		Delta-method		Unadjusted		Unadjusted	
		Contrast	Std. Err.	z	P> z	[95% Conf. Interval]	
pltorder							
2 vs 1		.5369613	.5779041	0.93	0.353	-.59571	1.669633
3 vs 1		-.4981709	.6386347	-0.78	0.435	-1.749872	.7535302
4 vs 1		-.8852	.5681686	-1.56	0.119	-1.99879	.22839
5 vs 1		.5372637	.557866	0.96	0.336	-.5561335	1.630661
6 vs 1		.5555635	.5725149	0.97	0.332	-.5665451	1.677672
7 vs 1		.6076692	.5987592	1.01	0.310	-.5658772	1.781216
8 vs 1		.6260786	.6257113	1.00	0.317	-.6002929	1.85245
3 vs 2		-1.035132	.6184086	-1.67	0.094	-2.247191	.1769264
4 vs 2		-1.422161	.532836	-2.67	0.008	-2.466501	-.377822
5 vs 2		.0003024	.5256589	0.00	1.000	-1.02997	1.030575
6 vs 2		.0186022	.5387009	0.03	0.972	-1.037232	1.074437
7 vs 2		.0707079	.5707117	0.12	0.901	-1.047867	1.189282
8 vs 2		.0891174	.599161	0.15	0.882	-1.085217	1.263451
4 vs 3		-.3870292	.6112097	-0.63	0.527	-1.584978	.8109199
5 vs 3		1.035435	.63271	1.64	0.102	-.2046542	2.275523
6 vs 3		1.053734	.6051277	1.74	0.082	-.1322942	2.239763
7 vs 3		1.10584	.652955	1.69	0.090	-.1739283	2.385608
8 vs 3		1.12425	.6801244	1.65	0.098	-.2087699	2.457269
5 vs 4		1.422464	.4913524	2.89	0.004	.4594307	2.385497
6 vs 4		1.440764	.4936797	2.92	0.004	.4731691	2.408358
7 vs 4		1.492869	.5573681	2.68	0.007	.4004479	2.585291
8 vs 4		1.511279	.5467614	2.76	0.006	.4396459	2.582911
6 vs 5		.0182998	.4989886	0.04	0.971	-.9596999	.9962996
7 vs 5		.0704056	.553136	0.13	0.899	-1.013721	1.154532
8 vs 5		.088815	.5502237	0.16	0.872	-.9896037	1.167234
7 vs 6		.0521057	.5742	0.09	0.928	-1.073306	1.177517
8 vs 6		.0705151	.5602943	0.13	0.900	-1.027642	1.168672
8 vs 7		.0184094	.6239073	0.03	0.976	-1.204426	1.241245

```
. margins pltorder
```

Predictive margins
Model VCE : Robust

Number of obs = 738

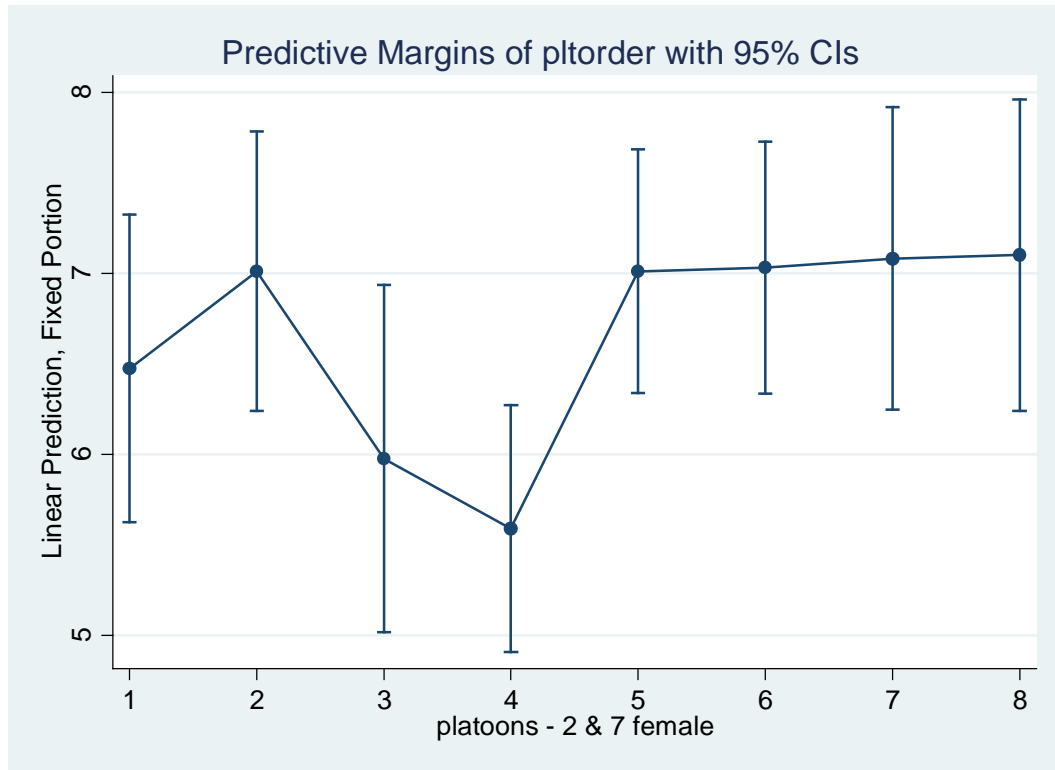
Expression : Linear prediction, fixed portion, predict()

		Delta-method				[95% Conf. Interval]	
		Margin	Std. Err.	z	P> z		
pltorder							
1		6.475181	.4339468	14.92	0.000	5.624661	7.325701
2		7.012142	.3936785	17.81	0.000	6.240547	7.783738
3		5.97701	.4898329	12.20	0.000	5.016955	6.937065
4		5.589981	.3479264	16.07	0.000	4.908058	6.271904

5		7.012445	.3441442	20.38	0.000	6.337934	7.686955
6		7.030744	.3553292	19.79	0.000	6.334312	7.727177
7		7.08285	.4271461	16.58	0.000	6.245659	7.920041
8		7.10126	.4385912	16.19	0.000	6.241637	7.960883

```
. marginsplot
```

```
Variables that uniquely identify margins: pltorder
```



Testing the H_0 's related to the significant interaction `extrcur#time`

```
. margins extrcur_yr if extrcur_yr==0 | extrcur_yr==5, pwcompare(effects) at(time=(1 2 3))
> mcompare(scheffe)
```

```
Pairwise comparisons of predictive margins
Model VCE      : Robust
```

```
Expression    : Linear prediction, fixed portion, predict()
```

```
1._at         : time           =           1
2._at         : time           =           2
3._at         : time           =           3
```

```
-----+-----
          |      Number of
          |      Comparisons
-----+-----
_at#extrcur_yr |           15
-----+-----
```

```
-----+-----
          |      Delta-method      Scheffe      Scheffe
-----+-----
```

	Contrast	Std. Err.	z	P> z	[95% Conf. Interval]	

_at#extrcur_yr						
(1 5) vs (1 0)	1.874045	.4837366	3.87	0.010	.2645395	3.483551
(2 0) vs (1 0)	1.608333	.275762	5.83	0.000	.6908083	2.525858
(2 5) vs (1 0)	2.831492	.4626444	6.12	0.000	1.292165	4.370819
(3 0) vs (1 0)	2.458333	.2759136	8.91	0.000	1.540304	3.376363
(3 5) vs (1 0)	3.044258	.4634475	6.57	0.000	1.502259	4.586257
(2 0) vs (1 5)	-.2657118	.4856362	-0.55	0.998	-1.881538	1.350114
(2 5) vs (1 5)	.9574468	.4022164	2.38	0.340	-.3808219	2.295715
(3 0) vs (1 5)	.5842882	.4821256	1.21	0.917	-1.019857	2.188434
(3 5) vs (1 5)	1.170213	.4595621	2.55	0.262	-.3588585	2.699284
(2 5) vs (2 0)	1.223159	.4646303	2.63	0.226	-.3227758	2.769093
(3 0) vs (2 0)	.85	.2157068	3.94	0.008	.1322926	1.567707
(3 5) vs (2 0)	1.435925	.4654299	3.09	0.090	-.1126705	2.98452
(3 0) vs (2 5)	-.3731586	.4609597	-0.81	0.985	-1.90688	1.160563
(3 5) vs (2 5)	.212766	.3691942	0.58	0.997	-1.01563	1.441162
(3 5) vs (3 0)	.5859246	.4617657	1.27	0.900	-.9504789	2.122328

```
. margins extrcur_yr if extrcur_yr==0 | extrcur_yr==5, at(time=(1 2 3))
```

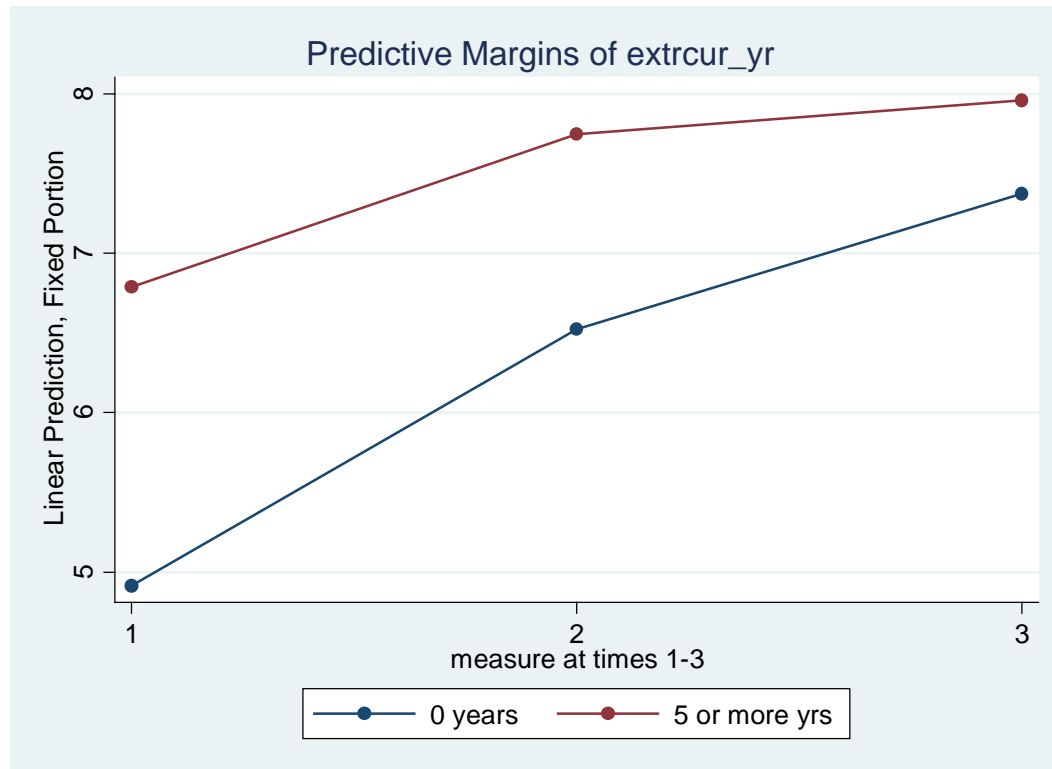
```
Predictive margins                                Number of obs    =        501
Model VCE      : Robust
```

```
Expression    : Linear prediction, fixed portion, predict()
```

```
1._at        : time                =                1
2._at        : time                =                2
3._at        : time                =                3
```

		Delta-method				
		Margin	Std. Err.	z	P> z	[95% Conf. Interval]

_at#extrcur_yr						
1 0		4.915688	.261519	18.80	0.000	4.40312 5.428256
1 5		6.789733	.3961573	17.14	0.000	6.013279 7.566187
2 0		6.524021	.2598809	25.10	0.000	6.014664 7.033378
2 5		7.74718	.3719523	20.83	0.000	7.018167 8.476193
3 0		7.374021	.2604707	28.31	0.000	6.863508 7.884535
3 5		7.959946	.3746467	21.25	0.000	7.225652 8.69424



Critical Thinking

1. Stata Commands and output for the Critical Thinking dependent variable are below:

```
. xtmixed think c.age i.minority i.famil i.delay i.relattend##i.ed i.sprrt_yr  
i.extrcur_yr i.pltorder i.time||id:,mle
```

Performing EM optimization:

Performing gradient-based optimization:

Iteration 0: log likelihood = -1682.5174

Iteration 1: log likelihood = -1682.5174

Computing standard errors:

Mixed-effects ML regression
Group variable: id

Number of obs	=	738
Number of groups	=	246
Obs per group: min	=	3
avg	=	3.0
max	=	3

