

5-12-2008

The Effects of Two-way Mirrors, Video Cameras, and Observation Teams on Clients' Judgments of the Therapeutic Relationship

Amy E. Ford

Indiana University of Pennsylvania

Follow this and additional works at: <http://knowledge.library.iup.edu/etd>

Recommended Citation

Ford, Amy E., "The Effects of Two-way Mirrors, Video Cameras, and Observation Teams on Clients' Judgments of the Therapeutic Relationship" (2008). *Theses and Dissertations (All)*. 30.
<http://knowledge.library.iup.edu/etd/30>

This Dissertation is brought to you for free and open access by Knowledge Repository @ IUP. It has been accepted for inclusion in Theses and Dissertations (All) by an authorized administrator of Knowledge Repository @ IUP. For more information, please contact cclouser@iup.edu, sara.parme@iup.edu.

THE EFFECTS OF TWO-WAY MIRRORS, VIDEO CAMERAS, AND
OBSERVATION TEAMS ON CLIENTS' JUDGMENTS OF THE THERAPEUTIC
RELATIONSHIP

A Dissertation

Submitted to the School of Graduate Studies and Research

in Partial Fulfillment of the

Requirements for the Degree

Doctor of Psychology

Amy E. Ford

Indiana University of Pennsylvania

August 2008

© 2008 by Amy E. Ford

All Rights Reserved

Indiana University of Pennsylvania
The School of Graduate Studies and Research
Department of Psychology

We hereby approve the dissertation of

Amy E. Ford

Candidate for the degree of Doctor of Psychology

Donald U. Robertson, Ph.D.
Professor of Psychology, Chair

Maureen C. McHugh, Ph.D.
Professor of Psychology

John A. Mills, Ph.D., ABPP
Professor of Psychology

ACCEPTED

Michele S. Schwietz, Ph.D.
Assistant Dean for Research
The School of Graduate Studies and Research

Title: The Effects of Two-way Mirrors, Video Cameras, and Observation Teams
on Clients' Judgments of the Therapeutic Relationship

Author: Amy E. Ford

Dissertation Chair: Dr. Donald U. Robertson

Dissertation Committee Members: Dr. Maureen C. M^cHugh
Dr. John Mills

Mirrors, video cameras, and live supervision are used throughout the country to train psychologists. Although this training equipment has been shown to increase self-focused attention, little is known about how this might affect the client's perceptions of the therapeutic relationship. In order to do so, subjects were divided into two different setting groups: Full Training group in which the participant is exposed to all equipment (i.e., two-way mirror, video-recording equipment, and observation team) and Control group in which the participant is not exposed to any training equipment because it has been covered up. After a measure of self-focused attention, the participants were interviewed, after which they evaluated the therapeutic relationship. Results indicate no difference between levels of self-focused attention in the group exposed to the equipment and the control. This may be due to the participants' ability to distract themselves from the equipment, thus reducing any increases in self-focused attention.

This study also began to explore the processes behind self-focused attention and impression formation in interpersonal situations, specifically within the therapeutic relationship. Silvia and Duval (2004) asserted that the negative affect that results from self-evaluation due to heightened self-focused attention may be attributed to the interviewer if no salient standard is presented. Inducing a salient standard of comparison in the different setting conditions was done to determine if having a chosen dimension of comparison would change the effect of the equipment on client's perceptions of the therapeutic relationship. Results indicate that there were no differences between any of the groups on measures of the therapeutic relationship.

The most significant results were the difference on the debriefing measures. The participants were asked questions about what their experience with the equipment was like or what it *would* be like. Results suggest that those who were not exposed to the equipment predict that it would have a much larger effect on their experience during the interview than is reported by those who were exposed. These findings are important to consider when introducing new clients to the training setting.

ACKNOWLEDGMENTS

For better or for worse, our future will be determined in large part by our dreams and the struggle to make them real.

Mihaly Csikszentmihalyi

I am lucky to say that I did not struggle alone. There have been many people along this journey that have made it possible for me to reach my dreams. Dr. Robertson, my chair, my mentor, my friend. He has guided me nearly every step of my training and I am lucky to have called him my chair. He has been understanding, yet firm, comforting, yet challenging, persistent, yet supportive. My committee, Dr. Mills and Dr. McHugh, and their friendly faces and comforting words made proposing and defending this project enjoyable.

My parents have provided the support, both emotional and financial, necessary for me to pursue graduate school. My dad has been my inspiration and my mother, a shoulder from afar for which I rested my head many difficult nights. Friends and family, with words and notes of encouragement, have kept me in good spirits all along the way and reminded me of life beyond this project.

Finally, I give infinite thanks to Kevin, the most patient and understanding man I have ever known. He has given me the strength to fulfill my dreams and continues to support them as we prepare to start our life together.

I hope to someday repay all of these wonderful people for making it possible for me to never doubt myself and continue to reach when my dreams seemed so far away.

TABLE OF CONTENTS

Chapter		Page
One	REVIEW OF RELEVANT LITERATURE.....	1
	Introduction	1
	Theory of Self-Awareness.....	3
	Self-Awareness and Social Interactions.....	9
	Research on Mirrors.....	12
	Research on Video Recording Equipment	17
	Research on Audiences	21
	Importance of the Therapeutic Relationship.....	25
	Current Study	27
Two	METHODS	29
	Subjects	29
	Overview of the Study	29
	Interviewer	30
	Interview.....	31
	Methods of Obtaining Data	32
	Measures.....	32
	Linguistic Implication Form	32
	Rating of College Adjustment	33
	Working Alliance Inventory	33
	Procedure	34
Three	RESULTS.....	36
	LIF Analyses	36
	WAI Analyses.....	38
	Analyses of Debriefing Questions	39
Four	SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS	44
	Summary of Findings	44
	Comparisons Between Research and Clinical Populations...	47
	Implications and Recommendations	51
	REFERENCES	55

APPENDICES	65
Appendix A – Script for Study	65
Appendix B – Working Alliance Inventory (Revised)	67
Appendix C – Consent Form	68
Appendix D – Interview Form	70
Appendix E – Debriefing Questionnaire for Full Training/Standard	72
Appendix F – Debriefing Questionnaire for Control/Standard	73
Appendix G – Debriefing Questionnaire for Full Training/No Standard	74
Appendix H – Debriefing Questionnaire for Control/No Standard	75
Appendix I– Linguistic Implication Form	76

LIST OF TABLES

Table	Page
1 Mean Scores on the LIF and WAI.....	37
2 Mean Scores on Debriefing Questions.....	40
3 Mean Scores on WAI Across Conditions.....	48

CHAPTER ONE

REVIEW OF RELATED LITERATURE

Introduction

Clinical training facilities often enlist the use of two-way mirrors, supervision teams, and video recording equipment to train student therapists. This equipment helps the trainees best learn from their practical and supervisory experiences. The trainees, however, are not the only people in the therapy room. A client is also exposed to the mirror, audience, and video cameras and may be affected the presence of such equipment. Mirrors, audience, and video cameras have all been shown to increase self-focused attention, because a person's attention can be either placed on the self or the environment, depending on the external cues to which a person is exposed (Duval & Wicklund, 1972; Carver & Scheier, 1986; Buss, 1980). Based on this theory, the focus of a client's attention, much like that of the therapist, can be modified by the presence of the training equipment in the therapy room.

There is abundant research on the effects of self-focused attention using video-cameras, mirrors, and audiences as part of the manipulation (Buss & Scheier, 1976; Carver, 1974, 1975; Carver & Scheier, 1978; Davis & Brock, 1975; Duval and Wicklund, 1972; Geller & Shaver, 1976). Heightened self-focused attention has been shown to produce several effects including changes in task performance, changes in attributions of causality, and differences in emotional experiences (Cohen & Davis, 1973; Duval and Wicklund, 1973; Scheier, 1976). As a result of one's limited capacity for attention, when attention

is directed toward the self in situations in which mirrors and other external cues are present, attention may not be placed on various aspects of the situation. Specifically, in an interpersonal interaction, social components of the situation (e.g., forming a relationship) receive less attention due to environmental cues heightening self-focused attention (Higgins, 1987). This may have important practical implications in the clinical setting, because it may be the therapeutic relationship that is affected by the increase in a client's self-focused attention. Based on the common factors literature, the therapeutic relationship is one of the most important factors affecting treatment outcome (Lambert & Bergin, 1994; Lambert & Barley, 2001) and a common factor between several treatment orientations (Whiston & Sexton, 1993).

Despite research examining the effects of training equipment like the two-way mirror, presence of an audience, and video-recording devices on the psychologist-in-training (e.g. Ellis, Krengel, & Beck, 2002), the effects on the client's level of self-focused attention and impressions of the therapist and therapeutic relationship have been largely neglected. It possible that increased self-focused attention in the client may have positive effects in regard to treatment outcome; however, if in fact the use of two-way mirrors, video-recording devices, and/or supervision teams has a negative effect the clients' perceptions of the therapeutic relationship, then methods used to train student therapists may need to be adapted. As Lambert and Barley (2001) assert, in order to improve psychotherapy, therapists must learn to better relate to their clients and tailor the therapeutic relationship to individuals. If training equipment

is hindering the process of relationship building, how are these beginning therapists learning these necessary skills? Additionally, if an effect is found, there may be ethical issues that may cause clinics, universities, and other facilities to rethink how they conduct supervision of psychology trainees.

The purpose of this study is to determine the impact training equipment found in clinical facilities has on clients and their perceptions of the initial therapeutic relationship. This review will include a summary of Duval and Wicklund's (1972) Theory of Objective Self-Awareness, followed by a brief summary of the social development of self-focused attention, an overview of the effects on self-focused attention induced by the various training methods (i.e., mirrors, video-recording equipment, and treatment teams) and a brief description of the therapeutic relationship and its importance in treatment outcome. Finally, the research questions and hypotheses of the current study will be discussed.

Theory of Self-Awareness

Self-awareness is a domain of psychology that is comprised of a set of specific theories that attempt to explain self-focused attention. These theories have subtle differences regarding basic assumptions and effects of self-focused attention (Silvia & Gendolla, 2001). Theories include (but are not limited to) those proposed by Duval and Wicklund (1972), Carver and Scheier (1981), Buss (1980), and Gibbons (1990). The basic premises of these models are similar in that they posit that individuals can direct attention either externally (toward events and people in the outside world) or internally (toward themselves are

objects in the world). These theories also agree that this attention can be shifted by cues in the environment. Carver and Scheier (1986) support one major theory discussing self-focused attention; however, they focus on dispositional self-focused attention, or self-consciousness. Due to the nature of the current study and the concern with transient changes in self-focused attention during therapy rather than persistent dispositional self-consciousness, the Theory of Objective Self-Awareness (OSA; Duval & Wicklund, 1972) will be used to provide the background for the current research. The review will focus on these authors' original model and the recent updates by Silvia and Duval (2001).

Duval and Wicklund (1972) sought to delineate two different types of conscious attention. A major assumption of OSA asserts that states of awareness are directed either toward an aspect of oneself or toward the external environment. When stimuli in the environment trigger an individual to focus their attention away from themselves, the person experiences him- or herself as an agent in the world. This attention is referred to as subjective self-awareness. An individual who has heightened subjective self-awareness experiences him- or herself as a source of action and perception. When stimuli in the environment trigger one's attention to focus inward toward the self, the individual becomes the object of his or her own consciousness. This attentional state is referred to as objective self-awareness.

Duval and Wicklund (1972) assert that individuals are capable of being in both states of objective and subjective self-awareness, however not simultaneously due to one's limited attentional capacity. Thus, the states are

primarily determined by factors in a person's immediate environment. Conditions that lead to states of objective self-awareness include any stimuli that cause a person to focus attention on him- or herself. Given that these authors believe that subjective self-awareness is the primary state due to the strength of the environment to draw attention to it, the stimuli that induce objective self-awareness must prompt the individual to reflect on his or her status as an object in the world. These stimuli include "looking into a mirror, hearing one's tape recorded voice, seeing a photograph of oneself, or any other setting where a manifestation or reflection of the person is external to the individual and can be perceived by him or her" (Duval & Wicklund, p. 7). Other human beings also act as a stimulus to generate objective self-awareness. This is due to the presence of another person reminding the individual that he or she is an object that the other person is attending to (Duval & Wicklund).

