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Academic Success of First Year Students: The Effects of Alcohol Expectancy and Academic Self-Efficacy

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ACADEMIC SUCCESS OF FIRST YEAR STUDENTS: THE EFFECTS OF ALCOHOL
EXPECTANCY AND ACADEMIC SELF-EFFICACY

A Dissertation

Submitted to the School of Graduate Studies and Research

in Partial Fulfillment of the

Requirements for the Degree

Doctor of Education

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Indiana University of Pennsylvania

May 2014

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This quantitative study examined the variables of alcohol expectancy and academic self-efficacy to determine if such elements influence student academic achievement. This study rests on the theoretical framework of Social Learning Theory that identifies the concept of individual experiences as shaping and determining future behavior believed to impact student academic success. All enrolled (N=2,609) first year students at a large Mid-Atlantic university were invited to participate in the study with a sample of 327 first year students who completed the online survey. The results of the data analysis found that measures of alcohol expectancy and academic self-efficacy represent two variables that are significantly correlated with academic achievement. Alcohol expectancy and academic self-efficacy are therefore predictive variables that may be useful in identifying students at risk of academic failure. Institutions of higher education could use this information to design programs of early intervention to guide and support students on their collegiate journey toward degree attainment.

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CHAPTER I

INTRODUCTION

The prevalence and negative impact of college student alcohol consumption has been well documented by decades of research signifying that student alcohol use causes damage to self, damage to others, and damage to the institution (Hingson, Heeren, Winter, & Wechsler, 2005; Johnston, O'Malley, Bachman, & Schulenberg, 2011; Perkins, 2002). Principal research in the field validates the presence of a strong causal relationship between student alcohol consumption and student health, safety, academic success, retention, and student persistence to graduation (Wechsler et al., 2008). This knowledge requires institutions of higher education to search for new interventions as a means to modify the prevalence of student alcohol consumption and the negative impact of this behavior on the individual, the campus community, and the institution at large.

The U.S. Department of Education, Office of Safe and Drug-Free Schools (2010), advocates a comprehensive approach as the effective solution to the problem. Such prevention efforts would target the individual student who may be at-risk for problematic alcohol consumption and integrate a framework that serves to educate the student population, the student body, and the surrounding community. Current models of intervention focus predominantly on educating the campus community and fail to identify first year students who have a propensity for alcohol consumption and a lack of academic self-efficacy resulting in low academic achievement (DeJong, Larimer, Wood, & Hartman, 2009).

This chapter introduces the behavior and consequences of college student alcohol consumption, delineates the scope of the problem, defines the variables of alcohol expectancy and academic self-efficacy, the purpose of the study, the research questions, and provides

supporting documentation to emphasize the significance of the study that focuses on early identification of students who are at risk for alcohol consumption and abuse.

A national survey of students at 140 U.S. campuses reported that 4 out of 5 students consume alcohol (Wechsler, Davenport, Dowdall, Moeykens, & Castillo, 1994). The spectrum of consumption varies widely from minimal to binge drinking, defined by Wechsler and Isaac (1992) as “five or more drinks for men or four or more drinks for women in one sitting, at least one time, during the past two weeks (p. 2929).” The extent of this problem and the impact of alcohol consumption, especially binge drinking, on the health and safety of students are substantial (Wechsler, et al., 1994). A study conducted by Aertgeerts and Buntinx (2002) with 3518 college freshman using the Composite International Diagnostic Interview, an assessment tool used to measure mental health disorders, found that 14% (128 students) of this sample met the criteria to be clinically classified as alcohol-dependent. Additionally, the study further noted that 62.5% of the 128 who were identified as alcohol-dependent failed to successfully complete their first year of college.