Log likelihood = -1682.5174

Wald chi2(28)	=	57.55
Prob > chi2	=	0.0008

think	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
age	-.0320687	.0716281	-0.45	0.654	-.1724571	.1083198
1.minority	-.3411949	.3184171	-1.07	0.284	-.965281	.2828911
1.famil	-.2399583	.3107698	-0.77	0.440	-.849056	.3691393
1.delay	.0877424	.3397735	0.26	0.796	-.5782014	.7536862
relattend						
1	.0781324	.4979813	0.16	0.875	-.8978929	1.054158
2	-1.390866	.4785949	-2.91	0.004	-2.328894	-.452837
1.ed	1.025495	.5132593	2.00	0.046	.0195254	2.031465
relattend#ed						
1 1	-1.518851	.8058452	-1.88	0.059	-3.098279	.0605762
2 1	.2347401	.6821525	0.34	0.731	-1.102254	1.571734
sprt_yr						
1	.3889303	.7404402	0.53	0.599	-1.062306	1.840166
2	-1.01427	.5056676	-2.01	0.045	-2.00536	-.0231798
3	-.020257	.5880518	-0.03	0.973	-1.172817	1.132303
4	-.4526913	.475673	-0.95	0.341	-1.384993	.4796106
5	-.3184183	.4090012	-0.78	0.436	-1.120046	.4832093
extrcur_yr						
1	.5401312	.6127888	0.88	0.378	-.6609128	1.741175
2	.3634958	.5504849	0.66	0.509	-.7154347	1.442426
3	.2073873	.6868989	0.30	0.763	-1.13891	1.553684
4	-.0062276	.4860395	-0.01	0.990	-.9588474	.9463923
5	.4471941	.412468	1.08	0.278	-.3612284	1.255616
pltorder						
2	.2227835	.5906974	0.38	0.706	-.9349622	1.380529
3	-.4147629	.5749429	-0.72	0.471	-1.54163	.7121044
4	-.1002481	.5568891	-0.18	0.857	-1.191731	.9912344
5	.2138805	.5931839	0.36	0.718	-.9487386	1.3765
6	.6344759	.606677	1.05	0.296	-.5545892	1.823541
7	-.3918297	.5960441	-0.66	0.511	-1.560055	.7763953
8	.3240581	.6067547	0.53	0.593	-.8651593	1.513276
time						
2	.2195122	.1686694	1.30	0.193	-.1110738	.5500982
3	.6341463	.1686694	3.76	0.000	.3035604	.9647323
_cons	2.376553	1.545107	1.54	0.124	-.6518004	5.404907

Random-effects Parameters	Estimate	Std. Err.	[95% Conf. Interval]	
id: Identity				
sd(_cons)	1.897433	.1149404	1.685014	2.136631
sd(Residual)	1.870634	.0596336	1.757331	1.991243

LR test vs. linear regression: chibar2(01) = 175.82 Prob >= chibar2 = 0.0000

```
. quietly xtmixed think c.age i.minority i.famil i.delay i.relattend##i.ed
i.sprt_yr i.extrcur_yr i.pltorder i.time||id:,mle

. estimates store ri
```



```

. quietly xtmixed think c.age i.minority i.famil i.delay i.relattend##i.ed
i.sprt_yr i.extrcur_yr i.pltorder i.time,mle

. lrtest ri

Likelihood-ratio test                                LR chi2(1)  =    175.82
(Assumption: . nested in ri)                        Prob > chi2 =    0.0000

. estimates drop ri

Explore the Residuals
. quietly xtmixed think c.age i.minority i.famil i.delay i.relattend##i.ed
i.sprt_yr i.extrcur_yr i.pltorder i.time||id:,mle

. predict level2think, reffects
(6 missing values generated)

. predict comp_sethink, reses
(6 missing values generated)

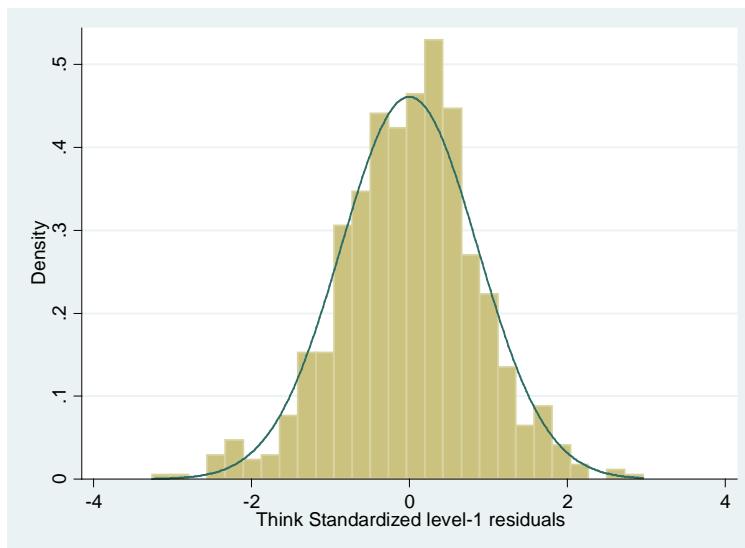
. generate diag_sethink = sqrt(exp(2*[lns1_1_1]_cons) - comp_sethink^2)
(6 missing values generated)

. replace level2think=level2think/diag_sethink
(738 real changes made)

. predict level1think,rstandard
(6 missing values generated)

. hist level1think,norm xtitle(Think Standardized level-1 residuals)
(bin=27, start=-3.2566171, width=.23034664)

```

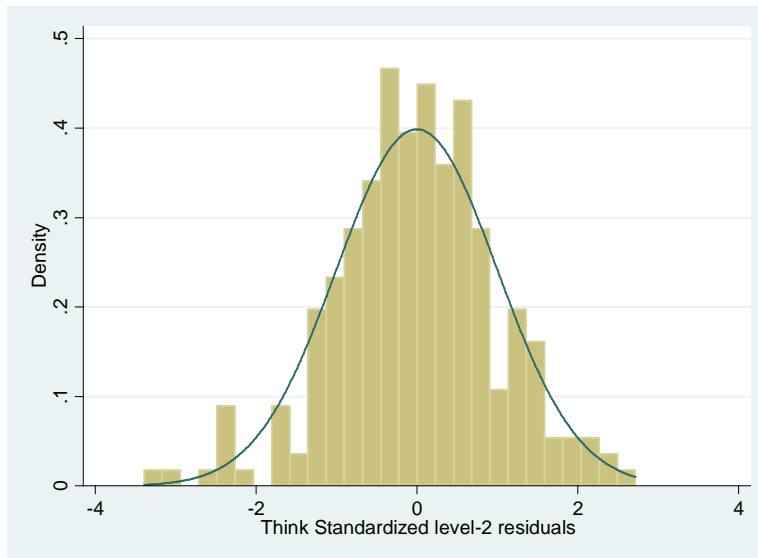


```

. hist level2think,norm xtitle(Think Standardized level-2 residuals)

```

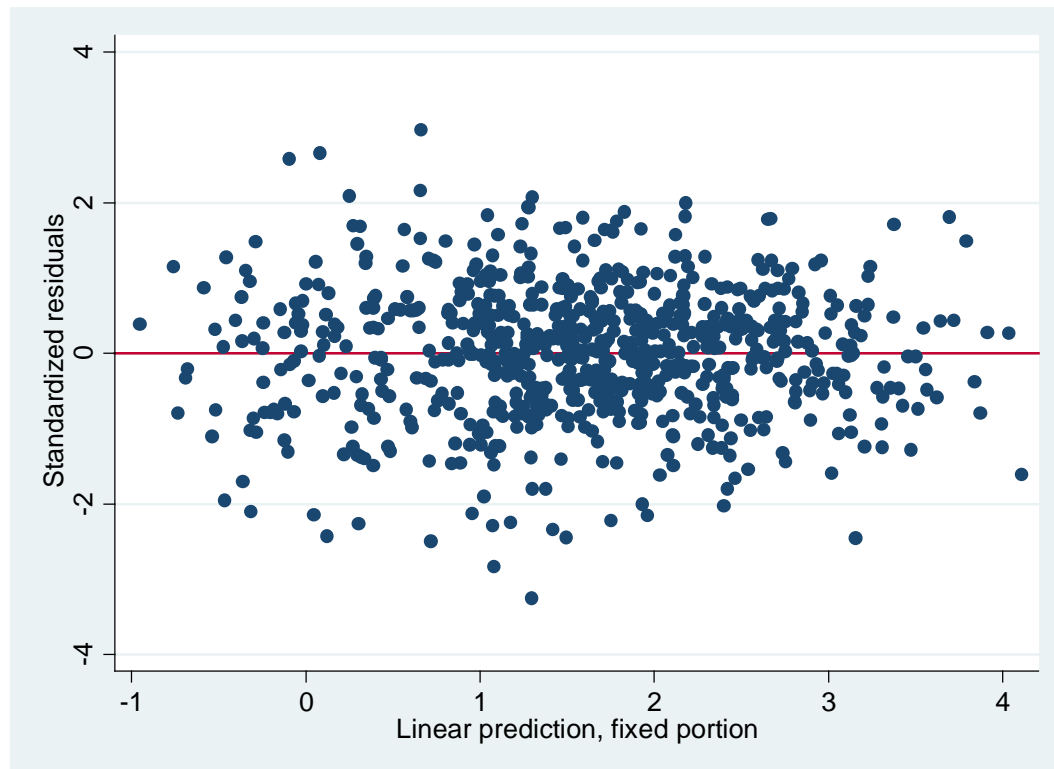
```
(bin=27, start=-3.3915067, width=.22644626)
```



```
. quietly xtmixed think c.age i.minority i.famil i.delay i.relattend##i.ed
i.sprt_yr i.extr
> cur_yr i.pltorder i.time||id:,mle

. predict yhatlthink,xb
(6 missing values generated)

. graph twoway scatter level1think yhatlthink,ylines(0)
```



Calculate Rho and the coefficient of determination

```

NULL MODEL
. quietly xtreg think,mle

. dis e(sigma_u)
2.0899271

. dis e(sigma_e)
1.8933244

FULL MODEL
. quietly xtreg think c.age i.minority i.famil i.delay i.relattend##i.ed
i.sprrt_yr i.extrcur_yr i.pltorder i.time,mle

. dis e(sigma_u)
1.8974329

. dis e(sigma_e)
1.8706344

. dis e(rho)
.50711165

. xtmixed think c.age i.minority i.famil i.delay i.relattend##i.ed i.sprrt_yr
i.extrcur_yr i.pltorder i.time||id:,mle vce(robust)

Performing EM optimization:

Performing gradient-based optimization:

Iteration 0:   log pseudolikelihood = -1682.5174
Iteration 1:   log pseudolikelihood = -1682.5174

Computing standard errors:

Mixed-effects regression                    Number of obs      =       738
Group variable: id                        Number of groups   =       246

                                         Obs per group: min =         3
                                              avg =       3.0
                                              max =         3

                                         Wald chi2(28)      =       59.43
Log pseudolikelihood = -1682.5174         Prob > chi2        =       0.0005

```

(Std. Err. adjusted for 246 clusters in id)

think	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
age	-.0320687	.0682225	-0.47	0.638	-.1657824	.101645
1.minority	-.3411949	.3338914	-1.02	0.307	-.9956101	.3132202
1.famil	-.2399583	.3051447	-0.79	0.432	-.8380311	.3581144
1.delay	.0877424	.3466719	0.25	0.800	-.5917221	.7672069
relattend						
1	.0781324	.4724895	0.17	0.869	-.84793	1.004195
2	-1.390866	.4676463	-2.97	0.003	-2.307436	-.4742959
1.ed	1.025495	.4564666	2.25	0.025	.1308371	1.920153

relattend#ed						
1 1	-1.518851	.732387	-2.07	0.038	-2.954304	-.0833992
2 1	.2347401	.6772177	0.35	0.729	-1.092582	1.562062
sprt_yr						
1	.3889303	.6341848	0.61	0.540	-.854049	1.63191
2	-1.01427	.5058764	-2.00	0.045	-2.00577	-.0227705
3	-.020257	.6294803	-0.03	0.974	-1.254016	1.213502
4	-.4526913	.4175726	-1.08	0.278	-1.271119	.365736
5	-.3184183	.3992369	-0.80	0.425	-1.100908	.4640715
extrcur_yr						
1	.5401312	.6196661	0.87	0.383	-.6743919	1.754654
2	.3634958	.5098144	0.71	0.476	-.6357221	1.362714
3	.2073873	.6676855	0.31	0.756	-1.101252	1.516027
4	-.0062276	.4839141	-0.01	0.990	-.9546819	.9422267
5	.4471941	.4393036	1.02	0.309	-.4138252	1.308213
pltorder						
2	.2227835	.6200171	0.36	0.719	-.9924277	1.437995
3	-.4147629	.5706707	-0.73	0.467	-1.533257	.7037311
4	-.1002481	.5460976	-0.18	0.854	-1.17058	.9700836
5	.2138805	.6205752	0.34	0.730	-1.002425	1.430186
6	.6344759	.7646505	0.83	0.407	-.8642115	2.133163
7	-.3918297	.59247	-0.66	0.508	-1.55305	.7693901
8	.3240581	.6804484	0.48	0.634	-1.009596	1.657712
time						
2	.2195122	.1740673	1.26	0.207	-.1216534	.5606778
3	.6341463	.1863552	3.40	0.001	.2688968	.9993959
_cons	2.376553	1.471811	1.61	0.106	-.5081437	5.26125

Random-effects Parameters		Estimate	Robust Std. Err.	[95% Conf. Interval]	
id: Identity					
	sd(_cons)	1.897433	.1286543	1.661312	2.167114
	sd(Residual)	1.870634	.0809898	1.718446	2.036301

Testing the H_0 that Think does not vary at different levels of relattend

```
. margins r.relattend,contrast(effects)
```

Contrasts of predictive margins

Model VCE : Robust

Expression : Linear prediction, fixed portion, predict()

	df	chi2	P>chi2
relattend			
(1 vs 0)	1	2.82	0.0929
(2 vs 0)	1	14.37	0.0001
Joint	2	14.38	0.0008

		Delta-method				[95% Conf. Interval]	
		Contrast	Std. Err.	z	P> z		
relattend							
(1 vs 0)		-.6133772	.365059	-1.68	0.093	-1.32888	.1021253
(2 vs 0)		-1.283992	.3386876	-3.79	0.000	-1.947808	-.6201767

```
. margins relattend,pwcompare(effects)
```

Pairwise comparisons of predictive margins
Model VCE : Robust

Expression : Linear prediction, fixed portion, predict()

		Delta-method		Unadjusted		Unadjusted	
		Contrast	Std. Err.	z	P> z	[95% Conf. Interval]	
relattend							
1 vs 0		-.6133772	.365059	-1.68	0.093	-1.32888	.1021253
2 vs 0		-1.283992	.3386876	-3.79	0.000	-1.947808	-.6201767
2 vs 1		-.670615	.3780329	-1.77	0.076	-1.411546	.0703159

There seems to be only one significant difference after controlling for the other variables. The mean of think, as measured via your index, is significantly lower for the average recruit who regularly attends than for the average recruit who never attends.