Objective and subjective self-awareness are different on a variety of dimensions. Most important is the fact that in a state of heightened objective self-awareness, an individual ceases to react to him- or herself impartially but rather evaluates him- or herself immediately and automatically. Conversely, subjective self-awareness causes attention to be directed away from the self, thus causing no activation of the self-evaluative process. Evaluation in this state of objective self-awareness focuses on a set of psychological standards or mental representations of appropriate behavior, attitudes, and characteristics. These standards may include personality traits such as intelligence, or may represent etiquette such as suitable interpersonal disclosure. Duval and Wicklund's theory

maintains that when attention is focused on the self, comparison of the self to these standards is automatic. Self-evaluation resulting from increased self-awareness can occur on any dimension where a self-standard discrepancy is possible. The dimensions that will become salient for self-evaluation are those that are prompted by the social interaction or situation in which the encounter occurs. Duval and Wicklund (1972) provide an example of the evaluation process using a woman who attends a party with numerous strangers. Upon her arrival, the strangers do not say anything, yet the environment is oriented toward physical attractiveness and impression. Thus, the woman is self-aware, evaluating aspects of her body or dress based on an elicited internalized standard. If there is a dimension on which a person feels chronically inferior, even in situations that attempt to draw his or her attention toward other dimensions, the person's concern about the perceived deficit may overpower the tendency to focus elsewhere (Duval & Wicklund; 1972).

People have many internalized dimensions on which to make self-standard comparisons (Silvia & Duval, 2001a). Silvia and Duval assert that OSA does not specify the process through which a standard or dimension is selected for self-evaluation. Research on OSA theory and standards has traditionally focused on experimentally-induced standards. Although these studies have shed light on the basic assumptions of the theory, the standard induction procedure obscures the question of which standard is selected (Duval & Silvia, 2001). Silvia and Duval (2001a) state that "past theory has simply assumed that situations contain cues that make one standard particularly salient;" however, complex

social situations often make several, often conflicting, standards salient (p. 236). In order to explain the selection process in regard to contradictory standards, one major possibility has been proposed by Duval and Lalwani (1999). These authors suggest that one standard can be made more or less important, thus altering its positive valence in the approach-approach conflict of the conflicting standards. If a standard is rejected or derogated, the valence becomes less positive, thus reducing its magnitude in the approach-approach conflict (Silvia & Duval, 2001a). More research is needed before any conclusions can be drawn about the standard selection process.

Objective self-awareness theory assumes that discrepancy between the self and the salient standards causes an individual to experience general negative affect (Duval & Wicklund, 1972; Duval & Silvia, 2001), much like the effect of inconsistencies asserted by balance theory (Heider, 1958) and cognitive dissonance theory (Festinger, 1957). People, however, don't necessarily know why they have these bad feelings. As Weiner (1985) first described, when an event is inconsistent or imbalanced, people make attributions for why the event occurs. When a person experiences negative affect as a result of self-evaluations being made outside of their awareness, the automatic process of making an attribution is initiated. People desire congruency between their standards and their behavior, but they also want to accurately attribute events to the most likely cause (Duval & Duval, 1983). Silvia and Duval (2004) assume that, based on Heider's (1958) research on balance theory and attributional processes, the attributions people make lead to attitude formation. Thus, if the person attributes

their negative affect to the other person, they will dislike the other person and anything related to him or her (Silvia & Duval, 2004; Silvia & Duval, 2001b). In a clinical setting, if a client attributes his or her negative affect to the therapist, the therapeutic relationship may be compromised.

Individuals who are in a state of heightened self-awareness are motivated to decrease the negative affect that results from a discrepancy between the behavior and the standard under evaluation. One can decrease this negative affective state by changing the behavior to match the standard, changing the standard to better fit the self, or by avoiding the stimuli that are producing heightened objective self-awareness (Duval & Wicklund, 1972). One will attempt to avoid the stimuli first, because this is the easiest method of reducing the negative affect. If this, however, is unable to be done (e.g., mirror is placed so that reflection is inescapable), then the route through which the discrepancy is reduced is determined by the causal attributions made for the discrepancy (Duval & Lalwani, 1999). If a personal attribution is made, the individual will change the self in order to be consistent with the standard. If the discrepancy is attributed to the standard, the individual will determine the standards to be unrealistic and thus change the standards to match the self (Duval & Lalwani, 1999). An individual's expectations for his or her ability to reduce the discrepancy are also appraised. If one views the discrepancy as mutable, then behavior is changed to match the standard of comparison. If the discrepancy is appraised as immutable, the standard is then evaluated as being unattainable. Thus the standard is

altered to reduce the discrepancy (Duval & Lulwani, 1999) Research has found that meeting standards leads to positive affect (Ickes, Wicklund & Ferris, 1973).

Application of these theoretical notions to the clinical situations suggests that objective self-awareness is likely being induced by the training equipment. Thus the client automatically begins evaluating his- or herself in relation to various standards, resulting in discrepancies and negative affect. It is important to understand the effect this process has on the client's perceptions of the therapeutic relationship. Based on Silvia and Duval (2004) statement regarding the link between attribution and attitude formation, it is possible that training equipment indirectly leads clients to dislike the therapist and/or the therapeutic setting and process.

Duval and Wicklund were the first to explore and explain the phenomenon of self-focused attention. Their theory comprehensively describes the sequences of processes that are initiated by heightened self-focused attention. The authors also include a description of the development of an understanding of self. The social context of this development is worthy of note in this commentary due to the emphasis the current study makes on interpersonal interaction.

Self-awareness and Social Interactions

Self-awareness, although it focuses mainly on the experiences of the self, is rooted deeply in the social experience. Objective self-awareness does not spontaneously emerge in individuals. Duval and Wicklund (1972) maintain that very young children are unable to focus their attention inward, or allow the self to

be the center of consciousness, because they have not yet differentiated between the self and the rest of the world. Given that a child cannot focus their attention on something that is not an object, a child will not be able to be objectively self-aware until he or she “learns or discovers the object-like nature of self” (Duval & Wicklund, p. 37). The process in which a child develops the idea of the self as an object occurs in a social world. Vygotsky’s sociohistorical theory of development is reflected in this concept. Vygotsky’s (1986) studies in child and adolescent development uncovered self-awareness as a socialized expression. The growth of self-awareness, according to Vygotsky (1986), occurs in the social environment through increasing affective awareness, and self-identity is mediated by social norms and expectations.

Duval and Wicklund (1972) posit that the only way for one to develop the ability to differentiate the self as a causal agent is through interactions in which he or she becomes aware of the thoughts, perceptions, and actions that are different from others. Social interaction allows the individual to be in the presence of differing viewpoints, experience differences in points of view concerning the same object, and be simultaneously aware of the two contradictory opinions (Duval and Wicklund). These three conditions allow the child to develop a sense of self as a separate object in the world.

Beyond the necessity of social experiences in the development of self-awareness, social interactions have been studied in light of heightened self-awareness. A study by Nezlek (2002) looked at the daily within-person covariation of self-focused attention, mood, and daily events. Subjects were

asked to complete parts of questionnaires every day on a computer. They were asked about self-focused attention, anxiety and negative affect, negative and positive social events (e.g. I went out to lunch with a friend), and negative and positive achievement events (e.g. I accomplished a task at work or school) (Nezlek, 2002).

Results indicated that daily self-focused attention covaried, relatively independently, with both daily anxiety and daily negative events. Analyses suggested that increased self-focused attention led people to have more negative social experience (e.g. had plans fall through to spend time with someone special) when they are focused on private aspects of themselves. Conversely, when subjects were focused more on public aspects of themselves, the increase in self-focused attention led to more positive social experiences. There was no relationship between self-focused attention and achievement events (either positive or negative) (Nezlek, 2002). The author reports that anxiety leads to changes in self-awareness which in turn leads to negative events.

The review of OSA theory and the development of the self-awareness have helped form the foundation of the current study. The concern now is how the issue of self-focused attention has practical application in the clinical setting. Specifically, an emphasis is placed on facilities in which training equipment is present. Thus, we will explore the effects of self-focused attention induced by training equipment (i.e. mirrors, video-recording equipment, and treatment teams).

Research on Mirrors

Mirrors used in research are typically one-way mirrors which are positioned in such a way that the research subjects' reflections are unavoidable. There is compelling evidence that an individual's focus of attention can be manipulated using a mirror (Buss, 1980; Carver & Scheier, 1978). This heightened state of self-focused attention (Geller & Shaver, 1976; Buss & Scheier, 1976; Carver & Scheier, 1974, 1975, 1978; Fenigstein, 1979; Fenigstein, Scheier, & Buss, 1975) has been studied for several decades and has shown to have effects on task performance, affective experiences, causal attributions, and clinical symptomology.

There is a substantial amount of evidence suggesting that an increase in self-focused attention, as manipulated by the presence of a mirror, is associated with negative affective experiences (e.g., Scheier & Carver, 1977). This is due to the fact that mirrors cause people to evaluate themselves on various dimensions, in which case there is often a discrepancy between their actual levels of various characteristics and the ideal level based on the salient standard to which they are comparing (Duval & Wicklund, 1972). Mirrors also enhance an individual's perception of his or her predominant affect (Carver & Scheier, 1978; Scheier, Carver, & Gibbons, 1981). Scheier (1976) found that individuals who were exposed to a one-way mirror and were provoked experienced more anger than individuals who did not have heightened self-focused attention. Mirror-exposed individuals also aggress more than those who are not exposed to their reflection (Scheier). There has been speculation, however, that the mirror manipulation

does not increase individuals' actual aggression, but rather, it heightens the subjects' awareness of their affective state (Scheier, 1976; Carver & Scheier, 1978). Negative affective states often found in psychiatric patients (e.g. major depressive disorder, anxiety disorders) are also increased when these individuals are presented with a one-way mirror (Pryor, Gibbons, Wicklund, Fazio, & Hood, 1977).

Salient dimensions on which self-standard comparisons occur as a result of mirror-induced self-focused attention can also be personally-relevant. Mirrors may affect clinical symptomology by attaching salience to various personally-relevant dimensions. For example, exposure to an unavoidable reflection in a one-way mirror increases negative mood states reported by psychiatric patients (Gibbons et al., 1985). Carver, Blaney, and Scheier (1979) found that the presence of a mirror increased an individual's general awareness of anxiety-based arousal and momentary feelings of fearfulness and inadequacy. Hofmann and Heinrichs (2003) used a mirror manipulation to investigate differences among DSM-IV subtypes of social phobia in their levels of self-perception. These authors found that the effects of mirror exposure differed depending on whether the client suffered from a generalized subtype of social phobia (GSP) or a nongeneralized subtype. The subjects with nongeneralized social phobia responded to the mirror manipulation much like nonanxious subjects, in that they had a lower frequency of negative nonsocially relevant personality characteristics, such as laziness than subjects with GSP (Hofmann & Heinrichs, 2002, 2003). The mirror also led to fewer negative socially relevant self-

statements (e.g. “I am selfish”) by subjects with GSP. The authors assert that mirrors temporarily force individuals with GSP to adjust their negative perception bias about private aspects of the self in social situations (Hofmann & Heinrichs, 2003).

As previously stated, there are a few different ways a person can reduce the negative affect that results from discrepancies between the self and the standard. One way in which this occurs is through behavioral change. Conformity has been shown to be affected by mirror presence. Conformity of one's opinions is one way in which mirror-induced self-focused attention can reduce discrepancies between societal standards and one's actual behavior (Wicklund, 1979). Social norms such as academic honesty are made more salient if an individual is made to be self-aware by the use of a one-way mirror (Diener & Wallbom, 1976). Individuals who are exposed to a mirror have higher attitude-behavior consistency (Pryor et al., 1977; Silvia & Gendolla, 2001). One interpretation suggests that mirrors and other self-focused-attention-inducing stimuli lead to an increase in drive which in turn leads to a higher emission frequency of dominant responses (Liebling, Seiler, & Shaver, 1974). A dominant response would include conformity of behavior to salient standards. The emission of dominant responses may also be attributed to a heightened drive due to evaluation apprehension induced by a mirror (Henchy & Glass, 1968).

Social interaction often involves the exchange of information, especially in the therapy setting. Exposure to a mirror has been shown to elicit more honest responses of self-relevant and potentially threatening information (Pryor et al.,

1977; Silvia & Gendolla, 2001). The accuracy with which psychiatric patients report hospitalization history has also been found to increase with the presence of a mirror (Gibbons et al., 1985). Understanding the perspective of another person is also an important variable in social interactions. Higgins (1987) suggests that perspective taking involves recognizing that one's own situation or circumstances differ from the others. In other words, detecting a difference in "situational" viewpoints occurs when one is taking another's perspective. Perspective taking may also entail recognizing the distinction between one's own internal characteristics (abilities, attitudes) and those of the other person in the interaction (Higgins, 1987). Mirror-induced self-focused attention increases an individual's attention to the inferences made about another person's perspective (Stephenson & Wicklund, 1983). However, when a highly salient aspect of the self is brought into the setting in which the mirrors are present, the individual's self-focused attention moves toward that dimension and away from the more social considerations of the interactions (Stephenson & Wicklund, 1983).