Some twenty years ago 67%, of college presidents surveyed identified the misuse of alcohol as a problem on their campuses (Carnegie Foundation for the Advancement of Teaching, 1990). In 2007, the U. S. Surgeon General identified college student alcohol use and abuse as a significant public health concern, commanded a “Call to Action” and commissioned the U. S. Department of Health and Human Services (DHHS) with the responsibility to identify a means to prevent and reduce collegiate alcohol consumption and underage drinking. These initiatives demonstrate the ongoing concern and prevalence of alcohol use in the college age population.

Magnitude and Consequences of College Student Drinking

According to Perkins (2002) alcohol consumption is viewed as the greatest single threat to student health, academic achievement, engagement, and the overall campus climate in higher education. Damage to the individual student or self from alcohol misuse includes academic impairment, blackouts, personal injuries and death, physical illnesses, unintended sexual activity, suicide, sexual coercion, rape victimization, impaired driving, legal repercussions, and impaired athletic performance (Hingston, Heeren, & Winter, 2005; NIAAA, 2012; Perkins, 2002). Some of the effects to others are property damage and vandalism, physical and sexual acts of violence, hate-related incidents, and noise disturbances (Wechsler & Wuethrich, 2002).

The United States government has long been concerned with college students' alcohol consumption and the significant impact of such behavior on the health and wellbeing of the individual (Hingson et al., 2005; Johnston et al., 2011). One half-century of investigative research, including the Harvard School of Public Health College Alcohol Study (CAS) (Wechsler, Dowdall, Maenner, Gledhill-Hoyt & Lee, 1998), the Monitoring the Future (MTF) study (Johnston et al., 2005), and the Core Institute survey of college students (2012), has consistently documented that binge drinking is a prevalent pastime of the American college student.

Over the last 35 years, the National Institute on Drug Abuse has supported Monitoring the Future (MTF), a longitudinal research project conducted by the University of Michigan Institute for Social Research to determine the trends and prevalence of drug and alcohol use in the United States (Johnston et al., 2005). The MTF survey has gathered data on American college students for over the last three decades finding continuous evidence to indicate that the college student population has a high rate of binge or episodic drinking, with college males

reporting higher rates of daily consumption and binge drinking than females (Johnston, et al., 2005; Patrick & Schulenberg (2011).

The specific health and safety consequences often associated with student alcohol consumption are illustrated through the data collected by the Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism (NIAAA). Data released by the NIAAA indicate that 1,825 college students die annually as a result of alcohol related motor vehicle crashes (2012). The NIAAA studies further estimate that 599,000 students ages 18 to 24 years annually endure unintentional injuries, 696,000 students experience physical assault, and 97,000 students are victims of acquaintance rape and sexual assault (U.S. Department of Education, 2012). According to the NIAAA, the impact and consequences of students' drinking behavior has been further substantiated through reports of property damage, student attrition, loss of academic performance, poor community relations, and legal costs. These troubling statistics characterize the drinking patterns of college students as dangerous and disruptive of one's general health and wellbeing and serve to further emphasize the need for effective interventions.

The impact of alcohol consumption on an individual's mental and emotional health was documented by Knight et al. (2000) who studied the prevalence of alcohol abuse and dependency in college age students. The sample consisted of 14,115 students across 119 four year colleges and universities within the United States. The survey instrument consisted of a 20-page questionnaire with 108 multiple-choice questions. The results of the study verified the prevalence of alcohol consumption and the related mental health disorders associated with alcohol use and abuse. A full 31% of the students surveyed met the criteria for alcohol abuse as

defined by the Diagnostic Statistical Manual IV, with 6.3% identified as alcohol dependent. This study verifies both the prevalence of alcohol consumption and the related health and mental health disorders associated with alcohol use and abuse.

The Center for the Study of Collegiate Mental Health (CSCMH) (2009) concluded that alcohol and substance abuse are often associated with the prevalence of mental health issues. The study, supported the earlier findings of Knight et al., (2002) who found startling correlations between male college students that reported high levels of substance abuse, that also reported increased symptoms of depression (CSCMH, 2009).