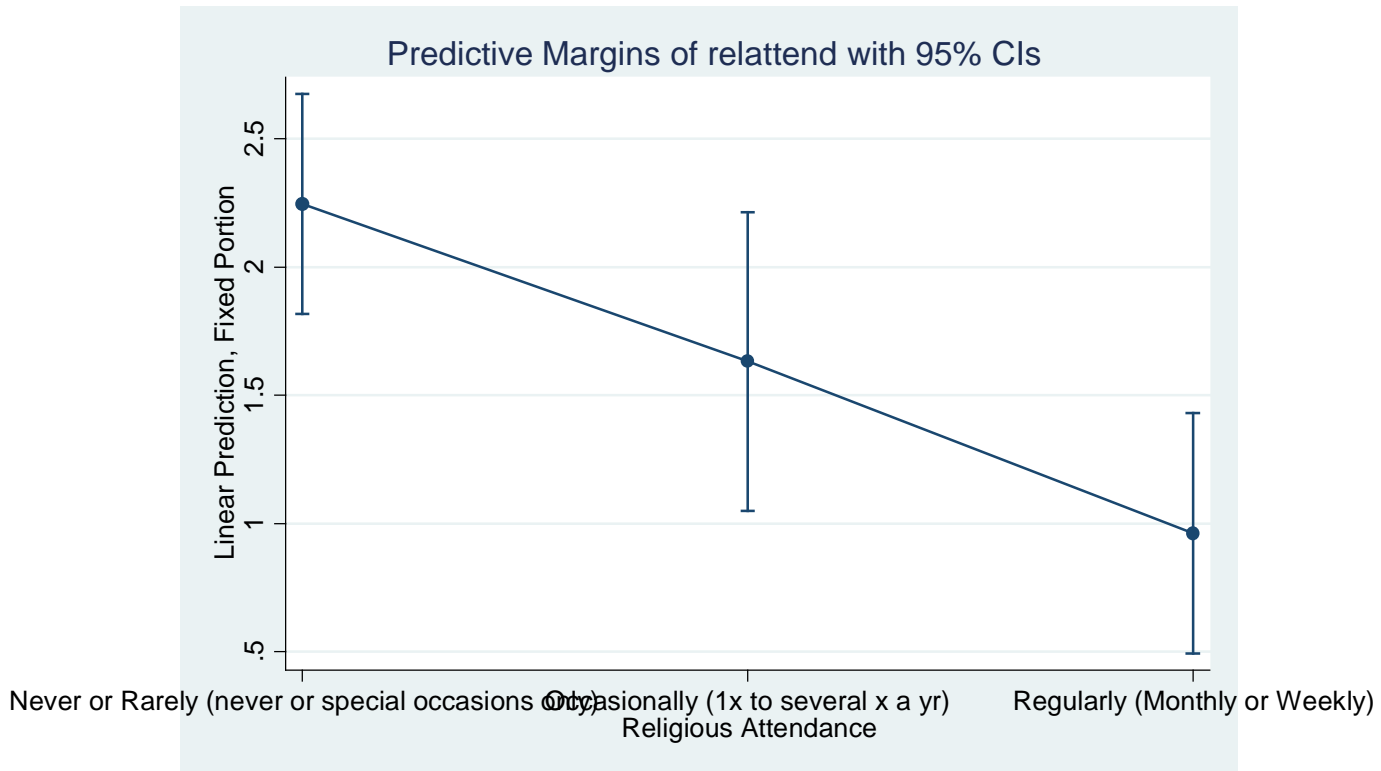
```
. margins relattend
```

Predictive margins
Model VCE : Robust
Number of obs = 738

Expression : Linear prediction, fixed portion, predict()

		Delta-method				[95% Conf. Interval]	
		Margin	Std. Err.	z	P> z		
relattend							
0		2.246076	.2187818	10.27	0.000	1.817272	2.67488
1		1.632699	.2969218	5.50	0.000	1.050743	2.214655
2		.9620838	.2390217	4.03	0.000	.4936098	1.430558

```
. marginsplot
```



Testing the H_0 that Think does not vary at different levels of education

```
. margins ed, contrast(effects nowald)
```

```
Contrasts of predictive margins
Model VCE      : Robust
```

```
Expression      : Linear prediction, fixed portion, predict()
```

		Delta-method				
	Contrast	Std. Err.	z	P> z	[95% Conf. Interval]	
ed						
(1 vs base)	.7623661	.3262086	2.34	0.019	.123009	1.401723

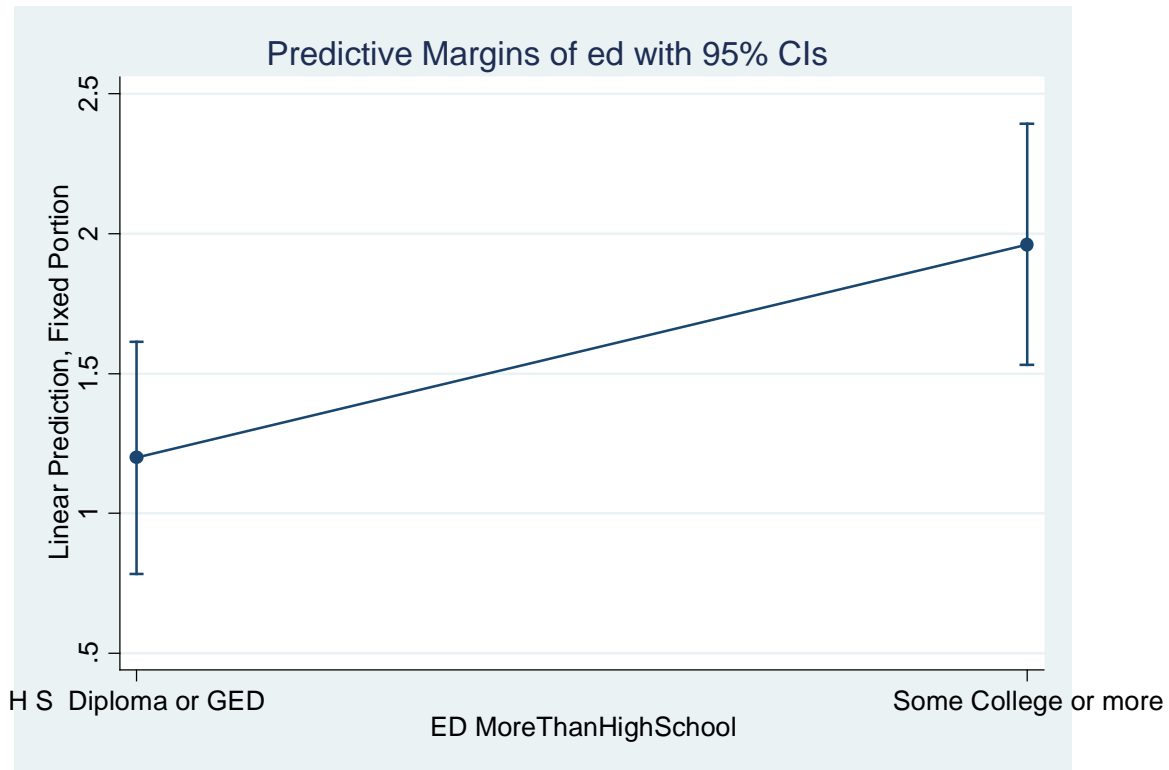
```
. margins ed
```

```
Predictive margins                                Number of obs   =       738
Model VCE      : Robust
```

```
Expression      : Linear prediction, fixed portion, predict()
```

		Delta-method				
	Margin	Std. Err.	z	P> z	[95% Conf. Interval]	
ed						
0	1.198607	.2113145	5.67	0.000	.784438	1.612775

1		1.960973	.2199282	8.92	0.000	1.529921	2.392024
---	--	----------	----------	------	-------	----------	----------



Testing the H_0 that Think does not vary at different levels of treatment (time)

```
. margins rb2.time,contrast(effects)
```

Contrasts of predictive margins
Model VCE : Robust

Expression : Linear prediction, fixed portion, predict()

	df	chi2	P>chi2
time			
(1 vs 2)	1	1.59	0.2073
(3 vs 2)	1	8.32	0.0039
Joint	2	13.71	0.0011

	Contrast	Delta-method Std. Err.	z	P> z	[95% Conf. Interval]
time					
(1 vs 2)	-.2195122	.1740673	-1.26	0.207	-.5606778 .1216534
(3 vs 2)	.4146341	.1437664	2.88	0.004	.1328572 .6964111

```
. margins time,pwcompare(effects)
```

Pairwise comparisons of predictive margins

Model VCE : Robust

Expression : Linear prediction, fixed portion, predict()

		Delta-method		Unadjusted		Unadjusted	
		Contrast	Std. Err.	z	P> z	[95% Conf. Interval]	
time							
2 vs 1		.2195122	.1740673	1.26	0.207	-.1216534	.5606778
3 vs 1		.6341463	.1863552	3.40	0.001	.2688968	.9993959
3 vs 2		.4146341	.1437664	2.88	0.004	.1328572	.6964111

```
. margins time
```

Predictive margins

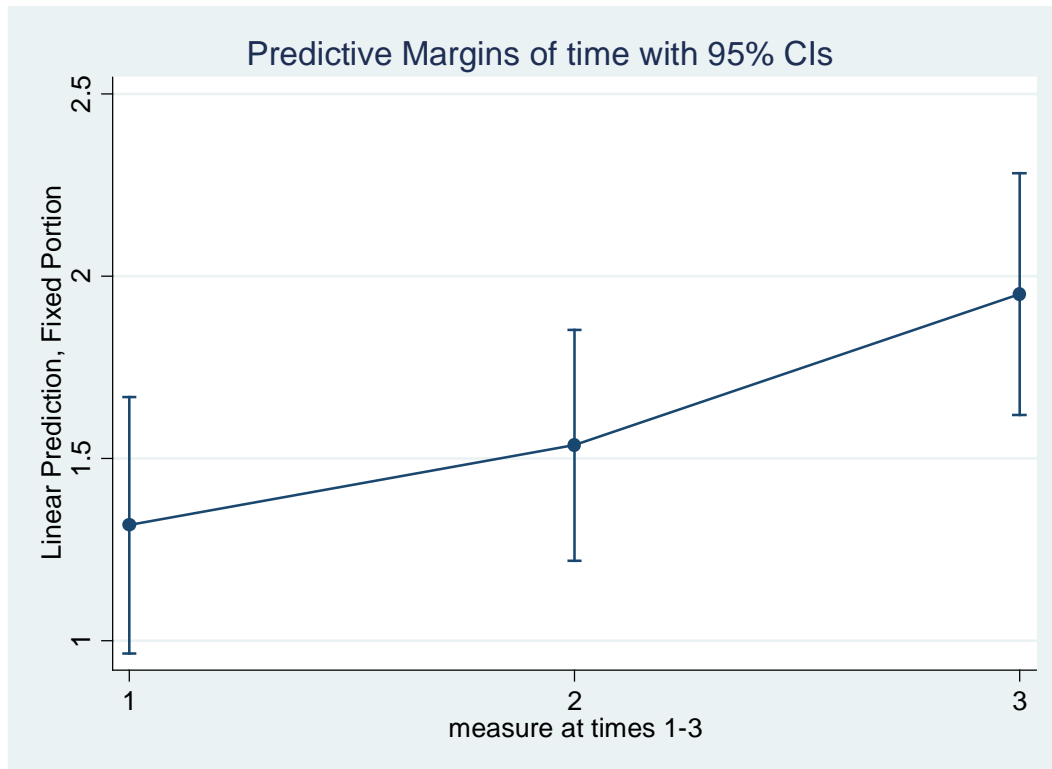
Number of obs = 738

Model VCE : Robust

Expression : Linear prediction, fixed portion, predict()

		Delta-method					
		Margin	Std. Err.	z	P> z	[95% Conf. Interval]	
time							
1		1.317073	.1795188	7.34	0.000	.9652229	1.668923
2		1.536585	.1616791	9.50	0.000	1.2197	1.853471
3		1.95122	.1690143	11.54	0.000	1.619958	2.282481

```
. marginsplot
```

Testing the H₀'s related to the significant interaction relattend#ed

```
. margins relattend#ed,pwcompare(effects) mcompare(scheffe)
```