Another way a person can alleviate the negative affect produced by a self-standard discrepancy is through attributional changes. Duval and Wicklund (1972) argued that the focus of attention is in part responsible for causal attributions. Self-attributions increase when the self is the primary focus of attention. Mirror inductions of self-focused attention cause an increase in responsibility attributed to the self in various situations (Duval & Wicklund, 1973), but the effect has been found to be weak due to the moderating effect of trait self-consciousness (Buss & Scheier, 1976). Bögels, Rijsemus and DeJong

(2002) studied social anxiety and self-focused attention to determine the amount of self-attributions made with and without the presence of a mirror. Data suggest that individuals who have low levels of social anxiety attributed less success to themselves when faced with a mirror than when no mirror was present. These findings may imply that mirrors may affect clinical presentation and experience of symptoms, beyond changes in attribution.

One-way mirrors have been used in research for several decades in order to determine the effects of self-focused attention on a variety of dimensions. The current study focuses on the effects two-way mirrors have on clients during therapeutic interactions, or more specifically, intake interviews. It is possible that the mirrors used in therapy elicit different effects than mirrors used in typical research on self-focused attention. Corley and Mason (1976) studied the effectiveness of two-way mirrors with regard to oral test scores. No significant differences in scores were found between subjects who had the examiner in the room and those whose examiners were behind a two-way mirror. Based on these findings, it is possible that the mirrors in training therapy rooms might in fact turn one's attention to the audience behind the mirror as opposed to their reflection in it.

Based on Duval and Wicklund's (1972) theory, two-way mirrors may create a state of negative affect in the client, due to the discrepancy resulting from the self-evaluation process. Training mirrors may also increase the client's awareness of the social norms, which may act as the standards against which the self is compared. Baldwin and Holmes (1987) suggest that the self is

experienced in relation to some audience, whether it is present, imagined, generalized, and/or specific. These authors found that “the self-evaluative experience engendered by self-awareness was different for subjects with different salient private audiences” (p. 1094). A two-way mirror in situation that involves an audience may make the perceived standards more salient in that the audience is not only internalized but present as well. A two-way mirror in a therapy room may also interfere with the client’s understanding of the therapist’s perspective. All of these potential consequences of training mirrors thus may affect the client’s ability to form, understand, or adequately and accurately perceive the therapeutic relationship.

As this commentary has demonstrated, years of research have tied the presentation of mirrors with states of heightened self-focused attention. Based on OSA theory, an individual in such a state will enter a process of self-evaluation on various dimensions. Self-standard discrepancies result in negative affect which initiates a drive to reduce the inconsistency by changing behavior or making different causal attributions. Two-way mirrors are not the only environmental stimuli in training facilities that may have this effect on the clients receiving therapy. Video-recording equipment is another often used device in training clinical psychology students.

Research on Video Recording Equipment

As previously mentioned, video-cameras, mirrors, and audiences have all been linked to increases in self-focused attention (Buss & Scheier, 1976; Carver,

1974, 1975; Carver & Scheier, 1978; Davis & Brock, 1975; Duval and Wicklund, 1972; Geller & Shaver, 1976). Despite the popularity of using mirrors in studying the effects of self-focused attention, research looking at self-awareness as it relates to the presence of video recording equipment is more rare. As OSA posits, video cameras trigger one's attention to focus inward toward the self (Duval & Wicklund, 1972). Thus, the individual becomes the object of his or her own consciousness. A video camera causes an individual to picture him- or herself on a television screen, thus moving attention toward the self (Davis & Wicklund, 1972). Video-cameras may also imply that there is an intended audience who will view the video tape.

Historically there have been controversial opinions regarding the relationship between video-taping of counselor trainees and their levels of anxiety and effectiveness. Some research suggests that the equipment increases anxiety and decreases effectiveness of supervisees (e.g. Bowman, 1980; Gelso, 1974); whereas, other research has implied that video-recording devices have no relationship to anxiety levels and performance in counselor trainees. Poling (1968) found that initial impairment due to camera presence in counseling sessions dissipates with repeated exposure. Ellis and colleagues (2002) sought to determine the reason behind trainees' poor initial performance in the presence of video recording equipment. Surprisingly, the results indicated that contrary to self-focused attention theory, videotaping counseling sessions did not elicit increased anxiety or decreased performance in the trainee. Counselors also appeared to have adequate levels of both coded and self-reported empathy.

These levels did not differ between counselors who were exposed to video-recording equipment and those who were not (Ellis et al., 2002).

Environmental cues such as video-recording equipment and active TV or video cameras can induce public self-focused attention. Public self-focused attention is the state of focusing one's attention on his or her appearance and behavior as they compare with the perceived standards of evaluating observers (Carver & Scheier, 1982; Haas, 1984). The dimensions on which self-evaluations are made may be different when self-focused attention is induced by a video-camera as opposed to a mirror. Further, the standard to which the various dimensions are compared may also differ when video-recording equipment is present due to their nature of drawing one's attention toward a possible external audience. The standards then are those perceived by the individual to be important to that audience. Although the standard-selection process is not completely understood (Silvia & Duval, 2001a), mirror-induced standards may not involve the standards of a possible audience the way this equipment may.

Video cameras can focus one's attention on a central feature of social interaction—the awareness of being observed—by the assumption that the tape will eventually be viewed by an audience. This anticipation causes the focus of attention to fall on the self, initiating a state of self-evaluation with salient standards (Duval, Wicklund, & Fine, 1972; Duval & Wicklund, 1972). This self-evaluation may produce negative affect due to discrepancies between the self and the standards. People who experience large discrepancies attempt to avoid the camera in order to alleviate the negative affective result of the discrepancy

(Duval & Wicklund, 1972). When avoidance is not possible, behavioral and/or attributional changes may arise from the self-standard comparative process. For example, video cameras have been shown to induce consistency between the self and the standards to which it is being compared (Davis & Wicklund, 1972). Further, individuals who were asked to deliver a speech to an audience maximized the integration of the essay, making the argument presented more comprehensive; however, individuals who wrote their essays in the presence of a camera did not exhibit as much integration as subjects who anticipated an audience (Davis & Wicklund, 1972).

Vallacher (1978) studied the effect video-camera-induced self-focused attention had on interpersonal encounters. Specifically, subjects viewed taped job interviews and were asked to rate the interviewee on various trait dimensions. Subjects who were video taped while watching the interviews displayed less discrimination of interviewees, or rated all interviewees equally across dimensions. Vallacher states that the experiment attempted to abstract the real-world situation of “simultaneously perceiving and being perceived by an unacquainted person” in the experiment (p.66). The results of this study, if generalizable to this more common encounter, suggest that an increase in self-focus attention creates a concern within the individual about their presentation and the impression the other is making about this presentation. By having to divide one’s attention in such a way, the person is likely to make either-or assumptions about the other person (Vallacher, 1978). This has important implications to the clinical setting, especially those that use video-cameras to

train beginning psychologists, because the client may be apt to make judgments about the therapist that are not based on an accurate continuum.

The video equipment in the training facility being used in the current study does not provide instant feedback to the clients via an image on a monitor. Further, tapes of the sessions are explained to clients as being viewed only by the therapist and his or her supervisor. Despite this removal of an actual audience of the tapes, as previously mentioned, video equipment may trigger the client (and/or research subject) to simply perceive an audience that may observe and possibly evaluate their behavior and interactions. Audiences, either real or imagined, can affect an individual's level of self-focused attention.

Research on Audiences

Carver & Scheier (1978, 1981) claimed that the presence of another individual has the same effect on self-focused attention as the presence of a mirror. That is, an audience is claimed to increase the amount of attention directed toward the self rather than the environment. Innes and Gordon (1985) dispelled Carver & Scheier's (1981) original findings by comparing task performance of people exposed to a mirror with those accompanied by non-evaluative person. Using a hand-eye coordination task, the authors manipulated the level of difficulty and the environment stimuli to assess the effects of the presence of a non-monitoring person versus the effects of the presence of a mirror. The results indicate that mere presence of another individual and a mirror produced opposite effects on task performance in the presence of a mirror.

Across task difficulty, mirrors facilitated performance improvement whereas mere presence resulted in an increase in performance errors (Innes & Gordon, 1985). There were no significant differences of levels of reported stress or motivation between the mirror exposure and the mere presence groups. These authors concluded that there are conditions in which “a person who is merely present can induce behavioral effects that are different from those induced by a mirror” (Innes & Gordon, p. 483). If Carver and Scheier’s (1981) original assumption that mere presence had a similar effect on matching-to-standard processes as mirrors did, then one could expect task performance effects of these two conditions to be the same. Innes and Gordon’s (1985) study, however, suggests that there are conditions in which a person who is present but not monitoring or evaluating one’s behavior can induce different behavioral effects from those induced by mirrors.

Audiences, similar to an environment cue that induces a state of self-focused attention, elicit a self-evaluative process in which an individual compares his or her behaviors to a standard. Behavioral changes often result due to the motivation to alleviate the negative affect produced by the self-standard discrepancies. Behavior changes in the presences of both public/present audiences and private, or imagined, audiences (Baldwin & Holmes, 1987). Carver & Scheier (1981) found that when an audience was present, there was more consistency between behavior and standard. Behavior was adapted to match a salient behavioral standard to increase performance on a task as compared to performance on the task when the same individual was alone

(Scheier, 1976). It has been suggested that individuals act in line with the perceived values held by audiences that are rendered salient (Baldwin & Holmes, 1987). Similarly, people have a tendency to occasionally present themselves in an unrealistically positive way (Roth, Snyder, & Pace, 1985). In training facilities, supervision teams are occasionally present behind two-way mirrors. The presence of others in this situation may cause the individual to deny their negative qualities (Schlenker, 1980). Attributional changes may also occur as a result of heightened self-focus elicited by an audience. For example, an individual reduce his or her personal responsibility in situations that elicited poor performance or by attempting to control the image that is being projected in real or imagined social interactions (Schlenker).

Aiello & Douthitt (2001) propose a unified perspective on social facilitation and describe the initial reactions to the presence of others as including “physiological arousal, cognitive conflict related to attention and processing demands, and self-focusing of attention in order to match behavior with a socially constructed standard or objective” (p. 173). These initial reactions may include heightened apprehension if the individual is being observed by a person presented as an expert or evaluator, as opposed to a novice or person with no intent to evaluate (Aiello & Douthitt; Henchy & Glass, 1968). The expert observer may make the standard to which the individual’s behavior or characteristics are evaluated more salient than those of a novice observer.

Individuals do not need to see their audience for it to affect them. Dashiell (1930) claimed support for the notion that individuals working alone experience

social facilitation, or enhanced performance on a task, when they believe that there are others working on the same task simultaneously in another room.

Indirect presence may have similar implications for treatment teams behind two-way mirrors where their connection to the client is not through physical presence (Aiello & Douthitt, 2001).

Although the audience in training facilities is either implied from the use of the two-way mirror or explained and removed from judgments of the client, the audience still may increase his or her self-focused attention. Thus the clients may be apprehensive, may present themselves in a positive light, and may attempt to match the salient standards for self-comparison and their behavior. This may affect the interviewing process by eliciting more negative client's views of interviewer and the relationship they were able to form with her. The influence of a real or perceived audience in a therapy session may direct the client's attention inward toward the self, and thus away from important aspects of the therapy experience. One of the most important aspects of psychotherapy has been shown to be the relationship between the client and the therapist. This relationship, which has been shown to be a significant predictor of treatment outcome, may be affected not only by the increased attention placed on the self, but also by the attributional changes elicited by the self-standard discrepancies.

Importance of the Therapeutic Relationship

The therapeutic relationship¹ is a multifaceted phenomenon which focuses on the alliance between the therapist and the client (Zuroff & Blatt, 2006). The therapeutic relationship has been broadly defined as having three main components (Bordin, 1979): tasks (the actual work of therapy including behaviors and processes), goals (therapy objectives that are endorsed by both the therapist and the client), and bonds (positive interpersonal attachment between the therapist and the client). The bond component includes mutual interpersonal qualities like trust, acceptance, and confidence (Bordin, 1979; Hatcher & Barends, 1996; Lambert & Barley, 2001; Safran & Wallner, 1991).