Barry, Chaney, and Chaney, (2011) used the results of the Monitoring the Future (MTF) study conducted by Johnston et al. (2005) and applied a secondary analysis of the data to determine the impact of alcohol use and school truancy on educational goals. The results of this statistical analysis revealed that an inverse relationship existed between the predictor variables of alcohol use and school truancy as they relate to the educational aspirations of students. The study concluded that future research should focus on the isolation of predictive variables to identify students who lack educational vision and career aspirations.

The prevalence of alcohol consumption and the potential for negative academic consequences has been well documented as a predictive factor associated with poor academic performance (Bloch, Crockett, & Vicary, 1991; CSCMH, 2009; Donovan & Jessor, 1998; Hingson et al., 2005; Schulenberg, Bachman, Omalley, & Johnston, 1994; Sutherland & Shepherd, 2001). Risler and Sullivan (2002) noted that substance abuse directly impacts student retention through drug and alcohol related accidents, student misconduct, poor academic performance, and general problems for the campus community.

The consequences of alcohol misuse not only impact the drinker but also student alcohol consumption can have a deleterious effect on the campus and the university's relationship with the community (Wechsler et al., 2002). Judith Ramaley, former president of the University of Vermont describes "underage drinking and excessive drinking as having negative effects on everything we're trying to do as a university. They compromise the educational environment, the safety of our students, the quality of life on campus, town/gown relationships, and our reputation (USDHHS, 2002, p. v)". It cannot be denied that the effects of student alcohol consumption are detrimental to the individual student's health, academic success, physical and emotional wellbeing, student retention, and ultimately affect the academic image of the university (Sluske, 1986).

Theoretical Framework

This study examined two multi-faceted variables, that of alcohol expectancy response and academic self-efficacy perception as predictors for academic success in first year college students with consideration of High School GPA and SAT scores. The notion that alcohol consumption patterns are formulated prior to college gives value to measures of alcohol expectancy, a Social Learning Theory concept that relates to the perceived psychological effects that may result from consuming alcohol. This perspective is based upon alcohol expectancy that theorizes that early learning experiences influences future behavioral choices (Jones, Corbin, & Fromme, 2001). Vroom (1964) developed the Expectancy Theory in the study of management to explain an individual's motivations with respect to decisions. Motivation, according to Vroom, is defined as a process in which an individual makes choices based upon expected or anticipated outcomes. Alcohol expectancy measures an individual's relationship with alcohol use and is prognostic of an individual's propensity to consume alcohol and thereby provides a reliable

means for early identification of students who are at risk for high levels of alcohol consumption or risk of alcoholism (Goldman, Del Boca, & Darkes, 1999).

Similarly, Bandura's theory of self-efficacy is a popular psychological construct that argues that an individual's sense of efficacy is shaped prior to the student's matriculation to college. Bandura (1977) specifically defines perceived self-efficacy as an individual's belief about their ability to be successful across certain life situations. The three core elements of efficacy include: confidence in relation to his or her ability; the individual's desire to effectively engage in certain behaviors; and the individual's attainment of a desired goal. Bandura explains that an individual's decision to evidence positive or negative actions upon the environment is mediated through the cognitive processes of self-efficacy, self-concept, and overall self-regulatory behavior. Perceived self-efficacy is an individual's belief about their ability to generate a given effect upon their environment and then to formulate decisions about whether to engage (approach) a situation or to disengage (avoid/escape) from a situation (Bandura, 1994).

The premise of academic self-efficacy relates directly to one's belief about their ability to be successful in the pursuit of academic challenges. Academic self-efficacy is a psychosocial element thought to be a mediating variable that exerts control over individual behavior and personal judgments as it relates to academic success (Gore, 2006). Identification of variables such as academic self-efficacy that directly affect a student's decision to engage (approach) is being reviewed with much interest in academia. Increasingly, institutions of higher education are piloting models that focus on the academic needs of the individual student as opposed to broad approaches that target the community at large (Angrist, Lang, & Oreopoulos, 2009).