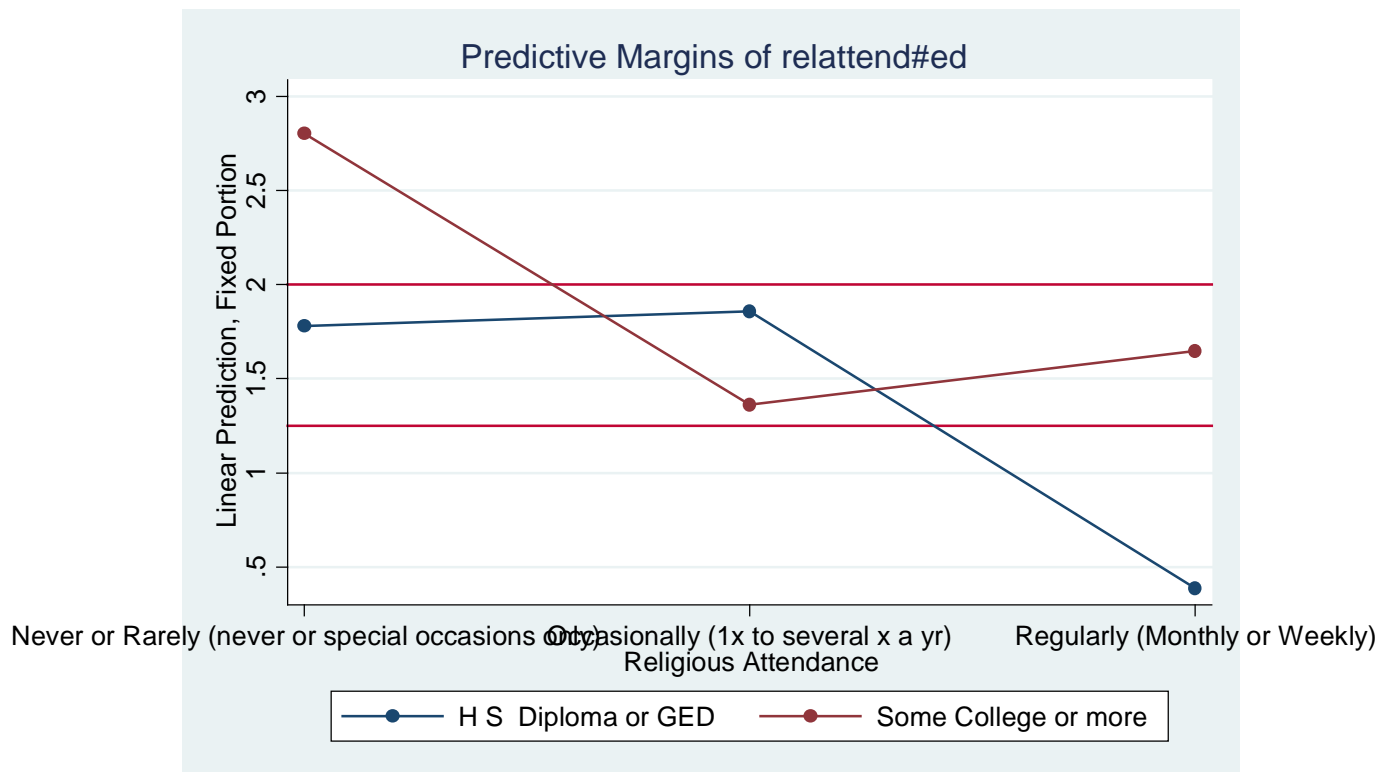
Pairwise comparisons of predictive margins
Model VCE : Robust

Expression : Linear prediction, fixed portion, predict()

	Number of Comparisons
relattend#ed	15

	Contrast	Delta-method Std. Err.	Scheffe z	P> z	Scheffe [95% Conf. Interval]
relattend#ed					
(0 1) vs (0 0)	1.025495	.4564666	2.25	0.410	-.4932768 2.544267
(1 0) vs (0 0)	.0781324	.4724895	0.17	1.000	-1.493952 1.650216
(1 1) vs (0 0)	-.4152237	.5678162	-0.73	0.991	-2.304482 1.474035
(2 0) vs (0 0)	-1.390866	.4676463	-2.97	0.115	-2.946835 .1651037
(2 1) vs (0 0)	-.1306303	.4557093	-0.29	1.000	-1.646883 1.385622
(1 0) vs (0 1)	-.9473629	.5182086	-1.83	0.647	-2.671565 .7768392
(1 1) vs (0 1)	-1.440719	.5637338	-2.56	0.258	-3.316394 .4349563
(2 0) vs (0 1)	-2.416361	.5179745	-4.67	0.001	-4.139784 -.6929378
(2 1) vs (0 1)	-1.156126	.49002	-2.36	0.351	-2.786538 .4742864
(1 1) vs (1 0)	-.4933561	.61477	-0.80	0.986	-2.538841 1.552129
(2 0) vs (1 0)	-1.468998	.5167788	-2.84	0.152	-3.188443 .2504468
(2 1) vs (1 0)	-.2087627	.5370318	-0.39	1.000	-1.995594 1.578069
(2 0) vs (1 1)	-.975642	.5926547	-1.65	0.745	-2.947544 .99626
(2 1) vs (1 1)	.2845934	.5603519	0.51	0.998	-1.579829 2.149016

(2 1) vs (2 0) | 1.260235 .5171246 2.44 0.312 -.4603602 2.980831



Marine Identity

1. BASIC MODEL -.

```
. xtmixed marineid c.age i.minority i.ed i.famil i.delay i.relattend i.sprt_yr
i.extrcur_yr i.pltorder i.time || id:,mle
```

Performing EM optimization:

Performing gradient-based optimization:

Iteration 0: log likelihood = -2088.6767

Iteration 1: log likelihood = -2088.6767

Computing standard errors:

```
Mixed-effects ML regression      Number of obs      =      738
Group variable: id               Number of groups    =      246
```

```
Obs per group: min =      3
                avg  =     3.0
                max  =      3
```

```
Log likelihood = -2088.6767      Wald chi2(26)       =     190.53
                                Prob > chi2              =      0.0000
```

marineid	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
age	-.3483396	.1092518	-3.19	0.001	-.5624693	-.13421
1.minority	-.2331333	.4854271	-0.48	0.631	-1.184553	.7182863
1.ed	-.3631991	.4801186	-0.76	0.449	-1.304214	.5778162
1.famil	.0424367	.4727787	0.09	0.928	-.8841926	.969066
1.delay	-.7669752	.5165435	-1.48	0.138	-1.779382	.2454315
relattend						
1	-.5455466	.6012042	-0.91	0.364	-1.723885	.632792
2	-.4816549	.5245045	-0.92	0.358	-1.509665	.5463549
sprt_yr						
1	3.337446	1.12819	2.96	0.003	1.126234	5.548658
2	2.876518	.7712086	3.73	0.000	1.364977	4.388059
3	2.312057	.8973801	2.58	0.010	.5532243	4.070889
4	2.677321	.7254233	3.69	0.000	1.255518	4.099125
5	1.737324	.6232074	2.79	0.005	.5158601	2.958788
extrcur_yr						
1	-1.311941	.93384	-1.40	0.160	-3.142233	.5183521
2	.5745782	.8256243	0.70	0.486	-1.043616	2.192772
3	.9502198	1.046797	0.91	0.364	-1.101465	3.001905
4	-.060735	.7422734	-0.08	0.935	-1.515564	1.394094
5	.1979139	.6254702	0.32	0.752	-1.027985	1.423813
pltorder						
2	-.1144489	.9021836	-0.13	0.899	-1.882696	1.653799
3	-1.322802	.8707874	-1.52	0.129	-3.029514	.3839103
4	.9492029	.8505864	1.12	0.264	-.7179157	2.616322
5	1.817062	.8986147	2.02	0.043	.0558092	3.578314
6	-.2513497	.9264856	-0.27	0.786	-2.067228	1.564529
7	1.196995	.9091523	1.32	0.188	-.5849113	2.9789
8	-.3204762	.9251482	-0.35	0.729	-2.133733	1.492781

time						
2	1.947154	.3115761	6.25	0.000	1.336477	2.557832
3	3.666667	.3115761	11.77	0.000	3.055989	4.277345
_cons	18.5052	2.341956	7.90	0.000	13.91505	23.09535

Random-effects Parameters	Estimate	Std. Err.	[95% Conf. Interval]
id: Identity			
sd(_cons)	2.672445	.1935434	2.318799 3.080026
sd(Residual)	3.455546	.1101588	3.246246 3.678341

LR test vs. linear regression: chibar2(01) = 93.20 Prob >= chibar2 = 0.0000

```
. quietly xtmixed marineid c.age i.minority i.ed i.famil i.delay i.relattend
i.sprt_yr i.extrcur_yr i.plto
> rder i.time || id:,mle
```

```
. estimates store ri
```

```
. quietly xtmixed marineid c.age i.minority i.ed i.famil i.delay i.relattend
i.sprt_yr i.extrcur_yr i.plto
> rder i.time,mle
```

```
. lrtest ri
```

```
Likelihood-ratio test                                LR chi2(1) = 93.20
(Assumption: . nested in ri)                        Prob > chi2 = 0.0000
```

```
. estimates drop ri
```

```
Residuals
```

```
. quietly xtmixed marineid c.age i.minority i.ed i.famil i.delay i.relattend
i.sprt_yr i.extrcur_yr i.plto
> rder i.time || id:,mle
```

```
. predict level2marineid,reffects
(6 missing values generated)
```

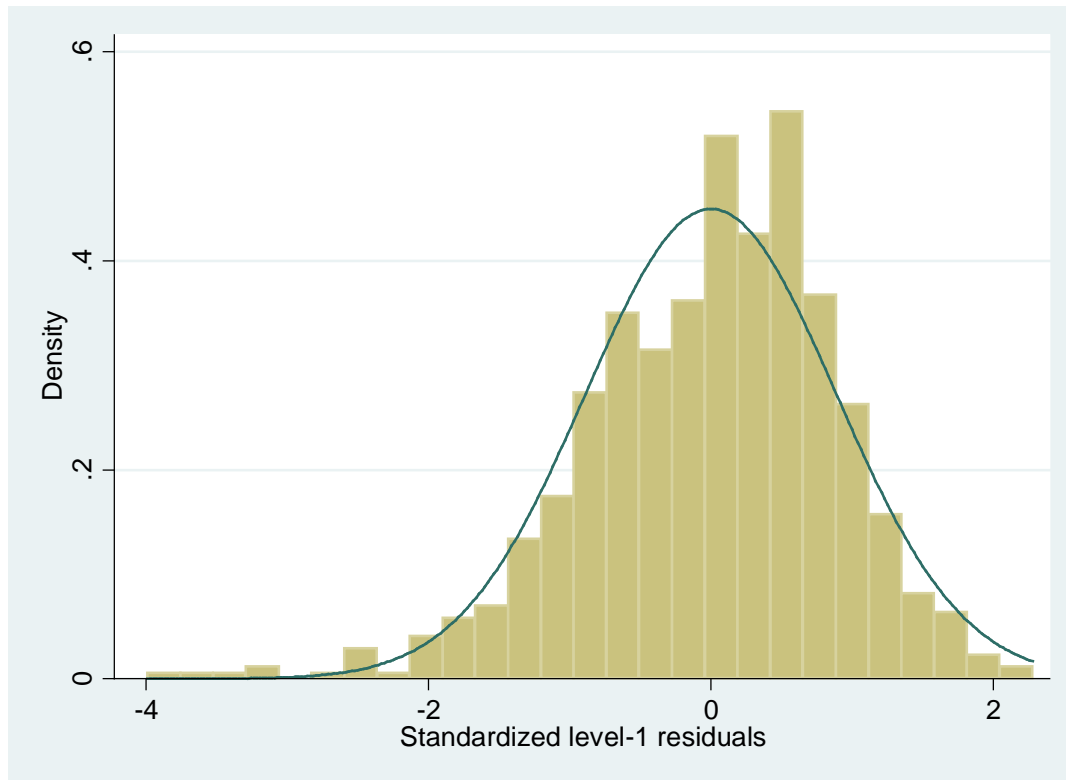
```
. predict comp_semarineid,reses
(6 missing values generated)
```

```
. generate diag_semarineid = sqrt(exp(2*[lnsl_1_1]_cons) - comp_semarineid^2)
(6 missing values generated)
```

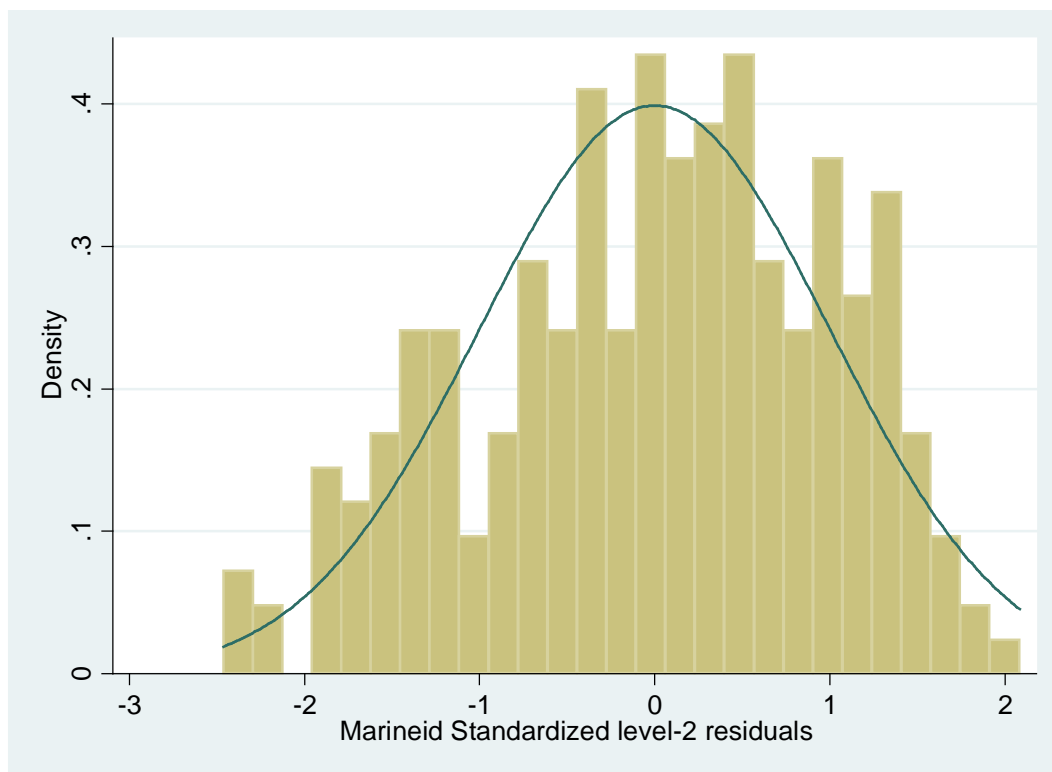
```
. replace level2marineid=level2marineid/diag_semarineid
(738 real changes made)
```

```
. predict level1marineid,rstandard
(6 missing values generated)
```

```
. hist level1marineid,norm xtitle(Standardized level-1 residuals)
(bin=27, start=-3.9880099, width=.2320252)
```



```
. hist level2marineid, norm xtitle(Marineid Standardized level-2 residuals)
(bin=27, start=-2.4649804, width=.16849058)
```