Lambert and Barley (2001) posit that there are four main factors that have an effect on client outcome. These include extratherapeutic factors, expectancy effects, specific treatment techniques, and common factors. Common factors include empathy, warmth, and the therapeutic relationship and have been found to correlate more highly with client outcome than specific treatment techniques (Lambert & Bergin, 1994). Research on the therapeutic relationship has been going on for decades and indicates that the “provision of treatment is an interpersonal process in which a main curative component is the nature of the therapeutic relationship” (Lambert & Barley, 2001, p. 357). The APA Division 29 Task Force steering committee (Ackerman et al., 2001) made several recommendations and conclusions regarding the therapy relationship. The

¹ There are several terms for the therapeutic relationship including client-therapist relationship, working relationship, working alliance, and therapeutic alliance. This study is interested in the initial bond between client and therapist formed in the initial interview rather than the more cooperative relationship that is built as therapy progresses which focuses on the development of tasks and goals. Thus the term therapeutic relationship was chosen.

authors maintained that the therapy relationship makes “substantial and consistent contributions to psychotherapy outcome independent of the specific type of treatment” (p. 495).

Personal attributes of the therapist are often attributed by the clients as the reason treatment was successful (Lazarus, 1971). A meta-analytic review of outcome research conducted by Orlinsky, Grave, and Parks (1994) identified the following therapist characteristics and behaviors as consistently having effects on treatment outcome: credibility, skill, empathy, ability to engage client, ability to focus on clients' problems, ability to direct attention to affective experience, and empathic understanding.

The APA Division 29 Task Force steering committee (Ackerman et al., 2001) maintains that therapists must make creating and attending to the therapeutic relationship a primary goal in the treatment of clients. Therapists are also encouraged to adapt the relationship to specific characteristics of the client in order to enhance treatment outcome (Ackerman et al., 2001). These authors also encourage training programs to “provide explicit and competency-based training in the effective elements of the therapy relationship” (Ackerman et al., p. 496). Despite the trend in psychotherapy toward evidence-based treatments, research indicates that it is essential for psychologists to keep in mind the high correlation between therapeutic relationship and to focus the training for beginning therapists on relationship skills (Castonguay, Goldfried, Wiser, Raue, & Hayes, 1996; Lambert & Barley, 2001).

Current Study

There are two major purposes of the current study. The first objective is to examine how the training equipment used in many clinical facilities affects the clients' levels of self-focused attention and the resulting impact this may have on his or her perceptions of the therapeutic relationship. In order to do so, subjects will be divided into two different setting groups: one exposed to full-training equipment (i.e., two-way mirror, video-recording equipment, and observation team) and the other exposed to a room with the training equipment covered up. After a check of the self-focused attention manipulation, the subjects will be interviewed, after which they will evaluate the therapeutic relationship. Mirrors, video cameras, and audiences have all been linked to states of heightened self-focused attention. Thus, this study expects that subjects in the full-training condition will have higher scores on the self-awareness measure. Further, based on the literature presented above, it is expected that the group exposed to the training equipment will report lower scores on a measure of the therapeutic relationship. These results are expected due to the negative affect that often results from the self-evaluation processes initiated by heightened self-focused attention in the presence of all three forms of training equipment (two-way mirror, video-recording equipment, and treatment team).

The second purpose of this study is to begin to explore the processes behind self-focused attention and impression formation in interpersonal situations, specifically within the therapeutic relationship. Silvia and Duval (2004) asserted that the negative affect that results from self-evaluation due to

heightened self-focused attention will be attributed to the interview if no salient standard is presented. Based on this research, the current study will attempt to induce a salient standard of comparison in the different setting conditions, in order to determine if having a salient standard in the clinical setting will change the effect of the equipment on client's perceptions of the therapeutic relationship. The study will divide the subjects in to two more groups: Standard and No standard. Subjects in the standard group will be told that they will be evaluated on their ability to form a relationship with the interviewer. Similar to the research conducted by Bateson, Thompson, Seufferling, Whitney, and Strongman (1999) on moral hypocrisy and Silvia (2002) on emotional intensity, by making a dimension salient prior to eliciting a behavior, the behaviors that are compared during self-evaluative processes are dictated. Further, the negative affect that results from self-discrepancies in situations in which standards are induced, is mostly likely to be attributed to the standard rather than the interviewer (Silvia & Duval, 2004). Thus, we expect that subjects in the full training and standard group will have more positive reports of the therapeutic relationship than will those in the full-training and no standard group.

CHAPTER THREE

METHODS

Subjects

Female students from general psychology classes at Indiana University of Pennsylvania were chosen via the Subject Pool. A total of 17 participants were placed in each condition, totaling 68 subjects. Each subject randomly selected and placed into one of four conditions (Full Training/Standard, Full Training/No Standard, Control/Standard, and Control/No Standard).

Overview of the Study

This study was be a 2 x 2 (setting x standard) design concerned with the effects of the training equipment (i.e., two-way mirrors, video-recording equipment, and observation teams) on clients' perceptions of the therapeutic relationship. The setting conditions were Full Training, in which subjects were exposed to all training equipment (i.e., two-way mirror, video-recording devices, and observation team) and Control, in which the training equipment was covered up and not in direct view of the subject. The participants assigned to the Full Training condition were oriented to the room in order to draw their attention to the training equipment. The subjects were left in the room alone for approximately 60 seconds, after which each were given a measure of self-focused attention to determine the effect setting differences have on their levels of self-focused attention. After this, subjects were instructed that an interview regarding social adjustment to college would be conducted, and the standard conditions were introduced. In order to determine if inducing a salient standard had an effect on

client's perceptions of the therapeutic relationship, subjects assigned to the Standard group were told that the experimenter is interested in the amount of personal information she discloses during the interview and her knowledge of college stressors. Subjects assigned to the No Standard condition were not given these instructions.

Subjects participated in a semi-structured clinical interview which focused on relationships and interpersonal involvement prior to and during college. During the interview, subjects were asked to rate on a 10-point scale how well they feel they had adjusted to college. After the interview was complete, subjects were given a self-report questionnaire which evaluated the participants' perceptions of the interviewer and their relationship with her.

After a brief description of the study's actual purpose, each subject answered four debriefing questions depending on which setting condition they were assigned to. Responses to these questions were meant to explore the subjects' understanding of how the setting affected their comfort level with the setting and the interviewer.

Interviewer

Interviewers were graduate students in the Clinical Psychology doctoral program at Indiana University of Pennsylvania. Six interviewers were used; four were first year graduate students and two were third year graduate students. Only female interviewers were used in order to control for possible gender effects. These six female therapists, who have experience conducting clinical

and semi-structured interviews, were trained to conduct the semi-structured interview (described below) focusing on the subject's adjustment to college. Each interviewer was randomly assigned to subjects and was blind to the Standard vs. No Standard condition of the client. Each individual interviewer had an equal number of interviews conducted across the four conditions.

Interview

The interview is a semi-structured interview intended to reflect an intake interview for people who are complaining of difficulty adjusting to college. This interview probed the subject about differences between social and personal characteristics before and after attending IUP (See Appendix A). Questions also include a description of their choice in IUP, their major area of study, and career goals. General questions about the subject's family will also be asked. Specific categories included information on how they chose IUP and what they are studying, current social, interpersonal, and employment involvement at IUP and during high school, changes experiences since starting at IUP, and a Likert-type rating of how well the subject felt she has adjusted to college life compared to others.

This interview was designed to attend to issues that are common among students having trouble adjusting to college life. In the formation of the interview, a colleague employed at the college counseling center at IUP was contacted in order to gain feedback on the types of questions that should be included. The interviewer will ask the questions as printed; however, the interview will use

standard interviewing procedures, in which she will restate, reflect, request for clarification, and insert empathic comments throughout the interview where necessary.

Methods of Obtaining Data

Measures

Linguistic implication form. The Linguistic Implications Form (LIF) is a measure of self-focus that was based on one developed by Wegner and Giuliano (1980). Subjects are asked to complete sentences by choosing from three pronouns (See Appendix I). For example, subjects read the sentences “The noise got to _____ before long.” Subjects then chose either “us,” “them,” or “me” to complete the sentence. All three alternatives for all questions are grammatically correct, but subjects are asked to pick the alternative that seemed most appropriate. Wegner and Giuliano’s original form contained only 5 critical items, but Salovey (1992) adapted the original to contain 20 critical items. This adapted measure will be used in this study due to the reportedly higher reliability (Silvia, personal contact). The scoring procedures that will be used will follow that of Salovey’s model; thus, self-focus scores will theoretically range from 0 to 40. A score of 2 will be assigned to sentences completed with a first-person singular pronoun, whereas, a score of 0 will be assigned to those sentences completed with third-person pronouns. A score of 1 will be assigned to those sentences completed with first-person plural nouns (e.g., we, us, our) given that these alternatives seem to indicate partial self-focus because the self is included in a group

(Salovey, 1992). The task was explained to the subjects as providing a measure of the linguistic skills important to social interaction and relationship-building.

Rating of college adjustment. In order to determine group equality of adjustment, each subject was asked the following question: “On a scale of 1 to 10, how well do you feel you have adjusted to college life?” The interviewer anchored the subject by identifying 1 as far worse than others, 10 being far better than others, and 5 being the same as others. The ratings were averaged across groups in order to determine equivalence of adjustment between groups.

Working alliance inventory. The Working Alliance Inventory (Horvath & Greenberg, 1986; WAI) is a 36-item self measure designed to assess the client’s and/or the therapist’s perspective of various factors of the therapeutic relationship. Each item is responded to using a 7-point format. This measure generates three 12-item, summed scaled scores (Task, Bond, and Goal; Bordin, 1979) as well as one overall score. Horvath and Greenberg (1986) demonstrated adequate reliability with internal consistency estimates of alpha equally .93 for the overall client score and .87 for the therapist score. Content validity has been supported through both rational and empirical methods. Factor analysis shows that the WAI appears to measure one General Alliance factors as well as three specific factors of the alliance (Tracey & Kokotovic, 1989). These specific factors were posited by Bordin (1979) and are Task, Bond, and Goal. Given that the interview closely mirrors tasks accomplished during an intake interview, the WAI

questions focusing on the bond component of the therapeutic relationship will be chosen (1, 5, 8, 17, 19, 23, 26, 36) (cite study on factor analysis of WAI).

Questions were adapted to include the word “interviewer” rather than therapist (See Appendix B).

Procedure

Subjects were informed that the study is about social and emotional adjustment to college. As subjects arrive, they were brought back into a therapy room in the Center for Applied Psychology (CAP) that either has full training equipment visible (full training condition) or a therapy room that does not have the equipment visible (control condition) where they signed consent (See Appendix C) to participate. In the full training condition, the research assistant drew the subject’s attention to the equipment by mentioning a treatment team of a supervising psychologist and a graduate student behind the mirror and pointing out the video-recording equipment². In both conditions, the experimenter then left the room for one minute and returned with the appropriate measures.

Upon her return the experimenter explained the purpose of the study as examining the social and emotional adjustment to college. Each subject completed a Linguistic Implications Form, in order to evaluate the effectiveness of the self-focused attention manipulation. After the measure was completed, the experimenter explained the interview to the subject. For subjects in the Standard condition, they were told that the study would also be looking at her relationship-building skills and was evaluating her ability to disclose personal information and knowledge of college stressors. The No Standard condition was not given such

² For full script of experiment procedures see Appendix A.

instructions. At this point the experimenter left the room and the interviewer entered.

The interview conducted a semi-structured, pseudo-intake interview in which issues of general social and emotional adjustment to college were addresses (see Appendix D). The interviewer asked the questions in order and followed up with appropriate comments according to her clinical training. After the interview was complete, the interviewer exited the room and the experimenter returned to administer an adapted version of the Working Alliance Inventory (WAI). The experimenter explained that this was to be used for research purposed only and responses were not to be shared with the interviewer.

After the WAI was completed, the experimenter debriefed the subject. Each subject was asked to answer six questions about their experience (see Appendices E-H) during the interview with regard to the training equipment or lack thereof. After the subjects answered the questions and been informed about the purpose of the study, the experimenter dismissed them.

CHAPTER FOUR

RESULTS

LIF Analyses

A 2 x 2 (Setting by Standard) ANOVA was performed using LIF scores as the dependent variable. Table 1 shows the means and standards deviations for this measure. The first hypothesis was that the setting that the participants were placed in would affect their level of self-focused attention, as measured by the LIF. Specifically, participants in the full-training condition were expected to have higher levels of self-focused attention than those in the control condition. Results indicate that there is no difference in level of self-focused attention between participants in the full-training condition and the control condition. A power analysis suggests that this factorial ANOVA would a limited ability to detect small effect sizes (power = .12), but adequate ability to detect medium to large sizes (power = .54 and .91) (Cohen, 1988).