Statement of the Problem

Academic achievement and student retention rates are adversely impacted by alcohol consumption and the lack of student academic self-efficacy across U.S. university campuses (Perkins, 2002; Garcia & Hu, 2001). The institution's ability to enhance the academic success of students and the overall collegiate experience must be driven by the desire to identify students at risk for alcohol abuse and further enhance the development of the whole person. It is imperative that the field of higher education acquire a means to identify students at risk for alcohol usage and determine the psychosocial elements that contribute to academic success. Numerous factors have been identified as contributing to academic success. Research that scrutinizes individual components and describes associations between complex variables such as alcohol expectancy and academic self-efficacy can benefit the student at risk of academic failure. Ultimately, colleges and universities must design initiatives that ameliorate the risk factors for academic failure such as alcohol abuse and thus improve student retention rates (Higbee, 2005; Pascarella, & Terenzini, 1991).

Purpose of the Study

The purpose of this study was to identify factors that support the development of an approach that allows for the early identification of college students at risk for alcohol consumption and academic challenges through the implementation of alcohol expectancy and academic self-efficacy measures. The current study examined the variables of alcohol expectancy and academic self-efficacy to determine if such elements influence student academic achievement. Data were gathered by the university Office of Institutional Research from the enrolled student's admissions application listing high school GPA, and SAT scores to provide a baseline for the examination of the variables of alcohol expectancy and academic self-efficacy as

they relate to the projected academic success of first year students. The ultimate purpose of the study was to determine if a predictive relationship existed between alcohol expectancy and academic self-efficacy and to identify students at risk for alcohol abuse and academic failure. Early identification and the subsequent development of intervention programs could help to prevent harm associated with alcohol consumption as well as help the student understand the relationship between drinking and the long-term negative consequences.

Research Questions

This study measured the predictor variables of alcohol expectancy, as measured by the Alcohol Expectancy Questionnaire (AEQ), student academic self-efficacy, as measured by the two subscales, Self-efficacy for Academic Achievement (SEAA) and Self-efficacy for Self-regulated Learning (SESRL), high school GPA, SAT scores and the criterion variable of first semester Grade Point Average (GPA) (See Figure 1).

1. Are the levels of academic self-efficacy as measured by the Self-efficacy for Academic Achievement (SEAA), and Self-efficacy for Self-regulated Learning scales (SESRL) predictors of academic achievement in first year college students?
2. Are the levels of alcohol expectancy as measured by the Alcohol Expectancy Questionnaire (AEQ) a predictor of academic achievement as measured by first semester grade point average (GPA) in first year college students?
3. Is there an interaction between academic self-efficacy and alcohol expectancy as measured by the Self-efficacy for Academic Achievement (SEAA), and Self-efficacy for Self-regulated Learning (SESRL) and the AEQ that is predictive of academic achievement in first year students as measured by first semester grade point average (GPA)?

4. Is there a relationship between the variables of high school GPA, SAT scores, academic self-efficacy and alcohol expectancy as measured by the Self-efficacy for Academic Achievement (SEAA), and Self-efficacy for Self-regulated Learning (SESRL) and the AEQ that is predictive of academic achievement in first year students as measured by first semester grade point average (GPA)?

Research Hypotheses

Hypothesis for Question 1:

The level of self-efficacy as measured by the Self-efficacy for Academic Achievement (SEAA), and Self-efficacy for Self-regulated Learning scales (SESRL) were predictors of academic achievement in first year college students.

Hypothesis for Question 2:

The levels of alcohol expectancy, as measured by the Alcohol Expectancy Questionnaire (AEQ) was a predictor of academic achievement in first year college students.

Hypothesis for Question 3:

There was an interaction between self-efficacy and alcohol expectancy as measured by the Self-efficacy for Academic Achievement (SEAA), and Self-efficacy for Self-regulated Learning (SESRL) and the AEQ that was predictive of academic achievement in first year students as measured by first semester GPA.