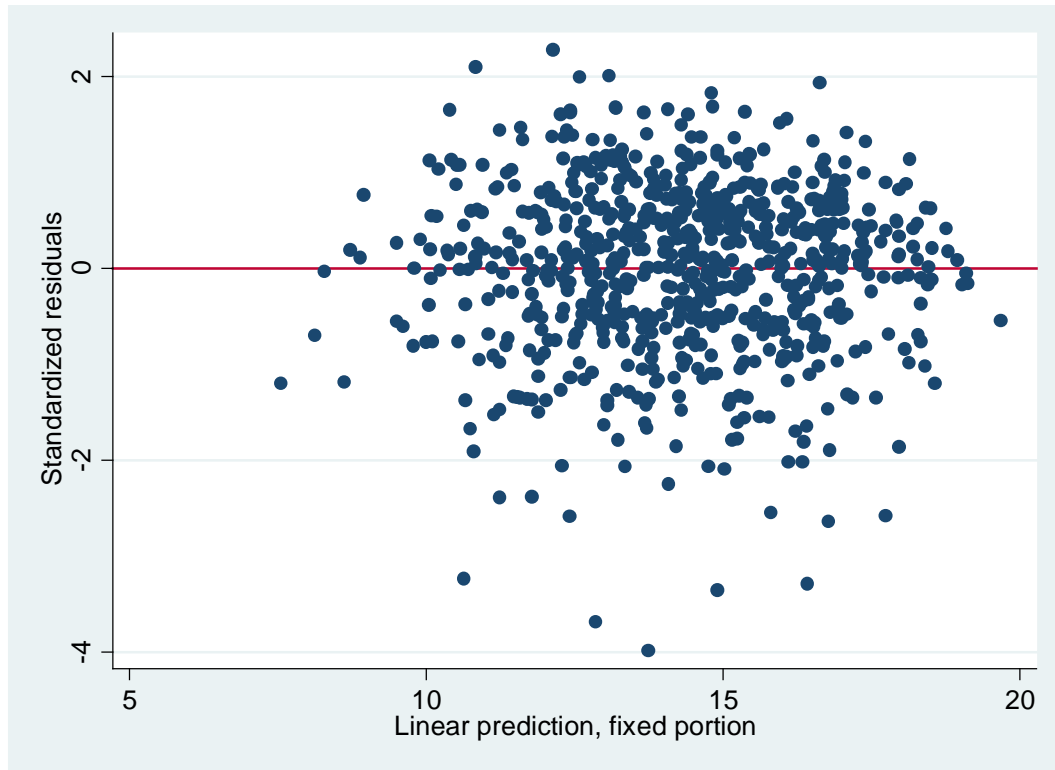
```

. quietly xtmixed marineid c.age i.minority i.ed i.famil i.delay i.relattend
i.sprt_yr i.extrcur_yr i.plto
> rder i.time || id:,mle

. predict yhat1marineid,xb
(6 missing values generated)

. graph twoway scatter level1marineid yhat1marineid,yline(0)

```



Calculate Rho and the coefficient of determination

```

NULL MODEL
. quietly xtreg marineid,mle

. dis e(sigma_u)
2.8849823

. dis e(sigma_e)
3.9020259

FULL MODEL
. quietly xtreg marineid c.age i.minority i.ed i.famil i.delay i.relattend
i.sprt_yr i.extrcur_yr i.pltord
> er i.time,mle

. dis e(sigma_u)
2.6724431

. dis e(sigma_e)
3.4555467

```

```
. dis e(rho)
.3742621
```

3. Your Final Model for Marineid Given the Above

```
. xtmixed marineid c.age i.minority i.ed i.famil i.delay i.relattend i.sprt_yr
i.extrcur_yr i.pltorder i.time||id:,mle vce(robust)
```

Performing EM optimization:

Performing gradient-based optimization:

```
Iteration 0: log pseudolikelihood = -2088.6767
Iteration 1: log pseudolikelihood = -2088.6767
```

Computing standard errors:

```
Mixed-effects regression      Number of obs      =      738
Group variable: id            Number of groups    =      246

                                Obs per group: min =         3
                                avg =             3.0
                                max =             3
```

```
                                Wald chi2(26)      =     192.53
Log pseudolikelihood = -2088.6767                Prob > chi2      =     0.0000
```

(Std. Err. adjusted for 246 clusters in id)

marineid	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
age	-.3483396	.1066296	-3.27	0.001	-.5573298	-.1393494
1.minority	-.2331333	.4541699	-0.51	0.608	-1.12329	.6570235
1.ed	-.3631991	.4645265	-0.78	0.434	-1.273654	.5472561
1.famil	.0424367	.4641321	0.09	0.927	-.8672454	.9521189
1.delay	-.7669752	.5041736	-1.52	0.128	-1.755137	.2211869
relattend						
1	-.5455466	.6015996	-0.91	0.364	-1.72466	.633567
2	-.4816549	.5243864	-0.92	0.358	-1.509433	.5461235
sprt_yr						
1	3.337446	1.239381	2.69	0.007	.908304	5.766588
2	2.876518	.6982252	4.12	0.000	1.508022	4.245014
3	2.312057	.9894599	2.34	0.019	.3727511	4.251363
4	2.677321	.7223262	3.71	0.000	1.261588	4.093055
5	1.737324	.6019156	2.89	0.004	.5575912	2.917057
extrcur_yr						
1	-1.311941	.9157621	-1.43	0.152	-3.106801	.4829202
2	.5745782	.804771	0.71	0.475	-1.002744	2.1519
3	.9502198	.8719445	1.09	0.276	-.7587599	2.6592
4	-.060735	.6483039	-0.09	0.925	-1.331387	1.209917
5	.1979139	.6269474	0.32	0.752	-1.03088	1.426708
pltorder						
2	-.1144489	.821263	-0.14	0.889	-1.724095	1.495197

3	-1.322802	.9422534	-1.40	0.160	-3.169584	.5239811
4	.9492029	.8657237	1.10	0.273	-.7475843	2.64599
5	1.817062	.8216615	2.21	0.027	.2066348	3.427489
6	-.2513497	.9683105	-0.26	0.795	-2.149203	1.646504
7	1.196995	.8835775	1.35	0.176	-.5347855	2.928775
8	-.3204762	.9602556	-0.33	0.739	-2.202542	1.56159
time						
2	1.947154	.3203282	6.08	0.000	1.319323	2.574986
3	3.666667	.3486128	10.52	0.000	2.983398	4.349935
_cons	18.5052	2.245339	8.24	0.000	14.10442	22.90599

Random-effects Parameters	Estimate	Robust Std. Err.	[95% Conf. Interval]	
id: Identity				
sd(_cons)	2.672445	.1760253	2.348783	3.040707
sd(Residual)	3.455546	.1588018	3.157906	3.78124

Testing the H_0 that Marineid does not vary at different levels of age

```
. margins, at(age=(18(1)28))
```

```
Predictive margins                                Number of obs   =       738
Model VCE      : Robust
```

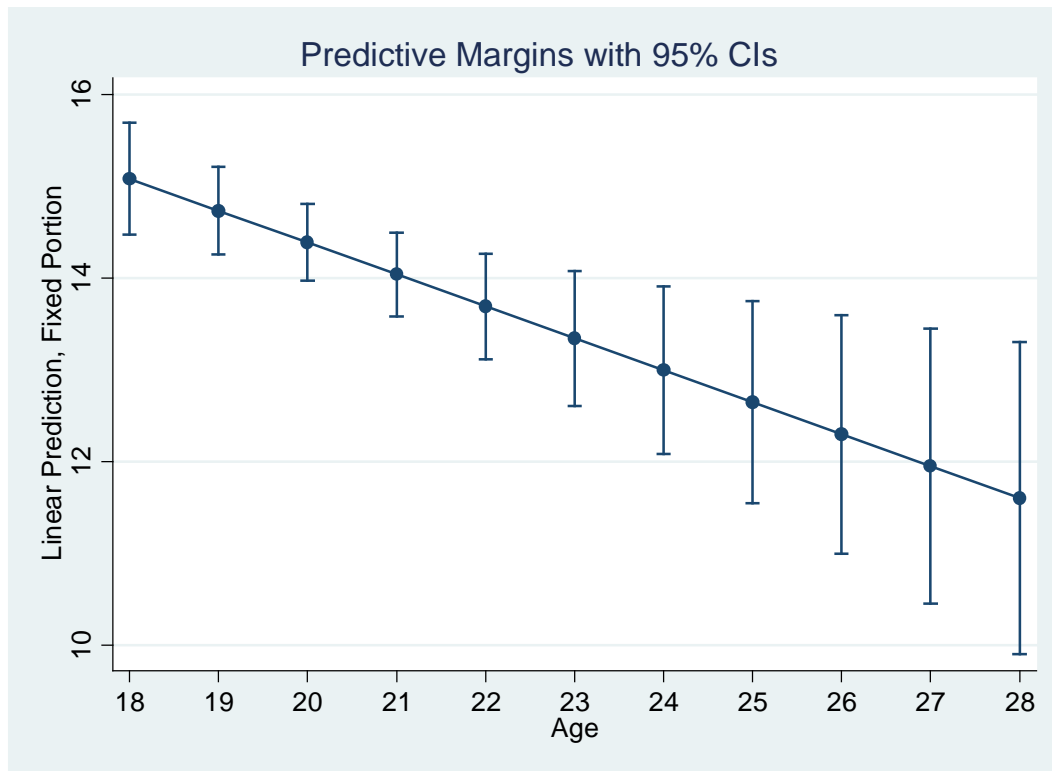
```
Expression    : Linear prediction, fixed portion, predict()
```

```
1._at      : age      =      18
2._at      : age      =      19
3._at      : age      =      20
4._at      : age      =      21
5._at      : age      =      22
6._at      : age      =      23
7._at      : age      =      24
8._at      : age      =      25
9._at      : age      =      26
10._at     : age      =      27
11._at     : age      =      28
```

	Margin	Delta-method Std. Err.	z	P> z	[95% Conf. Interval]	
_at						
1	15.08394	.3100399	48.65	0.000	14.47628	15.69161
2	14.7356	.2438221	60.44	0.000	14.25772	15.21349

3	14.38726	.2133388	67.44	0.000	13.96913	14.8054
4	14.03892	.2330609	60.24	0.000	13.58213	14.49572
5	13.69058	.2930207	46.72	0.000	13.11627	14.26489
6	13.34224	.3743589	35.64	0.000	12.60852	14.07597
7	12.99391	.4660126	27.88	0.000	12.08054	13.90727
8	12.64557	.562966	22.46	0.000	11.54217	13.74896
9	12.29723	.6628977	18.55	0.000	10.99797	13.59648
10	11.94889	.764641	15.63	0.000	10.45022	13.44756
11	11.60055	.8675587	13.37	0.000	9.900163	13.30093

```
. marginsplot
```



Testing the H_0 that Marineid does not vary at different levels of sprt_yr

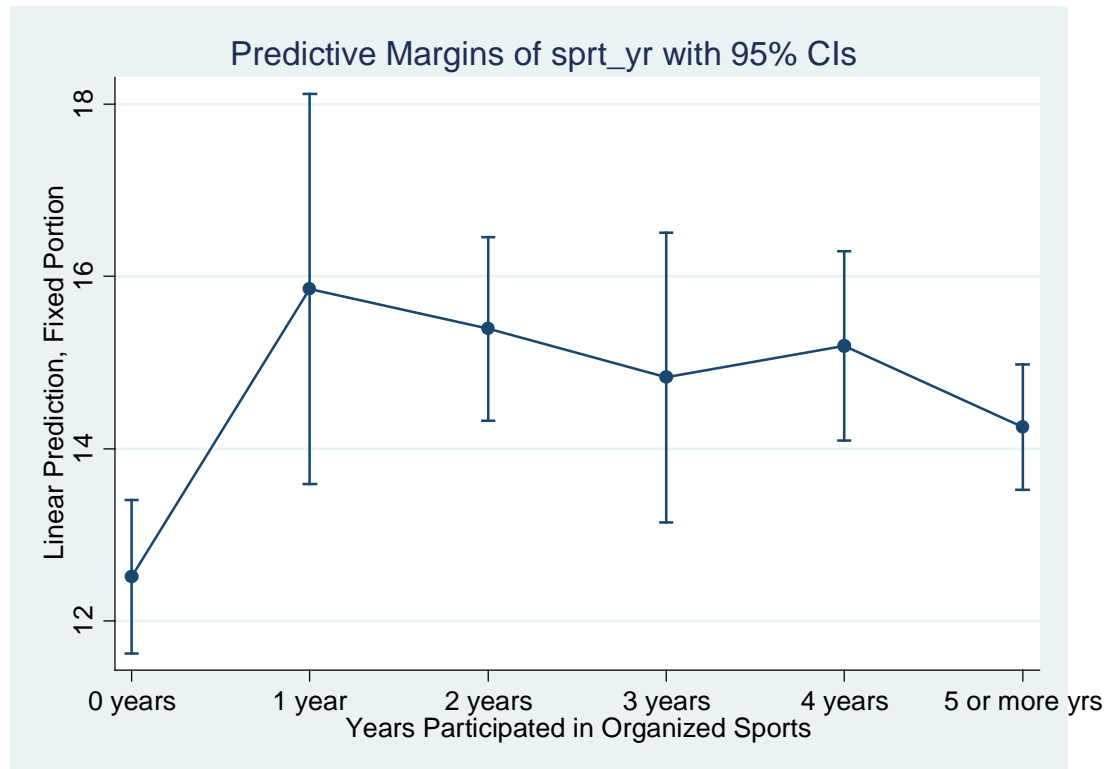
```
. margins r.sprt_yr,contrast(effects)
```