Self-relevant pronoun selection on the LIF items can happen by chance as well as by self-focused attention. Snow, Duval, and Silvia (2004) suggest that a 33.3% rate of self-relevant pronoun responses suggest self-focused attention by chance. It was important to determine how far chance the subjects' pronoun selection was. A χ^2 goodness of fit test was conducted and indicated that each participant that responded with more than 10 self-relevant responses were self-focused more than chance. Frequencies of participants who had more than 10 responses were recorded for each condition. Both the Full Training and Control Conditions had 7 out of 34 participants that had more than 10 self-relevant

pronoun responses. An individual analysis was conducted on the participants' responses on the LIF. Given that a random response pattern would suggest equal distribution of responses between the three response options (Self, Collective, and Other), any significant deviation from this expected pattern would suggest a difference in the direction of the participant's attention. A χ^2 goodness of fit analysis was conducted and found that only 12 out of the 68 total participants had increased levels of self-focused attention. One participant's responses were weighted more heavily in the Collective direction (e.g., we, us) and one participant's responses more heavily in the Other direction (e.g., she, him, they). There were no differences between the setting conditions on frequencies of numbers of Self, Collective, or Other responses.

Table 1

Mean Scores on LIF and WAI

Setting Condition	Standard Condition	N	LIF		WAI	
			Mean	Standard Deviation	Mean	Standard Deviation
Full-Training	Standard	17	24.76	5.24	36.65	7.10
	No Standard	17	24.59	6.05	38.06	8.03
Control	Standard	17	22.11	5.56	39.12	5.75
	No Standard	17	26.35	6.48	37.88	7.89

Note: The Standard condition had not been presented at the time the LIF was administered. The means were included in analyses and this graph to establish between-group equivalence.

WAI Analyses

During data collection, the researcher noticed that participants may have been reading the first item of the WAI incorrectly. In order to assess this, a factor analysis was conducted on the measure. Results indicate that there is one main component; however, the principal component analysis suggests that the first item does not fit the main factor. The α -coefficient of the WAI scale went from .671 when Item 1 was included, to .849 when this item was removed. Thus, the WAI scores used in the analysis did not include responses on the first item.

A 2 x 2 (Setting by Standard) ANOVA was performed using WAI scores as the dependent variable. Table 1 shows the means and standards deviations for this measure. It was hypothesized that there would be a main effect for Setting with individuals in the training equipment condition having lower WAI scores than the control condition. The second hypothesis was that participants would differ in the positive perceptions of the interviewer based on the setting they were in. Specifically, participants in the control condition were expected to have higher scores on the WAI. Results indicate that there is no difference between participants' scores on the WAI based on setting. This can be seen in Table 1, in which the mean scores for the WAI for the full-training and control conditions are not significantly different ($F(1,64) = .43, p = .52$).

Based on Silvia & Duval's (2004) research, it was expected that by giving a "label" to the negative affect produced by increased self-focused attention, the feeling would not be attributed to the interview process or interviewer. Thus the third hypothesis predicted an interaction between standard and WAI scores.

Specifically, participants in the Full-Training/Standard condition were expected to have higher WAI scores than those in the Full-Training/No Standard condition.

Similar to the power analysis conducted on the factorial ANOVA for the LIF, the power analysis conducted on the WAI factorial ANOVA suggests limited ability to detect small effect sizes (power = .12), but adequate ability to detect medium to large sizes (power = .54 and .91) (Cohen, 1988).

Analyses of Debriefing Questions

Each participant was debriefed on the purpose of the study and was given a questionnaire that consisted of four Likert-type rating questions and two open-ended questions. Two of the Likert-rating items dealt with how comfortable participants were or would be with the training equipment, one item addressed how the training equipment influenced or might have influenced judgments, and one asked what effect the standard had or would have had on judgments about therapeutic relationship. The open ended questions asked about what the participants thought would be different if the equipment was or want not present and what she was thinking about herself during the interview.

An exploratory analysis of the participants' awareness of what affects their perceptions of the therapeutic relationship was conducted using the responses to the debriefing questionnaires. The first item addressed how much the training equipment bothered participants in the full-training condition or would have bothered the participants in the control condition. The item was answered on a Likert-type rating scale with 0 indicating the equipment did/would not bother the

participant at all and 7 indicating that the equipment did/would bother the participant very much. A 2 x 2 (Setting by Standard) ANOVA was performed using scores on the “Extent Bothered” question as the dependent variable. Table 2 shows the means and standards deviations for all ANOVAs conducted on the debriefing questions. Results indicate that there is a significant difference between participants’ scores on this item based on setting condition. Table 4 shows the mean for setting on “Extent Bothered” question to be significantly different ($F(1,64) = 5.12, p = .03$). The mean for the control condition is 3.59; whereas, the mean for the full training condition is 2.68. Results indicate no significant difference between participants’ scores on this item based on standard condition ($F(1,64) = 2.35, p = .13$) and no significant interaction ($F(1,64) = .900, p = .346$).

Table 2

Mean Scores on Debriefing Questions

Setting Condition	Standard Condition	N	Debriefing Question			
			Item 1	Item 2	Item 3	Item 4
Full-Training	Standard	17	3.18(1.74)	3.24(.66)	2.12(1.11)	2.59(.94)
	No Standard	17	2.18(1.74)	3.71(.92)	1.24(.56)	2.53(1.37)
Control	Standard	17	3.71(1.61)	4.76(.56)	3.76(.97)	3.35(1.70)
	No Standard	17	3.47(1.59)	4.41(1.58)	2.94(1.60)	3.06(1.43)

The second debriefing question addressed how the comfort level would have changed if the equipment was or was not present depending on the setting condition the participant was in. Again, this item was answered on a Likert-type scale with 0 indicating extremely more comfortable and 7 indicating extremely

more uncomfortable. A 2 x 2 (Setting by Standard) ANOVA was performed using scores on the “Change in Comfort Level” question as the dependent variable. Results indicate that there is a significant difference between participants’ scores on this item based on setting condition. The mean for the control condition is 4.59; whereas, the mean for the full training condition is 3.47. Table 4 shows the mean for setting on the “Change in Comfort Level” question to be significantly different ($F(1,64) = 20.67, p = .00$). Results indicate no significant difference between participants’ scores on this item based on the standard condition ($F(1,64) = .06, p = .81$) and no significant interaction ($F(1,64) = .281, p = .10$).

The third debriefing question addressed how much the participant thought that the equipment influenced her judgments of the interviewer and the relationship they had if she was in the Full-training condition or how much the participant thought the equipment would influence her judgments if they were in the Control condition. This item was answered like the others, on a Likert-type rating scale with 0 indicating No influence and 7 indicating that the equipment did/would influence very much. A 2 x 2 (Setting by Standard) ANOVA was performed using scores on the “Equipment’s Influence” question as the dependent variable. Results indicate that there is a significant difference between participants’ scores on this item based on the setting condition. Table 4 shows the means for setting on the “Equipment’s Influence” question to be significantly different ($F(1,64) = 37.83, p = .00$). The mean for the control condition is 3.35; whereas, the mean for the full training condition is 1.68. Results also indicate a significant difference between participants’ scores on this item based on the

standard condition ($F[1, 68] = 9.79, p = .00$). The mean for the No Standard condition is 2.10; whereas, the mean for Standard condition is 2.94. There is no significant interaction ($F(1,64) = .01, p = .914$).

The fourth debriefing question addressed how the statement regarding the researcher's interest in the amount of personal information disclosed and knowledge of stressors influenced the participant's judgments about the interviewer or the relationship she had with her if the participant was in the Standard condition. If the participant was in the No Standard condition the question address how much that state would have influenced her judgments of the interviewer or their relationship. A 2 x 2 (Setting by Standard) ANOVA was performed using scores on the "Statement's Influence" questions as the dependent variable. Results indicate that there was a significant difference between participants' scores on this item based on the setting condition but not on the standard condition. The mean for the Full-Training condition is 2.56; whereas, the mean for the Control condition is 3.21 Table 4 shows the means for setting on the "Statement's Influence" questions to be significantly different ($F(1,64) = 3.82, p = .06$).

The last section of the debriefing questionnaire contained two open-ended questions. The first question asked participants who were exposed to the training equipment what would be different if the equipment was not present and what would be different if the equipment were present to those who were in the control group. Responses to this item were examined and results suggest there were more responses identifying no difference from participants in the Full-Training

condition than in the Control condition (see Appendix for full chart of responses). Out of 34 participants in the Full-training condition, 14 answered to the “What would be different” question with a Nothing or No change response; in the Control condition, 6 participants answered with a similar response.

The second open-ended question asked participants what they were thinking about regarding themselves during the interview. Participants in the Full-training condition appeared to respond more often with “nothing,” than those in the Control condition. Out of 34 participants in the Full-training condition, 16 answered to the “What were you thinking about yourself” question with a Nothing response; in the Control condition, 9 participants answered with a similar response.

CHAPTER FIVE

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary of Findings

The goal of the current study was to determine the effect of equipment used to train psychologists on clients and their perceptions of the therapeutic relationship. Specifically, the effects of two-way mirrors, video cameras, and observers on scores from a measure of self-focused attention, a post-interview questionnaire, and a series of debriefing questions were examined. The results revealed patterns different than what was hypothesized based on Duval and Wicklund's Theory of Self-Awareness (1962). Interestingly, although participants believed that the training equipment influenced them and the therapeutic relationship, there was no evidence that it did. Although it was hypothesized that the training equipment would influence self focused attention, it did not. The first question, then, is why there were no effects. Participants who were exposed to two-way mirrors, video cameras, and observers did not have higher levels of self-focused attention than those who were not exposed to such training equipment. In fact, neither group appeared to have a high level of self focused attention. This result is not consistent with the Theory of Self-Awareness and the literature presented earlier (Duval & Wicklund, 1962).

Duval and Wicklund's (1962) theory asserts that one's awareness is directed either toward an aspect of the self or toward the external environment. When stimuli in the environment trigger an individual to focus their attention away from themselves, the person experiences him- or herself as an agent in the

world. On the other hand, stimuli that cause an individual to focus attention towards him- or herself induce objective self-awareness and prompt the individual to reflect on his or her status as an object in the world. The results from the current study suggest that levels of self-focused attention did not increase as a result of the environmental stimuli (i.e., training equipment). It is possible that either the manipulation was not an effective method of raising self-focused attention or the environment resulted in awareness being directed away from the training equipment. There are several aspects of the methodology that need to be examined in order to determine why the findings were contradictory to the hypothesis, previous studies, and theory the manipulation was based on.

One possible reason is that the LIF scores did not have sufficient power to detect changes in self-focus. As previously mentioned, power analysis suggests that the factorial ANOVA on the LIF scores had a limited ability to detect small effect sizes (power = .12) but had adequate ability to detect medium to large effect sizes (power = .54 and .91; Cohen, 1988). This suggests that if there were small differences between groups on self-focused attention, the analyses of this study might not have been able to detect them. It is possible that the difference between the amount of self-focused attention between participants in the full-training and control conditions were only marginally different, which based on the power of this study, would have been undetected and viewed as having no difference. However, we can be quite confident that if the effect of training equipment was large, it would have been detected.

One might posit the reason for no differences in self-focused attention to be due to the LIF being an inaccurate measure of the manipulation. Fortunately, this measure “may be the most widely-used way of measuring situational levels of self-awareness” (Silvia, 2005). The popularity of the LIF may be in part due to its status as the only measure of self-focused attention that enables a comparison of the manipulation and response produced by chance (Snow, Duval, & Silvia, 2004)

Another possible explanation for the failure of the equipment to increase self-focused attention is that distractions in room may have taken the participants’ attention away from training equipment. Recall that increased self-focused attention initiates a self-evaluative state which often causes negative affect due to a discrepancy between the self and the standard (Duval & Wicklund, 1962). The Theory of Self-Awareness asserts that this state produces a drive within the individual to reduce the negative affect by avoiding the environmental cue(s) when possible or matching one’s behavior to standard. The easiest alleviate this aversive state is to avoid the stimuli, because changing one’s behavior is more difficult and does not guarantee that the standard will be met. This may explain why, when the researcher returned to the room after giving the participants 60 seconds to get acclimated to their surroundings, she often found them reading over informed consent or using their cell phones. This avoidance of stimuli may also explain the lack of effect the equipment had on the participants’ level of self-focused attention. The difference between this study and traditional studies using a mirror manipulation (e.g., Schreier, 1976; Gibbons,

et al., 1985) is that the mirror in the current study was a large two-way mirror. Traditional self-focused attention studies typically have a flat one-way mirror in front of the subject positioned in such a manner so that their reflection can not be avoided. The participants in this study had a wall-size two-way mirror and their chairs were positioned to ensure that viewing their reflection was inevitable. Although the possibility of distracting oneself from the environmental stimuli may be essentially equal for both the current study and traditional self-focused attention studies, it is unknown if there were materials in front of the participant that could be used as distraction in the traditional studies.

Perhaps the most important finding of the study is the results of the analyses of the debriefing questions. These questions explored the expectations of and experiences with the equipment in regard to comfort level, perceptions of the relationship, and level of influence over judgments about the interview process. Results indicated differences between what participants expected the training equipment to be like and actual reports from those exposed to the equipment. These differences may indicate an unwarranted concern about the effect training equipment has over the interview process.

Comparisons Between Research and Clinical Populations

Although the findings from this research are different from what we expected, there are still important clinical implications. Prior to exploring these implications, it is necessary to look at the research population in comparison to clinical populations. The first area of comparison is the ratings of the

interview/therapy facilitator and process, measured by the WAI. The mean response scores on the Bond subscale of the WAI from this study were computed by taking the mean total score and dividing it by the number of items. Means scores groups are as follows: Full-Training/No Standard, 5.44(1.13); Full-Training/Standard, 5.59(1.15); Control/No Standard, 5.44(0.82); Control/Standard, 5.24(1.01) (see Table 3). Fourth-session ratings on the WAI Bond subscale (Busseri & Tyler, 2003) have a mean of 5.94(0.78).

Table 3

Mean Scores on WAI Across Conditions

Condition	Standard Deviation	Mean WAI Item Score
Full-Training, No Standard	1.12699	5.44
Full-Training, Standard	1.14784	5.59
Control, No Standard	.82202	5.44
Control, Standard	1.01386	5.24

Although there are significant similarity between WAI scores from the participants and those of 4th-session clients, this does not immediately suggest that the findings from this study can be generalized to the clinical population. A comparison between the settings and clientele of this study and the typical clinical setting is important. The inability for the training equipment to make any detectable changes in self-focused attention may be due to possible differences between the manipulation and conditions used in this study and those in the previous studies. Theories developed from studies that incorporate mirrors, audiences, and video cameras may not be able to be generalized to this study and the training equipment if the conditions vary too greatly.

“Clientele” is a variable that may limit the generalizability of the results. Study participants were college-aged women who were enrolled in an introductory psychology class. The use of mental health services varies according to location. In a study done by Hauenstein and colleagues found that the ration of rural women and rural men seeking treatment is similar (6.2%:5.4%); whereas 10.3% of urban women and 5.9% of urban men seek psychological care. The absence of men in the study makes it difficult to assume that the findings can translate to both genders. It is possible that because the interview dyads were female-female, the therapeutic relationship may have been perceived and/or judged differently than if there were mixed or male-male dyads. However, research indicates that treatment outcome is more predicted by common factors such as opportunity for catharsis, acquisition of new behavior, and positive client expectations (Grencavage & Norcross, 1990). Additionally, Grencavage and Norcross indicate that the most important therapist variables contributing to treatment outcome include cultivation of hope, warm positive regard, empathic understanding, and providing a description of the positive qualities of therapy. More information is needed on how perceptions of mixed gender and male-male relationship are affected by the training equipment. Based on the findings from this study, one can expect that self-focused attention will not increase in similar situations; thus, any differences in responses are genuine and not a result of an affective state resulting from self-focused attention.

Similarly, the participants were between the ages of 18 and 24. Clients can be both older and younger than the population studied. Additionally, the

women who participated in this study had an average self-reported level of adaptation to college life of a 6.41, on a scale from 1 to 10 with 1 meaning adjustment was far worse than others, 10 meaning adjustment was far better than others, and 5 meaning adjustment was the same as others. This suggests that the participants, on average, feel they have adjusted to college slightly better than other students. Consumers of psychotherapeutic services typically come to therapy because they are in crisis or are having problems in some way. One might assume that their level of “adaptation” to their live circumstance may be lower, suggesting that the results of this study may not be able to generalize to typical clinical populations.

Participants and clients, due to their assumed difference in adaptability to life circumstances, may differ in their motivation to disclose information to the interviewer. The participant did not need to share information in order to feel better or change their living situations. The participants were given an extrinsic reward for their involvement in the study, credit towards class requirements. Clients are not given extrinsic rewards, but rather are expected to pay for treatment. The differences between the participants in this study and clients typically found seeking services in outpatient offices suggest that the study may have limited ability to generalize beyond college-aged clients who present with only minimal psychological distress. Another variable that appears similar between the clinical population and the study is the setting. This study was conducted in the therapy rooms that are used by the on-campus Center for Applied Psychology. Clients of all ages attend therapy sessions in these rooms

and are exposed to this equipment on a weekly basis. The full-training condition used the same process of orientation to the equipment, same equipment placement and positioning, and the same rooms as the clinical setting on campus. Despite the similarities in settings, there are some differences in the population of people who typically present for treatment and those who were involved in the study.

The training rooms in this research may have influenced the levels of self-focused attention. Using distraction to avoid discomfort produced by heightened self-focused attention may have important clinical applications. Based on the findings of the current study, it may be helpful to give new clients reading material and/or a task, such as paperwork, to distract them immediately upon entering the therapy training rooms. The distraction may help to keep the increase in self-focused attention at a minimum, thus eliminating the negative affect that follows. This technique has the potential to make clients feel more comfortable with the setting, the therapist, and the therapeutic process.

Implications and Recommendations

The significant differences found in the debriefing questions have important clinical implications for new client referrals. Clients coming into a training facility's clinic are often told the nature of the setting including what equipment will be present in the room. Based on this study, the client may expect that the equipment will make the intake interview uncomfortable, may bother him or her, may influence his or her judgments about the therapist and the

therapeutic relationship, and may alter his or her perceptions of the process, the therapist, and the relationship. Based on the report of the participants who were exposed to the training equipment, clinic assistants and supervisors can inform potential clients that although they may have these hesitations, research have shown that individuals do not report it bothering them, making them uncomfortable, or influencing their perceptions of the therapist and/or the therapeutic relationship as much as one might assume.

Nisbett and Wilson (1977) discuss verbal reports on mental processes and results from a variety of studies. Participants in this research were asked to report on mental processes (e.g., how stimuli would or did influence experience and judgments). Individuals are asked to provide similar statements on daily basis (e.g., what do you see in him? Why did you choose this job?). Research has shown that individuals typically have difficulty reporting on what influence their responses, change processes, and stimuli that influenced response (Nisbett & Wilson). In this research those who were not exposed to the equipment were asked to predict how they would feel if they were exposed to the equipment. As mentioned previously, their responses were incongruent in relation to what those who were exposed reported. Accurate responses were provided by the Full Training group in that they responded that the mirror has little effect on the experience during the interview. The authors suggest that when complex judgments are made. Despite the accuracy of these participants, those who were not exposed responded incorrectly to questions about how much the mirror would influence their experience. The authors support the notion that individuals

are not as aware of their cognitive processes, and effect or ineffective influences on those processes, as they might think they are (Nisbett & Wilson).

It is important for research to continue exploring the effects of mirrors, video cameras, and supervision teams on the therapeutic process and clients. One way to examine this would be to force the equipment to have an effect on the participants. One might do this by removing all possible distractions from the room. Other potential strategies include have the participant “meet” the supervisor behind the mirror while he or she was being overly critical of another person in the clinic. Although this may make the participant more aware of their observers, this is often not experienced in the clinic settings. Another way to make their status as the individual being observed more pronounced might be to have the supervisor phone into the room prior to the administration of the LIF or during the interview. This is a practice that occurs in clinics to aid in training and may make clients more aware of the equipment than would a wall-sized mirror or easily ignored video cameras.

Another extension of this research should focus on the effects on actual clients. As was mentioned before, the participant population was primarily well-adjusted individuals with limited life stress. Clients, who are often in distress and are having trouble coping in one way or another, may react differently to the equipment. Monitoring self-focused attention and clients’ perceptions of the therapeutic relationship during real therapy sessions would be important to explore. Also, comparing those clients exposed to the equipment to those seen in therapy rooms with no equipment may provide additional insight.

This study has begun the exploration of how video recording equipment, mirrors, and treatment teams may or may not affect the clients serviced in facilities used to train psychologists. There has been little research in this area; however, nearly every facility where beginning psychologists practice and conduct therapy use at least one of the forms of supervision examined in the current study. It is important for the field to continue to investigate the effect this equipment may have on the treatment processes in order to determine if clients are being adequately helped or unknowingly harmed.

References

- Ackerman, S. J., Benjamin, L. S., Beutler, L. E., Gelso, C. J., Goldfried, M. R., Hill, C., Lambert, M. J., Norcross, J. C., Orlinsky, D. E., & Rainer, J. (2001). Empirically supported therapy relationships: Conclusions and recommendations of the Division 29 Task Force. *Psychotherapy, 38*(4), 495-497.
- Aiello, J. R., & Douthitt, E. A. (2001). Social facilitation from Triplett to electronic performance monitoring. *Group Dynamics: Theory, Research, and Practice, 5*(3), 163-180.
- Baldwin, M. W., & Holmes, J. G. (1987). Salient private audiences and awareness of self. *Journal of Personality and Social Psychology, 52*(6), 1087-1098.
- Bateson, C. D., Thompson, E. R., Seufferling, G., Whitney, H., & Strongman, J. A. (1999). Moral hypocrisy: Appearing moral to oneself without being so. *Journal of Personality and Social Psychology, 77*(3), 525-537.
- Bögels, S. M., Rijsemus, W., & De Jong, P. (2002). Self-focused attention and social anxiety: The effects of experimentally heightened self-awareness on fear, blushing, cognitions, and social skills. *Cognitive Therapy and Research, 26*(4), 461-472.
- Bordin, E. S. (1979). The generalizability of the psychoanalytic concept of the working alliance. *Psychotherapy Theory, Research, and Practice, 16*, 252-260.

Bordin, E. S. (1989). *Building therapeutic alliances: The base for integration*.

Paper presented at the annual meeting of the Society for Psychotherapy Research, Berkley, CA.

Buss, A. H. (1980). *Self-consciousness and social anxiety*. San Francisco: Freeman.

Buss, D. M., & Scheier, M. P. (1976). Self-consciousness and self-attribution. *Journal of Research in Personality, 10*, 463-468.

Busseri, M. A., Tyler, J. D. (2003) Interchangeability of the Working Alliance Inventory and Working Alliance Inventory, Short Form. *Psychological Assessment, 15*(2), 193-197.

Carver, C. S. (1974). The facilitation of aggression as a function of objective self-awareness and attitudes toward punishment. *Journal of Experimental Social Psychology, 10*, 365-370.

Carver, C. S. (1975). Physical aggression as a function of objective self-awareness and attitudes toward punishment. *Journal of Experimental Social Psychology, 11*, 381-388.

Carver, C. S., Blaney, P. H., & Scheier, M. F. (1979). Focus of attention, chronic expectancy, and responses to a feared stimulus. *Journal of Personality and Social Psychology, 37*, 1186-1195.

Carver, C. S., & Scheier, M. F. (1978). Self-focusing effects of dispositional self-consciousness, mirror presence, and audience presence. *Journal of Personality and Social Psychology, 36*, 324-332.

- Carver, C. S., & Scheier, M. F. (1981). *Attention and self-regulation: A control-theory approach to human behavior*. New York: Springer-Verlag.
- Carver, C. S., & Scheier, M. F. (1982). *Attention and self-regulation: A control theory approach to human behavior*. New York: Springer-Verlag.
- Carver, C. S., & Scheier, M. F. (1986). Functional and dysfunctional responses to anxiety: The interaction between expectancies and self-focused attention. In R. Schwarzer (Ed.), *Self-related cognitions of anxiety and motivation* (pp. 111-141). Hillsdale, NJ: Erlbaum.
- Castonguay, L. G., Goldfried, M. R., Wiser, S., Raue, P. J., & Hayes, A. M. (1996). Predicting the effect of cognitive therapy for depression: A study of unique and common factors. *Journal of Clinical and Counseling Psychology, 64*, 497-504.
- Cohen, J. L., & Davis, J. H. (1973). Effects of audience status, evaluation, and time of action on performance with hidden-word problems. *Journal of Personality and Social Psychology, 27*, 74-85.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd edition). Hillsdale, NJ: Erlbaum
- Corely, J. B., & Mason, R. L. (1976). A study on the effectiveness of one-way mirrors. *Journal of Medical Education, 51*, 32-63.
- Dashiell, J. F. (1930). An experimental analysis of some group effects. *The Journal of Abnormal and Social Psychology, 25*(2), 190-198.