Contrasts of predictive margins

Model VCE : Robust

Expression : Linear prediction, fixed portion, predict()

	df	chi2	P>chi2
sprt_yr			
(1 vs 0)	1	7.25	0.0071
(2 vs 0)	1	16.97	0.0000
(3 vs 0)	1	5.46	0.0195
(4 vs 0)	1	13.74	0.0002



```
. margins sprt_yr, at(age=(18(1)28))
```

```
Predictive margins                                Number of obs   =           738
Model VCE      : Robust
```

```
Expression    : Linear prediction, fixed portion, predict()
```

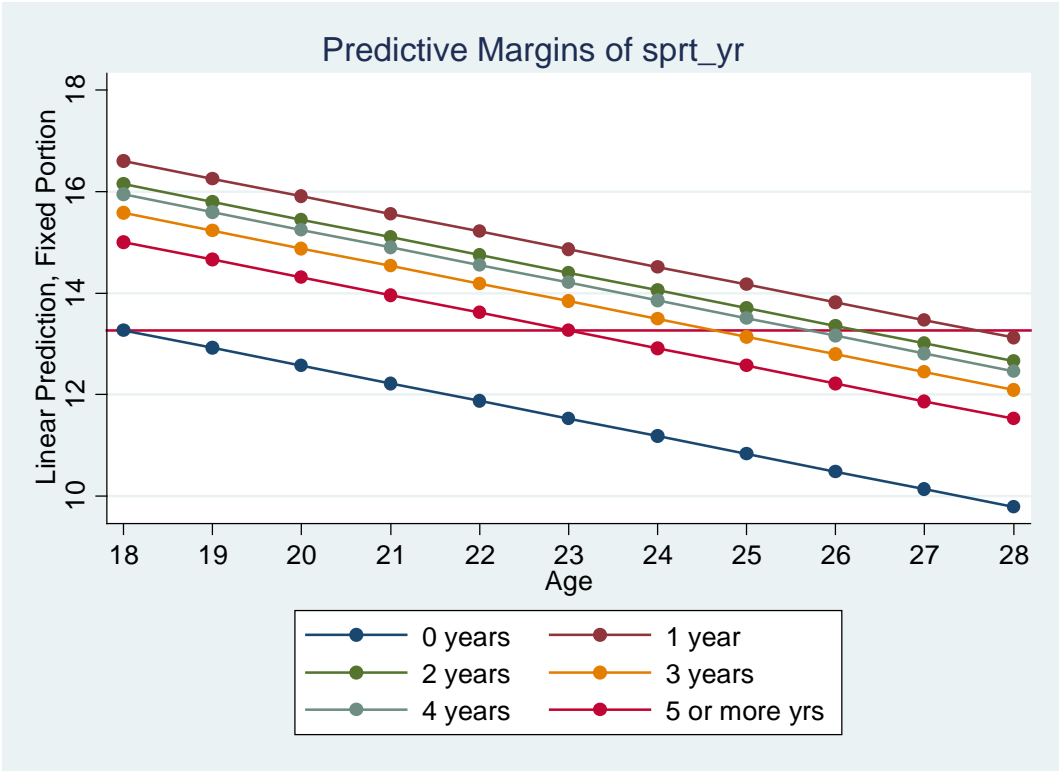
```
1._at        : age          =           18
2._at        : age          =           19
3._at        : age          =           20
4._at        : age          =           21
5._at        : age          =           22
6._at        : age          =           23
7._at        : age          =           24
8._at        : age          =           25
9._at        : age          =           26
10._at       : age          =           27
11._at       : age          =           28
```

```
-----+-----
          |               Delta-method
          |      Margin   Std. Err.      z    P>|z|     [95% Conf. Interval]
-----+-----
```

_at#sprt_yr						
1 0	13.26705	.4764416	27.85	0.000	12.33324	14.20086
1 1	16.60449	1.182315	14.04	0.000	14.2872	18.92179
1 2	16.14357	.5983936	26.98	0.000	14.97074	17.3164
1 3	15.5791	.9134998	17.05	0.000	13.78868	17.36953
1 4	15.94437	.5889399	27.07	0.000	14.79007	17.09867
1 5	15.00437	.4429048	33.88	0.000	14.13629	15.87245
2 0	12.91871	.4518845	28.59	0.000	12.03303	13.80439
2 1	16.25615	1.164267	13.96	0.000	13.97423	18.53808
2 2	15.79523	.5615025	28.13	0.000	14.6947	16.89575
2 3	15.23077	.8808249	17.29	0.000	13.50438	16.95715
2 4	15.59603	.5644805	27.63	0.000	14.48967	16.70239
2 5	14.65603	.3952037	37.08	0.000	13.88145	15.43062
3 0	12.57037	.4518211	27.82	0.000	11.68482	13.45592
3 1	15.90781	1.155815	13.76	0.000	13.64246	18.17317
3 2	15.44689	.5433551	28.43	0.000	14.38193	16.51184
3 3	14.88243	.860211	17.30	0.000	13.19644	16.56841
3 4	15.24769	.5596123	27.25	0.000	14.15087	16.34451
3 5	14.30769	.372756	38.38	0.000	13.5771	15.03828
4 0	12.22203	.4762612	25.66	0.000	11.28857	13.15548
4 1	15.55947	1.157168	13.45	0.000	13.29147	17.82748
4 2	15.09855	.5458245	27.66	0.000	14.02875	16.16834
4 3	14.53409	.8525334	17.05	0.000	12.86315	16.20502
4 4	14.89935	.5748334	25.92	0.000	13.7727	16.026
4 5	13.95935	.380063	36.73	0.000	13.21444	14.70426
5 0	11.87369	.5217728	22.76	0.000	10.85103	12.89635
5 1	15.21114	1.168292	13.02	0.000	12.92132	17.50095
5 2	14.75021	.568642	25.94	0.000	13.63569	15.86473
5 3	14.18575	.8581393	16.53	0.000	12.50382	15.86767
5 4	14.55101	.6086384	23.91	0.000	13.3581	15.74392
5 5	13.61101	.415558	32.75	0.000	12.79653	14.42549
6 0	11.52535	.5834456	19.75	0.000	10.38182	12.66888
6 1	14.8628	1.188914	12.50	0.000	12.53257	17.19302
6 2	14.40187	.6095266	23.63	0.000	13.20722	15.59652
6 3	13.83741	.8767741	15.78	0.000	12.11896	15.55585
6 4	14.20267	.6581699	21.58	0.000	12.91268	15.49266
6 5	13.26267	.4729363	28.04	0.000	12.33574	14.18961
7 0	11.17701	.6567423	17.02	0.000	9.889819	12.4642
7 1	14.51446	1.21855	11.91	0.000	12.12614	16.90277
7 2	14.05353	.6651553	21.13	0.000	12.74985	15.35721
7 3	13.48907	.9076355	14.86	0.000	11.71013	15.268
7 4	13.85433	.7201905	19.24	0.000	12.44278	15.26588
7 5	12.91433	.5453337	23.68	0.000	11.8455	13.98317
8 0	10.82867	.7382086	14.67	0.000	9.381808	12.27553
8 1	14.16612	1.256564	11.27	0.000	11.7033	16.62894
8 2	13.70519	.7321749	18.72	0.000	12.27015	15.14022
8 3	13.14073	.9495322	13.84	0.000	11.27968	15.00178
8 4	13.50599	.7917707	17.06	0.000	11.95415	15.05783
8 5	12.56599	.6275736	20.02	0.000	11.33597	13.79602
9 0	10.48033	.825429	12.70	0.000	8.86252	12.09814
9 1	13.81778	1.302221	10.61	0.000	11.26547	16.37008
9 2	13.35685	.8077551	16.54	0.000	11.77368	14.94002
9 3	12.79239	1.00108	12.78	0.000	10.83031	14.75447
9 4	13.15765	.8705556	15.11	0.000	11.45139	14.86391
9 5	12.21765	.7162738	17.06	0.000	10.81378	13.62153
10 0	10.13199	.9167628	11.05	0.000	8.335169	11.92881
10 1	13.46944	1.35475	9.94	0.000	10.81418	16.1247
10 2	13.00851	.889717	14.62	0.000	11.2647	14.75232
10 3	12.44405	1.060872	11.73	0.000	10.36478	14.52332
10 4	12.80931	.9547634	13.42	0.000	10.93801	14.68061
10 5	11.86932	.809313	14.67	0.000	10.28309	13.45554
11 0	9.783651	1.011096	9.68	0.000	7.80194	11.76536

11 1	13.1211	1.413384	9.28	0.000	10.35091	15.89128
11 2	12.66017	.9764549	12.97	0.000	10.74635	14.57399
11 3	12.09571	1.127598	10.73	0.000	9.885657	14.30576
11 4	12.46097	1.043081	11.95	0.000	10.41657	14.50537
11 5	11.52098	.9053544	12.73	0.000	9.746513	13.29544

```
. marginsplot,noci yline(13.26705)
```



Testing the H_0 that Marineid does not vary at different levels of treatment (time)

```
. margins rb2.time, contrast(effects)
```

Contrasts of predictive margins
Model VCE : Robust

Expression : Linear prediction, fixed portion, predict()

	df	chi2	P>chi2
time			
(1 vs 2)	1	36.95	0.0000
(3 vs 2)	1	43.30	0.0000
Joint	2	113.73	0.0000

Delta-method

	Contrast	Std. Err.	z	P> z	[95% Conf. Interval]	
time						
(1 vs 2)	-1.947154	.3203282	-6.08	0.000	-2.574986	-1.319323
(3 vs 2)	1.719512	.2613175	6.58	0.000	1.207339	2.231685

```
. margins time, pwcompare(effects)
```

Pairwise comparisons of predictive margins

Model VCE : Robust

Expression : Linear prediction, fixed portion, predict()

	Contrast	Delta-method Std. Err.	Unadjusted z	P> z	Unadjusted [95% Conf. Interval]	
time						
2 vs 1	1.947154	.3203282	6.08	0.000	1.319323	2.574986
3 vs 1	3.666667	.3486128	10.52	0.000	2.983398	4.349935
3 vs 2	1.719512	.2613175	6.58	0.000	1.207339	2.231685

```
. margins time
```

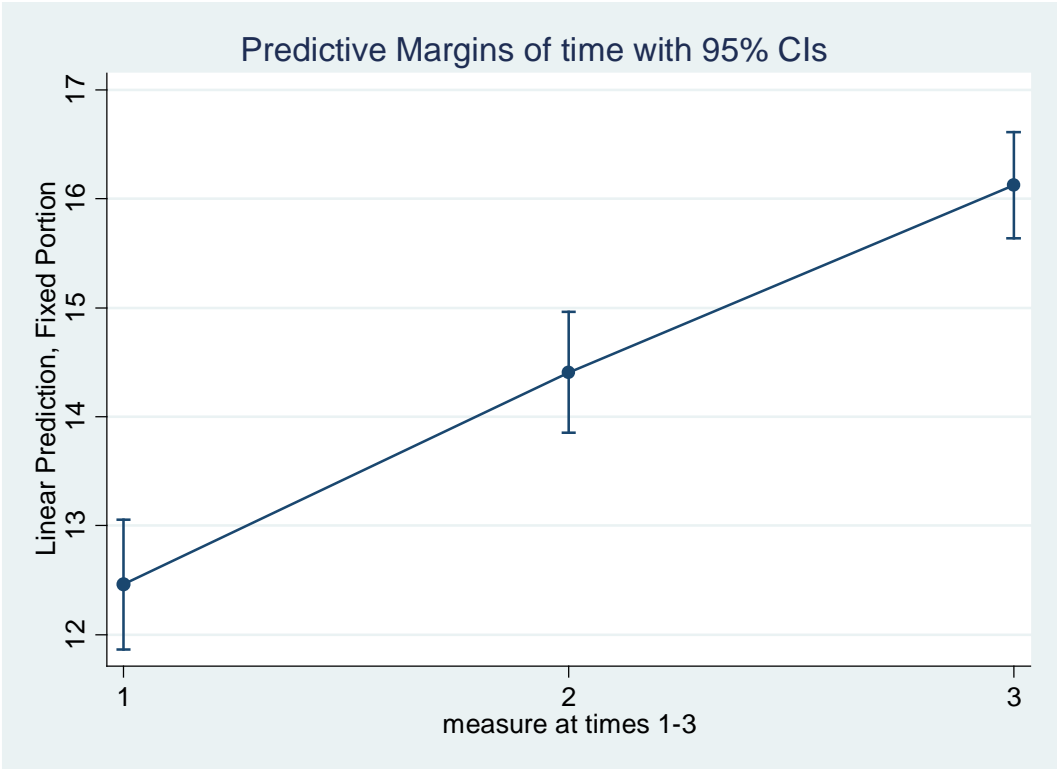
Predictive margins
Model VCE : Robust

Number of obs = 738

Expression : Linear prediction, fixed portion, predict()