- Davis, D., & Brock, T. C. (1975). Use of first person pronouns as a function of increased objective self-awareness and prior feedback. *Journal of Experimental Social Psychology, 11*, 381-388.
- Diener, E., & Wallbom, M. (1976). Effects of self-awareness on antinormative behavior. *Journal of Research in Personality, 10*, 197-211.
- Duval, T. S., & Duval, V. H. (1983). *Consistency and cognition: A theory of causal attributions*. Hillside, NJ: Erlbaum.
- Duval, T. S., & Lalwani, N. (1999). Objective self-awareness and causal attributions for self-standard discrepancies: Changing self or changing standards of correctness. *Personality and Social Psychology Bulletin, 25*, 1220-1229.
- Duval, T. S., & Silvia, P. J. (2001). *Self-awareness and causal attribution: A dual systems theory*. Boston: Kluwer Academic.
- Duval, T. S., & Wicklund, R. A. (1972). *A theory of objective self-awareness*. New York: Academic Press.
- Duval, T. S., & Wicklund, R. A. (1973). Effects of objective self-awareness on attributions of causality. *Journal of Experimental Social Psychology, 9*, 17-31.
- Duval, S., Wicklund, R. A., & Fine, R. L. (1972). Avoidance of objective self-awareness under conditions of high and low intra-self discrepancy. In S. Duval & R. A. Wicklund (Eds.), *A theory of objective self-awareness*. New York: Academic Press.

- Ellis, M. V., Krenzel, M., & Beck, M. (2002). Testing self-focused attention theory in clinical supervision: Effects on supervisee anxiety and performance. *Journal of Counseling Psychology, 49*(1), 101-116.
- Fenigstein, A. (1979). Self-consciousness, self-attention, and social interaction. *Journal of Personality and Social Psychology, 37*, 75-86.
- Fenigstein, A., Scheier, M. F., & Buss, A. H. (1975). Public and private self-consciousness: Assessment and theory. *Journal of Consulting and Clinical Psychology, 36*, 1241-1250.
- Festinger, L. (1957). *A theory of cognitive dissonance*. Evanston, IL: Row, Perterson & Company.
- Geller, V., & Shaver, P. (1976). Cognitive consequences of self-awareness. *Journal of Experimental Social Psychology, 12*, 99-108.
- Gelso, C. J. (1974). Effects of recording on counselors and clients. *Counselor Education and Supervision, 14*, 5-12.
- Gibbons, F. X. (1990). Self-attention and behavior: A review and theoretical update. In M. P. Zanna (Ed), *Advances in Experimental Social Psychology* (Vol. 23, pp. 249-303). New York: Academic Press.
- Gibbons, F. X., Smith, T. W., Ingram, R. E., Pearce, K., Brehm, S. S., & Schroeder, D. J. (1985). Self-awareness and self-confrontation: Effects of self-focused attention on members of a clinical population. *Journal of Personality and Social Psychology, 48*(3), 662-675.

- Grencavage, L. M., & Norcross, J. C. (1990). What are the commonalities among the therapeutic factors? *Professional Psychology: Research and Practice*, 21, 372-378.
- Haas, R. G. (1984). Perspective-taking and self-awareness: Drawing and E on your forehead. *Journal of Personality*, 15, 191-200.
- Hatcher, R. L., & Barends, A. W. (1996). Patients' view of the alliance in psychotherapy: Exploratory factor analysis of three alliance measures. *Journal of Consulting and Clinical Psychology*, 64(4), 1326-1336.
- Heider, F. (1958). *The psychology of interpersonal relations*. New York: Wiley.
- Henchy, T., & Glass, D. C. (1968). Evaluation apprehension and the social facilitation of dominant and subordinate responses. *Journal of Personality and Social Psychology*, 10, 446-454.
- Higgins, E. T. (1987). Self-discrepancy: A theory relating self and affect. *Psychological Review*, 94, 319-340.
- Hofmann, S. G., & Heinrichs, N. (2002). Distentagling self-descriptions and self-evaluations under conditions of high self-focused attention: Effects of mirror exposure. *Personality and Individual Differences*, 32, 620-661.
- Hofmann, S. G., & Heinrichs, N. (2003) Differential effects of mirror manipulation on self-perception in social phobia subtypes. *Cognitive Therapy & Research*, 27(2), 131-143.
- Horvath, A. O., & Greenberg, L. S. (1986). The development of the Working Alliance Inventory. In L. Greenberg & W. Pinsoff (Eds.), *The*

- psychotherapeutic process: A research handbook* (pp. 529-556). New York: Guilford Press.
- Ickes, W. J., Wicklund, R. A., & Ferris, C. B. (1973). Objective self-awareness and self-esteem. *Journal of Experimental Social Psychology*, 9, 202-219.
- Innes, J. M., & Gordon, M. I. (1985). The effects of mere presence and a mirror on performance of a motor task. *The Journal of Social Psychology*, 125(4), 479-484.
- Lambert, M. J., and Barley, D. E. (2001). Research summary on the therapeutic relationship and psychotherapy outcome. *Psychotherapy*, 38(4), 357-361.
- Lambert, M. J., & Bergin, A. E. (1994). The effectiveness of psychotherapy. In A. E. Bergin & S. L. Garfield (Eds.), *Handbook of psychotherapy and behavior change* (4th ed., pp. 143-189). New York: Wiley.
- Lazarus, A. A. (1971). *Behavior therapy and beyond*. New York: McGraw-Hill.
- Liebling, B. A., Seiler, M., & Shaver, P. (1975). Unresolved problems for self-awareness theory: A reply to Wicklund. *Journal of Experimental Social Psychology*, 11, 82-85.
- Nezlek, J. B. (2002). Day-to-day relationships between self-awareness, daily events, and anxiety. *Journal of Personality*, 70(2), 249-275
- Nisbett, R. E., & Wilson, T. D. (1977). Telling more than we can know: Verbal reports on mental processes. *Psychological Review*, 84(3), 231-259.
- Orlinsky, D. E., Grave, K., & Parks, B. K. (1994). Process and outcome in psychotherapy—noch einmal. In A. E. Bergin & S. L. Garfield (Eds.),

- Handbook of psychotherapy and behavior change* (pp. 157-310). New York: Wiley.
- Pryor, J. B., Gibbons, F. X., Wicklund, R. A., Fazio, R. H., & Hood, R. (1977). Self-focused attention and self-report validity. *Journal of Personality*, 45, 513-527,
- Roth, D. L., Snyder, C. R., & Pace, L. M. (1986). Dimensions of favorable self-presentation. *Journal of Personality and Social Psychology*, 51(4), 867-874.
- Safran, J. D., & Wallner, L. K. (1991). The relative predictive validity of two therapeutic alliance measures in cognitive therapy. *Psychological Assessment: A Journal of Consulting and Clinical Psychology*, 3, 188-195.
- Salovey, P. (1992). Mood-induced self-focused attention. *Journal of Personality and Social Psychology*, 62, 699-707.
- Scheier, M. F. (1976). Self-awareness, self-consciousness, and angry aggression. *Journal of Personality*, 44, 627-644.
- Scheier, M. F., & Carver, C. S. (1977). Self-focused attention and the experience of emotion: Attraction, repulsion, elation, and depression. *Journal of Personality and Social Psychology*, 35, 625-636.
- Scheier, M. F., Carver, C. S., & Gibbons, F. X. (1981). Self-focused attention and reactions to fear. *Journal of Research in Personality*, 15, 1-15.
- Schlenker, B. R. (1980). Identity and self-identification. In B. R. Schlenker (Ed.), *The self and social life* (pp. 65-99). New York: McGraw-Hill.

- Silvia, P. J. (2002). Self-awareness and emotional intensity. *Cognition and Emotion*, 16(2), 195-216.
- Silvia, P. J. (2005). The linguistic implication form. Retrieved April 14, 2008, from Paul Silvia's Data Files & Research Tools. Website: http://www.uncg.edu/%7Ep_silvia/tools/lif.htm.
- Silvia, P. J., & Duval, T. S. (2004). Self-awareness, self-motives, and self-motivation. In Wright, R. A., Green, J., & Brehm, S. (Eds.) *Motivational analyses of social behavior: Building on Jack Brehm's contributions to psychology* (pp. 57-75). Mahwah, NJ: Lawrence Erlbaum.
- Silvia, P. J., & Duval, T. S. (2001a). Objective self-awareness theory: Recent progress and enduring problems. *Personality and Social Psychology Review*, 5, 230-241.
- Silvia, P. J., & Duval, T. S. (2001b). Predicting the interpersonal targets of self-serving attributions. *Journal of Experimental Social Psychology*, 37, 333-340.
- Silvia, P. J., & Gendolla, G. H. E. (2001). On introspection and self-perception: Does self-focused attention enable accurate self-knowledge. *Review of General Psychology*, 5, 241-269.
- Snow, C., Duval, T. S., and Silvia, P. (2004). When the self stands out: Figure - ground effects on self-focused attention. *Self and Identity*, 3(4):355+.
- Stephenson, B., & Wicklund, R. A. (1983). Self-directed attention and taking the other's perspective. *Journal of Experimental Social Psychology*, 19, 58-77.

- Tracey, T. J., & Kokotovic, A. M. (1989). Factor structure of the Working Alliance Inventory. *Psychological Assessment*, 1(3), 207-210.
- Vallacher, R. R. (1978). Objective self awareness and the perception of others. *Personality and Social Psychology Bulletin*, 4(1), 63-67.
- Vygotsky, L. (1986). *Thought and language*. Cambridge, MA: MIT Press.
- Wegner, D. M., & Giuliano, T. (1980). Arousal-induced attention to self. *Journal of Personality and Social Psychology*, 38, 719-726.
- Weiner, B. (1985). An attributional model of achievement motivation and emotion. *Psychological Review*, 92, 548-583.
- Whiston, S. C., & Sexton, T. L. (1993). An overview of psychotherapy outcome research: Implications for practice. *Professional Psychology: Research and Practice*, 24(1), 43-51.
- Wicklund, R. A. (1979). The influence of self-awareness on human behavior. *American Scientist*, 67, 187-193.
- Zuroff, D. C., & Blatt, S. J. (2006). The therapeutic relationship in the brief treatment of depression: Contributions to clinical improvement and enhanced adaptive capacities. *Journal of Consulting and Clinical Psychology*, 74(1), 130-140.

APPENDIX A:

Script for Study

“College Friendship Study”

The experimenter will bring the subject into the therapy room. Mirrors, video cameras, and audience are present in the training condition whereas this equipment is hidden or absent from the control condition. For the training condition, the equipment is explained in the following manner:

This is a training facility for graduate students and as such, there are certain pieces of equipment in the room to help me learn from our time together. Notice the video camera (point). This session will be taped and the tapes will be viewed by the supervising psychologist and myself. Notice the two-way mirror (point). Behind that mirror is a team of my colleagues and professors who will be observing our interaction and giving me feedback on my performance during the interview.

The control condition will explain or not explain the room or the training equipment.

After the setting has been introduced, the interviewers will say the following:

I have to go get some materials before we get started. When I come back we can get started with the study.

The experimenter will leave the room for 60 seconds and return with Linguistic Implications Form and an interview form. Upon her return, the experimenter will briefly introduce the manipulation check measure. This measure is administered to determine the effects of the treatment room on the subject's level of self-awareness. The task will be introduced in the following manner:

This study is interested in looking at individual characteristics and their relation to college adjustment, particularly in regard to friendships during the 1st and 2nd year of college. Skills that may have some implication to relationships are linguistic skills and the attention one pays to linguistic social cues. (PASS OUT MEASURE). Sometimes we are in a crowded room or at a party and we only hear parts of people's sentences and we have to fill in the rest. (READ 2nd PARAGRAPH OF INSTRUCTIONS ON FORM).

Once the Linguistic Implications Form is complete, the experimenter will introduce the interview portion of the study. If the subject is in the No Standard condition, the introduction will be as follows:

As I mentioned before this study is looking at college adjustment and social relationships. The last part of this study is interested in gaining some more in-depth answers about a variety of adjustment issues. To do this, an interviewer will come in here and ask you several questions about your experience.

If the subject is in the STANDARD condition, the above statement will be read followed by the subsequent induction:

In addition to the information you provide in response to the interview questions, we interested in differences in the variant and amount of information participants disclose about adjustment to college and how aware they are of sources of distress.