	Margin	Delta-method Std. Err.	z	P> z	[95% Conf. Interval]	
time						
1	12.45935	.3039639	40.99	0.000	11.86359	13.05511
2	14.4065	.2826826	50.96	0.000	13.85246	14.96055
3	16.12602	.2477154	65.10	0.000	15.6405	16.61153

```
. marginsplot
```



```
. margins time, at(age=(18(1)28))

Predictive margins                                Number of obs   =       738
Model VCE      : Robust

Expression    : Linear prediction, fixed portion, predict()

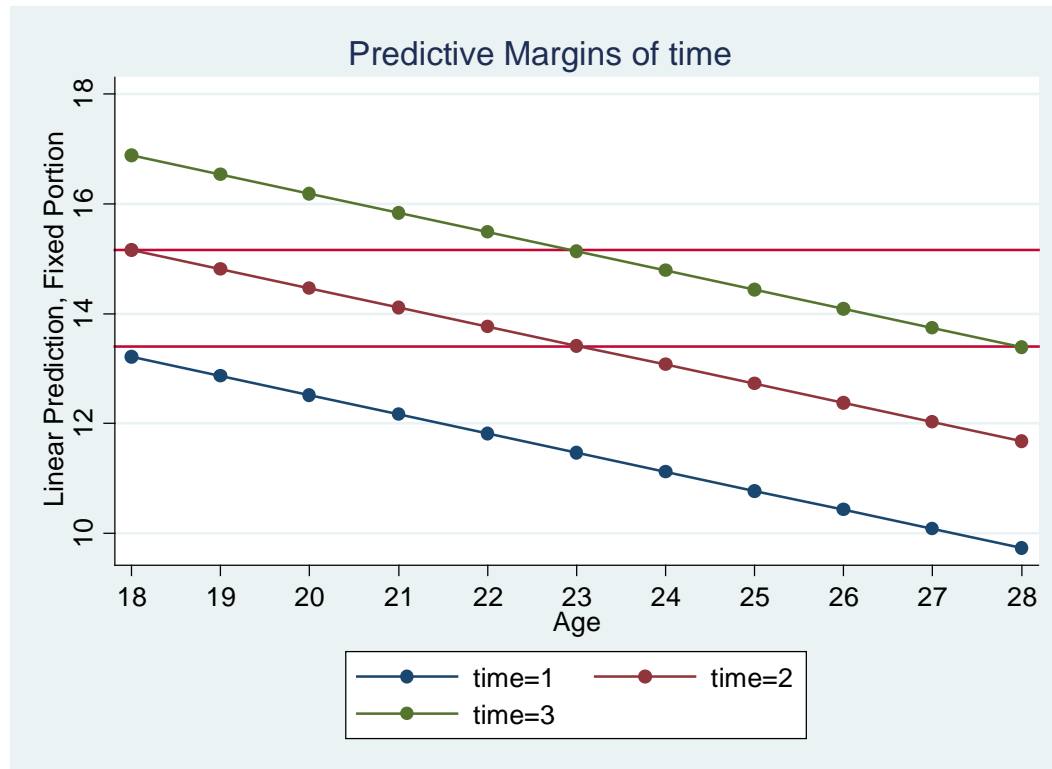
1._at        : age              =        18
2._at        : age              =        19
3._at        : age              =        20
4._at        : age              =        21
5._at        : age              =        22
6._at        : age              =        23
7._at        : age              =        24
8._at        : age              =        25
9._at        : age              =        26
10._at       : age              =        27
11._at       : age              =        28
```

		Delta-method		
	Margin	Std. Err.	z	P> z
				[95% Conf. Interval]

-----+-----							
_at#time							
1 1		13.21267	.3834209	34.46	0.000	12.46118	13.96416
1 2		15.15982	.3663619	41.38	0.000	14.44177	15.87788
1 3		16.87934	.3234463	52.19	0.000	16.24539	17.51328
2 1		12.86433	.3294503	39.05	0.000	12.21862	13.51004
2 2		14.81148	.3096585	47.83	0.000	14.20456	15.4184
2 3		16.531	.2672035	61.87	0.000	16.00729	17.05471
3 1		12.51599	.304636	41.09	0.000	11.91891	13.11307
3 2		14.46314	.2833646	51.04	0.000	13.90776	15.01853
3 3		16.18266	.2468149	65.57	0.000	15.69891	16.66641
4 1		12.16765	.3159248	38.51	0.000	11.54845	12.78685
4 2		14.11481	.2957065	47.73	0.000	13.53523	14.69438
4 3		15.83432	.270513	58.53	0.000	15.30412	16.36451
5 1		11.81931	.3599356	32.84	0.000	11.11385	12.52477
5 2		13.76647	.3425331	40.19	0.000	13.09511	14.43782
5 3		15.48598	.3289022	47.08	0.000	14.84134	16.13061
6 1		11.47097	.4266597	26.89	0.000	10.63473	12.30721
6 2		13.41813	.4122563	32.55	0.000	12.61012	14.22613
6 3		15.13764	.4073277	37.16	0.000	14.33929	15.93599
7 1		11.12263	.5072111	21.93	0.000	10.12852	12.11675
7 2		13.06979	.4952993	26.39	0.000	12.09902	14.04055
7 3		14.7893	.4963817	29.79	0.000	13.81641	15.76219
8 1		10.77429	.5960097	18.08	0.000	9.606135	11.94245
8 2		12.72145	.5860266	21.71	0.000	11.57286	13.87004
8 3		14.44096	.5912811	24.42	0.000	13.28207	15.59985
9 1		10.42595	.689878	15.11	0.000	9.073816	11.77809
9 2		12.37311	.6813757	18.16	0.000	11.03764	13.70858
9 3		14.09262	.6896171	20.44	0.000	12.74099	15.44424
10 1		10.07761	.7870041	12.81	0.000	8.535113	11.62011
10 2		12.02477	.7796526	15.42	0.000	10.49668	13.55286
10 3		13.74428	.7901076	17.40	0.000	12.1957	15.29286
11 1		9.729273	.8863177	10.98	0.000	7.992122	11.46642
11 2		11.67643	.8798768	13.27	0.000	9.951901	13.40095
11 3		13.39594	.8920246	15.02	0.000	11.6476	15.14428
-----+-----							

```
. marginsplot,noci yline(13.39594) yline(15.15982)
```

```
Variables that uniquely identify margins: age time
```

```
. margins time, at(age=(18(1)28) sprt_yr=(0 5))
```

```
Predictive margins                                Number of obs   =          738
Model VCE      : Robust
```

```
Expression    : Linear prediction, fixed portion, predict()
```

```
1._at        : age          =          18
               sprt_yr      =           0
```

```
2._at        : age          =          18
               sprt_yr      =           5
```

```
3._at        : age          =          19
               sprt_yr      =           0
```

```
4._at        : age          =          19
               sprt_yr      =           5
```

```
5._at        : age          =          20
               sprt_yr      =           0
```

```
6._at        : age          =          20
               sprt_yr      =           5
```

```
7._at        : age          =          21
               sprt_yr      =           0
```

```
8._at        : age          =          21
               sprt_yr      =           5
```

```
9._at        : age          =          22
```

	sprt_yr	=	0
10._at	: age	=	22
	sprt_yr	=	5
11._at	: age	=	23
	sprt_yr	=	0
12._at	: age	=	23
	sprt_yr	=	5
13._at	: age	=	24
	sprt_yr	=	0
14._at	: age	=	24
	sprt_yr	=	5
15._at	: age	=	25
	sprt_yr	=	0
16._at	: age	=	25
	sprt_yr	=	5
17._at	: age	=	26
	sprt_yr	=	0
18._at	: age	=	26
	sprt_yr	=	5
19._at	: age	=	27
	sprt_yr	=	0
20._at	: age	=	27
	sprt_yr	=	5
21._at	: age	=	28
	sprt_yr	=	0
22._at	: age	=	28
	sprt_yr	=	5

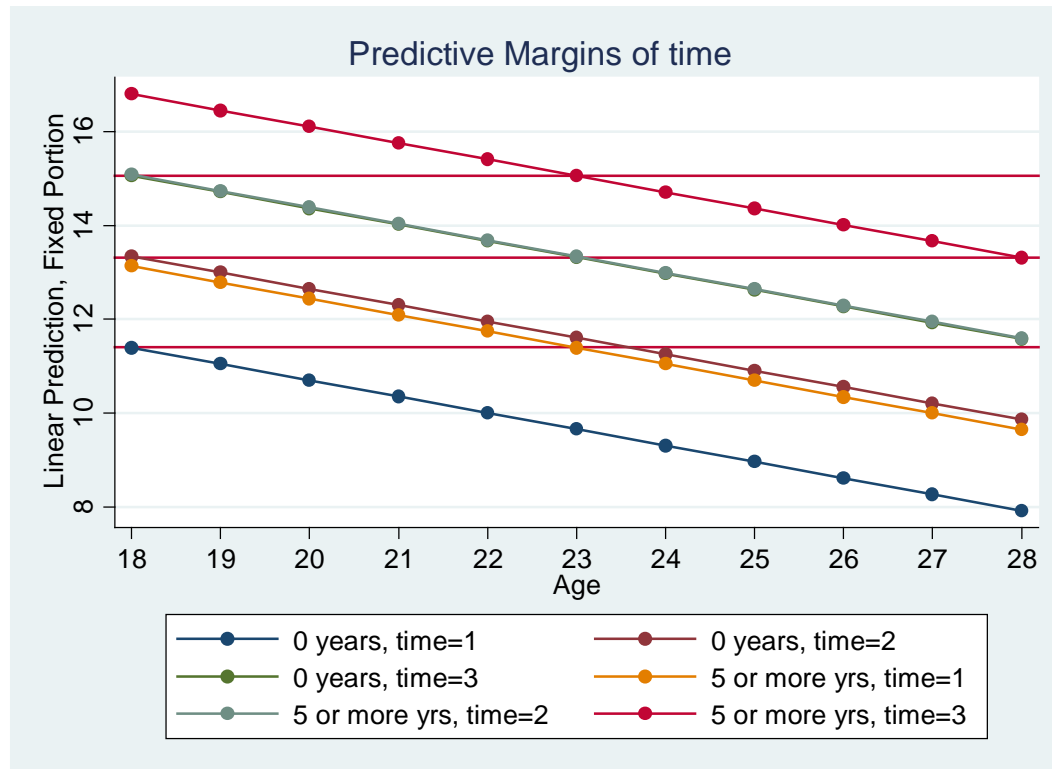
	Delta-method					
	Margin	Std. Err.	z	P> z	[95% Conf. Interval]	

_at#time						
1 1	11.39577	.52398	21.75	0.000	10.36879	12.42276
1 2	13.34293	.5130778	26.01	0.000	12.33731	14.34854
1 3	15.06244	.4905731	30.70	0.000	14.10094	16.02395
2 1	13.1331	.5000489	26.26	0.000	12.15302	14.11318
2 2	15.08025	.4824647	31.26	0.000	14.13464	16.02587
2 3	16.79976	.4507203	37.27	0.000	15.91637	17.68316
3 1	11.04743	.4999594	22.10	0.000	10.06753	12.02734
3 2	12.99459	.4886662	26.59	0.000	12.03682	13.95236
3 3	14.7141	.4704472	31.28	0.000	13.79204	15.63616
4 1	12.78476	.4563679	28.01	0.000	11.89029	13.67922
4 2	14.73191	.4371915	33.70	0.000	13.87503	15.58879
4 3	16.45143	.4081982	40.30	0.000	15.65137	17.25148
5 1	10.69909	.4980999	21.48	0.000	9.722837	11.67535
5 2	12.64625	.4869089	25.97	0.000	11.69193	13.60057
5 3	14.36576	.4740453	30.30	0.000	13.43665	15.29487
6 1	12.43642	.4350105	28.59	0.000	11.58381	13.28902
6 2	14.38357	.4150185	34.66	0.000	13.57015	15.19699

6	3	16.10309	.3909509	41.19	0.000	15.33684	16.86934
7	1	10.35076	.5186399	19.96	0.000	9.33424	11.36727
7	2	12.29791	.5080409	24.21	0.000	11.30217	13.29365
7	3	14.01742	.5008564	27.99	0.000	13.03576	14.99908
8	1	12.08808	.4392452	27.52	0.000	11.22717	12.94898
8	2	14.03523	.4196237	33.45	0.000	13.21279	14.85768
8	3	15.75475	.4022426	39.17	0.000	14.96636	16.54313
9	1	10.00242	.5591162	17.89	0.000	8.906568	11.09826
9	2	11.94957	.5494275	21.75	0.000	10.87271	13.02643
9	3	13.66908	.5474806	24.97	0.000	12.59604	14.74212
10	1	11.73974	.4683784	25.06	0.000	10.82173	12.65774
10	2	13.68689	.4501861	30.40	0.000	12.80455	14.56924
10	3	15.40641	.4398811	35.02	0.000	14.54426	16.26856
11	1	9.654076	.6156089	15.68	0.000	8.447505	10.86065
11	2	11.60123	.6069394	19.11	0.000	10.41165	12.79081
11	3	13.32074	.6093871	21.86	0.000	12.12637	14.51512
12	1	11.3914	.5182278	21.98	0.000	10.37569	12.40711
12	2	13.33855	.5019868	26.57	0.000	12.35468	14.32243
12	3	15.05807	.4979271	30.24	0.000	14.08215	16.03399
13	1	9.305736	.6841618	13.60	0.000	7.964804	10.64667
13	2	11.25289	.6764762	16.63	0.000	9.927022	12.57876
13	3	12.9724	.6824295	19.01	0.000	11.63487	14.30994
14	1	11.04306	.583508	18.93	0.000	9.899406	12.18671
14	2	12.99021	.5692571	22.82	0.000	11.87449	14.10594
14	3	14.70973	.5701817	25.80	0.000	13.59219	15.82726
15	1	8.957397	.7615249	11.76	0.000	7.464835	10.44996
15	2	10.90455	.7547213	14.45	0.000	9.425324	12.38378
15	3	12.62406	.763418	16.54	0.000	11.12779	14.12034
16	1	10.69472	.6596536	16.21	0.000	9.401823	11.98762
16	2	12.64188	.6471911	19.53	0.000	11.3734	13.91035
16	3	14.36139	.6519376	22.03	0.000	13.08361	15.63916
17	1	8.609057	.8452827	10.18	0.000	6.952333	10.26578
17	2	10.55621	.8392427	12.58	0.000	8.911326	12.2011
17	3	12.27572	.8500847	14.44	0.000	10.60959	13.94186
18	1	10.34638	.7433329	13.92	0.000	8.889475	11.80329
18	2	12.29354	.7323925	16.79	0.000	10.85807	13.729
18	3	14.01305	.7400526	18.94	0.000	12.56257	15.46352
19	1	8.260717	.9337158	8.85	0.000	6.430668	10.09077
19	2	10.20787	.9283276	11.00	0.000	8.388383	12.02736
19	3	11.92738	.9408616	12.68	0.000	10.08333	13.77144
20	1	9.998041	.8322767	12.01	0.000	8.366809	11.62927
20	2	11.9452	.8226062	14.52	0.000	10.33292	13.55747
20	3	13.66471	.83251	16.41	0.000	12.03302	15.2964
21	1	7.912378	1.025616	7.71	0.000	5.902208	9.922547
21	2	9.859532	1.020782	9.66	0.000	7.858836	11.86023
21	3	11.57904	1.034668	11.19	0.000	9.551133	13.60696
22	1	9.649702	.9249676	10.43	0.000	7.836799	11.4626
22	2	11.59686	.9163531	12.66	0.000	9.800837	13.39288
22	3	13.31637	.9280127	14.35	0.000	11.4975	15.13524

```
-----
. marginsplot,noci yline(13.31637) yline(15.06244) yline( 11.39577)
```

```
Variables that uniquely identify margins: age sprt_yr time
```



Testing the H_0 that Marineid does not vary at different levels of pltorder

```
. margins r.pltorder,contrast(effects)
```

Contrasts of predictive margins
Model VCE : Robust

Expression : Linear prediction, fixed portion, predict()

	df	chi2	P>chi2
pltorder			
(2 vs 1)	1	0.02	0.8892
(3 vs 1)	1	1.97	0.1604
(4 vs 1)	1	1.20	0.2729
(5 vs 1)	1	4.89	0.0270
(6 vs 1)	1	0.07	0.7952
(7 vs 1)	1	1.84	0.1755
(8 vs 1)	1	0.11	0.7386
Joint	7	17.05	0.0171

	Contrast	Delta-method Std. Err.	z	P> z	[95% Conf. Interval]
pltorder					
(2 vs 1)	-.1144489	.821263	-0.14	0.889	-1.724095 1.495197
(3 vs 1)	-1.322802	.9422534	-1.40	0.160	-3.169584 .5239811
(4 vs 1)	.9492029	.8657237	1.10	0.273	-.7475843 2.64599
(5 vs 1)	1.817062	.8216615	2.21	0.027	.2066348 3.427489

(6 vs 1)	-.2513497	.9683105	-0.26	0.795	-2.149203	1.646504
(7 vs 1)	1.196995	.8835775	1.35	0.176	-.5347855	2.928775
(8 vs 1)	-.3204762	.9602556	-0.33	0.739	-2.202542	1.56159

. margins pltorder,pwcompare(effects)

Pairwise comparisons of predictive margins

Model VCE : Robust

Expression : Linear prediction, fixed portion, predict()

	Contrast	Delta-method Std. Err.	Unadjusted z	Unadjusted P> z	Unadjusted [95% Conf. Interval]	
pltorder						
2 vs 1	-.1144489	.821263	-0.14	0.889	-1.724095	1.495197
3 vs 1	-1.322802	.9422534	-1.40	0.160	-3.169584	.5239811
4 vs 1	.9492029	.8657237	1.10	0.273	-.7475843	2.64599
5 vs 1	1.817062	.8216615	2.21	0.027	.2066348	3.427489
6 vs 1	-.2513497	.9683105	-0.26	0.795	-2.149203	1.646504
7 vs 1	1.196995	.8835775	1.35	0.176	-.5347855	2.928775
8 vs 1	-.3204762	.9602556	-0.33	0.739	-2.202542	1.56159
3 vs 2	-1.208353	.9259307	-1.31	0.192	-3.023144	.606438
4 vs 2	1.063652	.8023607	1.33	0.185	-.5089462	2.63625
5 vs 2	1.931511	.7572306	2.55	0.011	.4473658	3.415655
6 vs 2	-.1369009	.8936289	-0.15	0.878	-1.888381	1.61458
7 vs 2	1.311443	.8001165	1.64	0.101	-.2567561	2.879643
8 vs 2	-.2060273	.8620691	-0.24	0.811	-1.895652	1.483597
4 vs 3	2.272005	.959346	2.37	0.018	.3917209	4.152288
5 vs 3	3.139863	.9278491	3.38	0.001	1.321313	4.958414
6 vs 3	1.071452	1.048799	1.02	0.307	-.9841557	3.12706
7 vs 3	2.519796	.9837688	2.56	0.010	.5916449	4.447948
8 vs 3	1.002326	1.033738	0.97	0.332	-1.023764	3.028415
5 vs 4	.8678587	.7696349	1.13	0.259	-.6405979	2.376315
6 vs 4	-1.200553	.9457449	-1.27	0.204	-3.054179	.6530733
7 vs 4	.2477916	.88214	0.28	0.779	-1.481171	1.976754
8 vs 4	-1.269679	.9103862	-1.39	0.163	-3.054003	.5146451
6 vs 5	-2.068411	.9119792	-2.27	0.023	-3.855858	-.280965
7 vs 5	-.6200672	.8021711	-0.77	0.440	-2.192294	.9521594
8 vs 5	-2.137538	.8699392	-2.46	0.014	-3.842587	-.4324882
7 vs 6	1.448344	.9654551	1.50	0.134	-.443913	3.340602
8 vs 6	-.0691264	.9611909	-0.07	0.943	-1.953026	1.814773
8 vs 7	-1.517471	.9364196	-1.62	0.105	-3.352819	.317878

. margins pltorder

Predictive margins Number of obs = 738

Model VCE : Robust

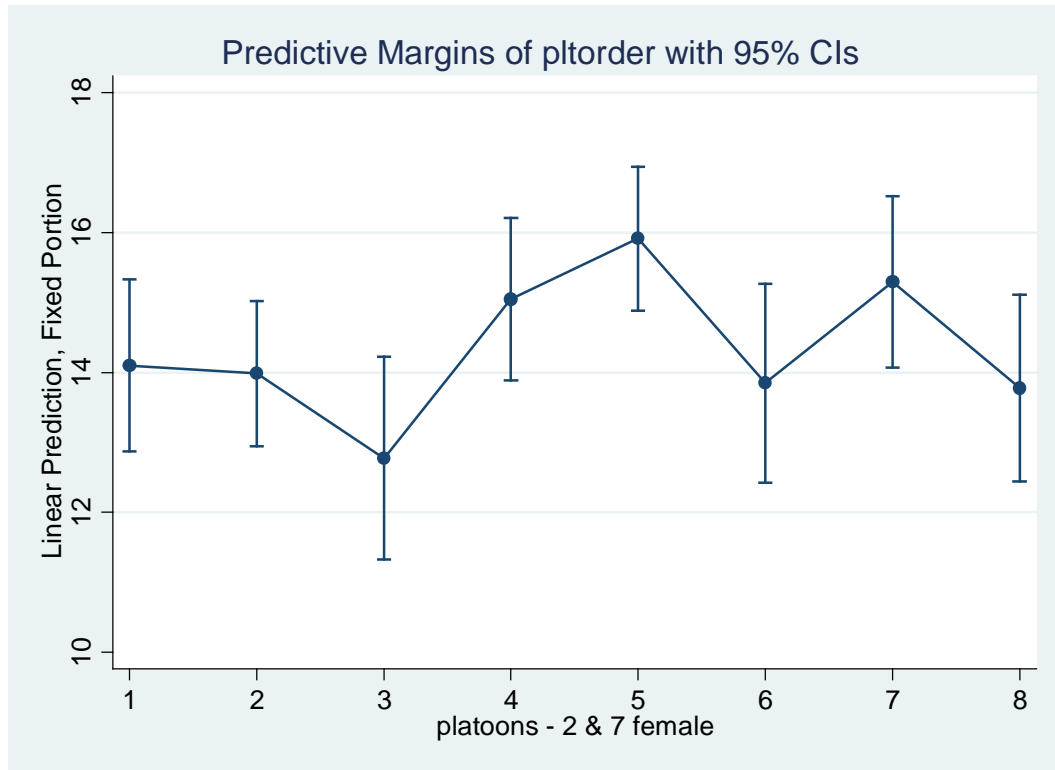
Expression : Linear prediction, fixed portion, predict()

	Margin	Delta-method Std. Err.	z	P> z	[95% Conf. Interval]	
pltorder						
1	14.09806	.6281492	22.44	0.000	12.86691	15.3292
2	13.98361	.5289141	26.44	0.000	12.94695	15.02026
3	12.77525	.7377144	17.32	0.000	11.32936	14.22115
4	15.04726	.5920468	25.42	0.000	13.88687	16.20765

5		15.91512	.5245999	30.34	0.000	14.88692	16.94331
6		13.84671	.7244855	19.11	0.000	12.42674	15.26667
7		15.29505	.6268271	24.40	0.000	14.06649	16.52361
8		13.77758	.679756	20.27	0.000	12.44528	15.10988

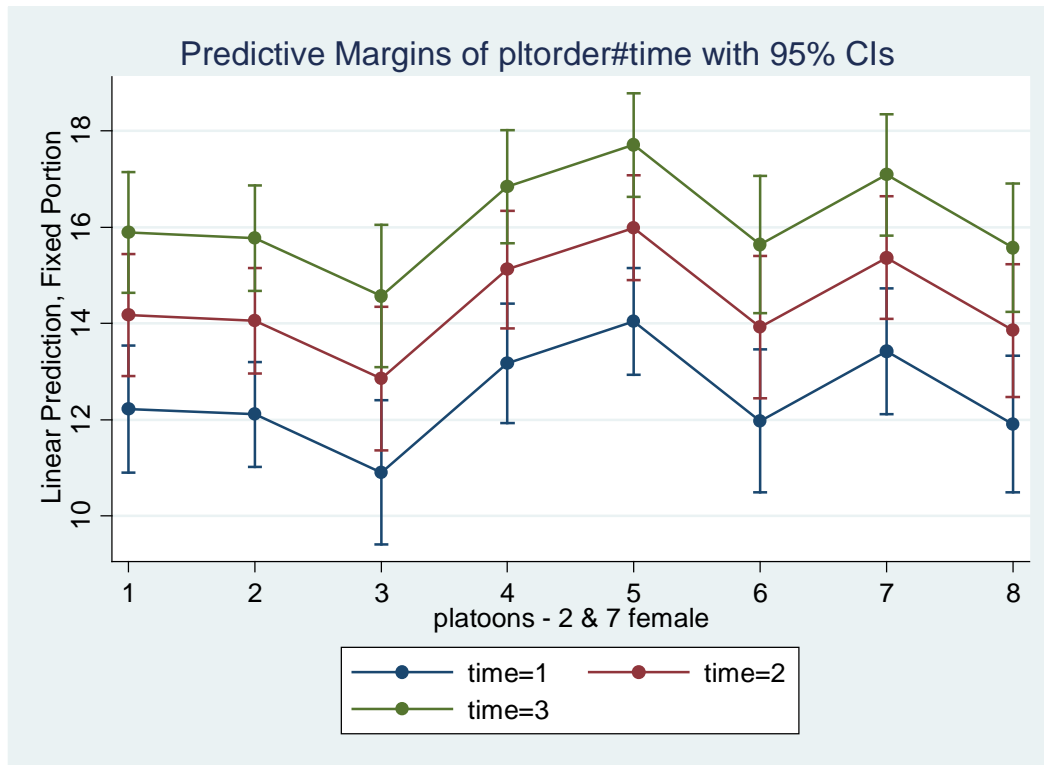
```
. marginsplot
```

```
Variables that uniquely identify margins: pltorder
```



```
. quietly margins pltorder#time
```

```
. marginsplot
```



APPENDIX J

Publication and Review Clearance



UNITED STATES MARINE CORPS
MARINE CORPS RECRUIT DEPOT/EASTERN RECRUITING REGION
BOX 19001
PARRIS ISLAND, SOUTH CAROLINA 29905-9001

In reply refer to:
5800
SJA
21 Mar 13

From: Staff Judge Advocate

To: Dean, School of Graduate Studies and Research Indiana University of
Pennsylvania, Stright Hall, Room 101, 210 South Tenth Street, Indiana, PA
15705-1048

Subj: PUBLICATION AND REVIEW

Ref: (a) Navy Cooperative Research and Development Agreement NMCP 10-138

1. In accordance with Appendix A (Statement of Work) of the reference, Michael D. Becker, a graduate student of Indiana University of Pennsylvania (IUP), at the conclusion of his dissertation defense, has provided Marine Corps Recruit Depot (MCRD) Parris Island a written copy of his dissertation "*We Make Marines: Organizational Socialization and the Effects of 'The Crucible' on the Values Orientation of Recruits during U.S. Marine Training*" for review and approval.
2. MCRD Parris Island has reviewed the dissertation and notifies IUP by this letter that clearance for publication and presentation of the findings is approved.
3. Point of contact is Lieutenant Colonel Robert. G. Palmer at (843) 228-4763.


R. G. PALMER

Review and approval by Naval Medical Center Portsmouth

-----Original Message-----

From: Morgan, Charles W. (CIV) [mailto:Charles.Morgan@med.navy.mil]

Sent: Friday, March 01, 2013 8:46 AM

To: Becker, Mo

Subject: RE: NHBU.2010.0001 shipment of data

Mo,

I recommend you contact CAPT Hill directly. NMCP has fulfilled its obligation re the CRADA, so we aren't expecting anything back from them. We are not part of your request for approval to publish. That is, you don't require approval from Portsmouth. As to the IRB, you have submitted a final report and it has been approved, so we need nothing else from you for the IRB. However, though we are no longer officially involved, I will be glad to provide you any assistance and information that I can until you have achieved your goal. You may contact me at any time.

Regards,

Charles Morgan, Ph.D.

Head, Research Subjects Protection Division, CID Naval Medical Center

Portsmouth, VA Ph 757.953.5939; FAX 757.953.5298

charles.morgan@med.navy.mil