Once the introduction is complete the interviewer will enter the room and conduct the semi-structured, semi-clinical interview. The interview form contains the questions and necessary follow-up queries. The therapist will maintain standardization of questions as close to the interview form as possible.

When interview is completed, the interviewer will inform the experimenter who will return to the room with the adapted WAI. The experimenter will explain the measure to the subject and leave the room during while he or she completes it. The measure will be introduced in the following manner:

Thank you for participating in the interview. I have a follow-up measure for you to answer regarding your experience during the interview. This will be used only for data analysis and not be shared with the individual who conducted the interview.

After completion of the WAI, the subject will be told the original purpose of the study. Debriefing will include four open-ended questions regarding the training equipment. After debriefing has finished, the subject is released. This debriefing will occur as follows:

This completes the study. I will inform you of the purpose of this study; however, due to the fact that data will continue to be collect throughout the semester, it is important that you do not share this information with anyone. Rather than examining college adjustment, this study was interested in looking at how the presence of therapy training equipment such as mirrors, video cameras, and treatment teams affect the development of the therapeutic relationship. If you could please answer the following questions in order to help us understand in more detail your experience, it would be greatly appreciated.

APPENDIX B:

Working Alliance Inventory (Revised)

Below is a list of statements about your relationship with your therapist. Consider each item carefully and indicate your level of agreement for each of the following items. Please circle the number that best describes your level of agreement based on the following scale:

- | Does not Correspond at all | | | Corresponds Moderately | | Corresponds Exactly | |
|--|---|---|------------------------|---|---------------------|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1. I feel uncomfortable with my interviewer. | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. My interviewer and I understand each other. | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. I believe my interviewer likes me. | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. I believe that my interviewer is genuinely concerned for my welfare. | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. My interviewer and I respect one another. | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. I feel that my interviewer appreciates me. | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7. My interviewer and I trust one another. | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8. I believe that my interviewer was accepting of me even when I talked about things that he/she did not approve of. | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

APPENDIX C:

Informed Consent Form

You are invited to participate in this research study. The following information is provided in order to help you to make an informed decision whether or not to participate. If you have any questions please do not hesitate to ask. You are eligible to participate because you are student in Psychology 101 at Indiana University of Pennsylvania.

The purpose of this study is to investigate social and emotional adjustment to college. Participation in this study will require approximately 30 minutes of your time and is not considered part of Psychology 101. Participation or non-participation will not effect the evaluation of your performance in class. First you will take a linguistic test consisting of fill-in-the-blank questions. Next you will be interviewed for approximately 20 minutes regarding different aspects of your life before and after you began attending IUP. At the end of the interview you will be given a questionnaire to fill out on your experience during the interview.

The information gained from this study may help us better understand the process of social and emotional adjustment to college and better attend to the needs of incoming students.

Your participation in this study is voluntary. You are free to decide no to participate in this study or to withdraw at any time without adversely affecting your relationship with the investigators or IUP. Your decision will not result in any loss of benefits to which you are otherwise entitled. If you choose to participate, you may withdraw at any time by notifying the Project Director or informing the person conducting the interview. Upon your request to withdraw, all information pertaining to you will be destroyed. IF you choose to participate, all information will be held in strict confidence and will have no bearing on your academic standing or services you receive from the University. Your responses will be considered only in combination with those from other subjects. The information obtained in the study may be published in psychological journals or presented and psychological meetings but your identity will be kept strictly confidential.

IF you are willing to participate in this study, please sign the statement below. Take the extra unsigned copy with your. If you choose not to participate, please tell the Project Director.

Project Directors

Amy E. Ford, M.A.
Graduate Student
Psychology Department
Uhler Hall
2010 Oakland Avenue
Indiana, PA 15705
(314) 954-0003

Donald U. Robertson, PhD.
Project Committee Chairperson
Psychology Department
Uhler Hall
2010 Oakland Avenue
Indiana, PA 15701
(724) 357-2222

Voluntary Consent Form continues onto the next page

Informed Consent Form (continued)

VOLUNTARY CONSENT FORM:

I have read and understand the information on the form and I consent to volunteer to be a subject in this study. I understand that my responses are completely confidential and that I have the right to withdraw at any time. I have received an unsigned copy of this informed Consent Form to keep in my possession.

Name (PLEASE PRINT)

Signature

Date

Phone number or location where you can be reached

Best days and times to reach you

I certify that I have explained to the above individual the nature and purpose, the potential benefits, and possible risks associated with participating in this research study, have answered any questions that have been raised, and have witnessed the above signature.

Date

Investigator's Signature

APPENDIX D

Interview Form

1. Age/Gender
2. Year in school
3. Living arrangement at IUP (where do you live? How many people live with you? How do you know your roommates?)
4. How did you choose IUP?
 - a. What are you studying?
 - b. What are your career goals?
5. Tell me about your life here at school?
 - a. Are you involved in any extracurricular or community-based activities?
(If so, what and how often?)
 - b. Do you have a job? (If yes, how many hours a week? What are your duties?)
 - c. Describe your social network.
 - i. What is your relationship like with your friends/network?
 - ii. How did you meet your friends?
 - iii. What do you and your friends do together?
 - iv. Do you feel like you can rely on your network for support?
 - d. Are you involved in a romantic relationship?
 - i. How long have you been in this relationship?
 - ii. How did you meet your partner?
 - iii. How often do you spend time with him or her?
6. Describe your family
 - a. Has anyone in your family gone to IUP?
 - b. Describe your relationship with family

- c. How far away does your family live?
 - i. How often do you get to visit them?
 - d. Do you miss your family?
(If yes, what about them do you miss the most?)
- 7. What was your life like before you came to IUP?
 - a. What did you like to do?
 - b. Did you have a job? (If yes, how many hours a week? What were your duties?)
 - c. Were you involved in any extracurricular or community-based activities?
(If yes, what?)
- 8. Are you still close with your friends from home?
 - a. How often do you talk to them and/or get to see them?
 - b. Do you feel like you can rely on them for support?
 - c. What was your relationship like with them before you came to school?
 - d. How has your relationship changed since you came to school?
 - e. Were you involved in a romantic relationship before you came to IUP (e.g. during your senior year of high school)?
 - i. If yes: How long were you dating this person?
 - ii. How did you meet him/her?
 - iii. Do you still have contact with this person?
- 9. What was the hardest part about coming to IUP?
- 10. On a scale of 1 to 10, how well do you feel you have adjusted to college life? 1 means that you've adjusted far worse than others, 10 means that you've adjusted far better than others, and 5 means that you've adjusted the same as others. (circle answer)

1
2
3
4
5
6
7
8
9
10

APPENDIX E

Debriefing Questions

FT/S Group

Based on your experience during the interview, please answer the following questions:

1. How much did the presence of the training equipment (two-way mirror, video-recording equipment, and treatment team) bother you?

Did not bother me at all			Moderately		Bothered me very much
1	2	3	4	5	6 7

2. How would your comfort level have changed if the training equipment was not present?

Extremely more comfortable			No change		Extremely more uncomfortable
1	2	3	4	5	6 7

3. How much did the equipment influence your judgments about the interviewer or the relationship you had with her?

No influence			Moderate influence		Influenced very much
1	2	3	4	5	6 7

4. How much did the statement regarding the researchers being interested in amount of personal information disclosed and knowledge of stressors influence your judgments about the interview or the relationship you had with her?

No influence			Moderate influence		Influenced very much
1	2	3	4	5	6 7

5. What would be different if the training equipment was not present?

6. What, if anything, were you thinking about yourself?

APPENDIX F:

Debriefing Questions

C/S Group

1. How much would the presence of training equipment (two-way mirror, video-recording equipment, and audience) have bothered you?

Would not bother me at all			Moderately			Would have bothered me very much
1	2	3	4	5	6	7

2. How would your comfort level during the interview have changed if the training equipment was present?

Extremely more comfortable			No change			Extremely more uncomfortable
1	2	3	4	5	6	7

3. How much do you think the equipment would influence your judgments about the interview and the relationship you had with her?

No influence			Moderate influence			Influence very much
1	2	3	4	5	6	7

4. How much did the statement regarding the researcher's interest in the amount of personal information disclosed and knowledge of stressors influenced your judgments about the interview or the relationship you had with her?

No influence			Moderate influence			Influence very much
1	2	3	4	5	6	7

5. What would be different if the training equipment was not present?

6. What, if anything, were you thinking about yourself?

APPENDIX G:

Debriefing Questions

FT/NS Group

Based on your experience during the interview, please answer the following questions:

1. How much did the presence of the training equipment (two-way mirror, video-recording equipment, and treatment team) bother you?

Did not bother me at all			Moderately		Bothered me very much
1	2	3	4	5	6 7

2. How would your comfort level have changed if the training equipment was not present?

Much more comfortable			No change		Much more uncomfortable
1	2	3	4	5	6 7

3. How much did the equipment influence your judgments about the interviewer or the relationship you had with her?

No influence			Moderate influence		Influenced very much
1	2	3	4	5	6 7

4. How much would the following statement have influenced your judgments about the interview or the relationship you had with her if made prior to the start of the interview:

"We are interested in differences in the amount of information participants disclose about adjustment to college and how aware they are of sources of distress"?

No influence			Moderate influence		Influenced very much
1	2	3	4	5	6 7

5. What would be different if the training equipment was not present?

6. What, if anything, were you thinking about yourself?

APPENDIX H:

Debriefing Questions

C/NS Group

1. How much would the presence of training equipment (two-way mirror, video-recording equipment, and audience) have bothered you?

Would not bother me at all			Moderately			Would have bothered me very much
1	2	3	4	5	6	7

2. How would your comfort level during the interview have changed if the training equipment was present?

Much more comfortable			No change			Much more uncomfortable
1	2	3	4	5	6	7

3. How much do you think the equipment would influence your judgments about the interview and the relationship you had with him or her?

No influence			Moderate influence			Influenced very much
1	2	3	4	5	6	7

4. How much would the following statement have influenced your judgments about the interview or the relationship you had with her if made prior to the start of the interview:

“We are interested in differences in the amount of information participants disclose about adjustment to college and how aware they are of sources of distress”?

No influence			Moderate influence			Influenced very much
1	2	3	4	5	6	7

5. What would be different if the training equipment was not present?

6. What, if anything, were you thinking about yourself?

APPENDIX I:

LINGUISTIC IMPLICATIONS FORM E2

It has often been found that what people say contains a certain amount of redundancy. For example, you might hear only a part of a conversation going on across the room at a party, but still be able to fill in the blanks because much of the information in the conversation is repetitious. To research this phenomenon, we are collecting some judgments of standard passages--brief phrases, sentences, and the like--to find out how redundant they are. This exercise is concerned with the use of pronouns.

Your task is to look at each of the following passages and try to fill in the blank in each one. In each blank there are several possible pronouns that may make sense in the sentence. Please circle the word that makes the most sense to you. Fill in every blank. Even if you have to guess on some or many of the passages, go ahead and make your best guess for each one. Please try to fill in the most likely word (by circling that word in each sentence.)

1. All of (*our, my, his*) answers matched the ones in the back of the book.
2. At first it didn't seem to make any difference, but by later that night the noise from the party was entirely too loud to allow (*her, me, us*) to sleep.
3. The salesman tried to persuade (*me, her, us*) to buy a set of encyclopedias.
4. The noise got to (*us, them, me*) before long.
5. (*Our, His, My*) idea of fun is sitting at home and listening to music.
6. The sun went in just when (*we, she, I*) decided to go outside.
7. Please don't do this to (*her, us, me*); it is just not fair.
8. It was (*her, our, my*) understanding that the deadline for the paper had been delayed one week.
9. Except for (*me, us, her*), everyone failed the test.
10. As a result of (*our, my, his*) suggestions, a minor revision in the policy has occurred.
11. (*He, We, I*) spent so much time on the initial planning that it seemed impossible to finish before the deadline.
12. It rained so hard that all of (*our, my, her*) clothes got soaked.

13. For the past two or three months, (*I, we, they*) have had reports of squabbling and dissatisfaction among the workers in the office.
14. According to (*our, my, her*) notes, only five of the original seven laws are still in existence.
15. Someone stopped (*them, me, us*) to get directions to the stadium.
16. (*We, He, I*) waited by the phone for the doctor to return the call.
17. The cashier charged (*her, us, me*) too little for the groceries.
18. The mosquitoes didn't even bother (*him, us, me*).
19. Dinner was waiting on the table when (*he, I, we*) came back from the store.
20. It isn't easy to get lost in this town, but somehow (*I, we, they*) managed it.