Hypothesis 4 for Question:

There was a relationship between the variables of high school GPA, SAT scores, alcohol expectancy and academic self-efficacy as measured by as measured by the Self-efficacy for

Academic Achievement (SEAA), Self-efficacy for Self-regulated Learning (SESRL) and the Alcohol Expectancy Questionnaire (AEQ) that was predictive of academic achievement in first year students as measured by university grade point average (GPA).

Research Question	Prediction/Hypothesis	Methodology
1. Are the levels of academic self-efficacy as measured by the Self-efficacy for Academic Achievement (SEAA), and Self-efficacy for Self-regulated Learning scales (SESRL) predictors of academic achievement in first year college students?	The levels of self-efficacy as measured by the Self-efficacy for Academic Achievement (SEAA), and Self-efficacy for Self-regulated Learning scales (SESRL) were predictors of academic achievement in first year college students.	The variable academic self-efficacy is measured by SEAA & SESRL and first semester GPA was obtained from the Office of Institutional Research. Statistical analysis was performed to determine the strength of correlation among and between academic self-efficacy scores and first semester GPA.
2. Are the levels of alcohol expectancy as measured by the Alcohol Expectancy Questionnaire (AEQ) a predictor of academic achievement as measured by first semester grade point average (GPA) in first year college students?	The levels of alcohol expectancy, as measured by the Alcohol Expectancy Questionnaire (AEQ) was a predictor of academic achievement in first year college students.	The variable alcohol expectancy was measured by the AEQ and first semester GPA was obtained from the Office of Institutional Research. Statistical analysis performed to determine the strength of correlation among and between alcohol expectancy scores and first semester GPA.
3. Is there an interaction between academic self-efficacy and alcohol expectancy as measured by the Self-efficacy for Academic Achievement (SEAA), and Self-efficacy for Self-regulated Learning (SESRL) and the AEQ that is predictive of academic achievement in first year students as measured by first semester grade point average (GPA)?	There was an interaction between self-efficacy and alcohol expectancy as measured by the Self-efficacy for Academic Achievement (SEAA), and Self-efficacy for Self-regulated Learning (SESRL) and the AEQ that was predictive of academic achievement in first year students as measured by current first semester GPA.	The variable academic self-efficacy is measured by the SEAA and SESRL and alcohol expectancy is measured by the AEQ, and was obtained from the Office of Institutional Research. Statistical analysis computed using multivariate analysis performed to determine the strength of relationship among and between academic self-efficacy, alcohol expectancy scores, and first semester GPA.
4. Is there a relationship between the variables of	There was a relationship between the variables of high	Participant data gathered on SAT and High School GPA,

<p>high school GPA, SAT scores, academic self-efficacy and alcohol expectancy as measured by the Self-efficacy for Academic Achievement (SEAA), and Self-efficacy for Self-regulated Learning (SESRL) and the AEQ that is predictive of academic achievement in first year students as measured by first semester grade point average (GPA)?</p>	<p>school GPA, SAT scores, as reported by the university Office of Institutional Research, alcohol expectancy and academic self-efficacy as measured by as measured by the Self-efficacy for Academic Achievement (SEAA), Self-efficacy for Self-regulated Learning (SESRL) and the Alcohol Expectancy Questionnaire (AEQ) that was predictive of academic achievement in first year students as measured by university grade point average (GPA).</p>	<p>and first term university GPA was obtained from the Office of Institutional Research. Statistical analysis computed using multivariate analysis performed to determine the strength of relationship among and between the predictor variables of SAT, High School GPA, academic self-efficacy as measured by the SEAA and SESRL and alcohol expectancy as measured by the AEQ and first semester GPA.</p>
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Figure 1. Research questions, hypotheses, and underlying methodology to be used in the research study.

Significance of the Problem

Leaders across the field of higher education must identify the variables that help to identify students who are at risk for alcohol consumption and proactively seek interventions that benefit students as well as the institution to enhance students' academic achievement and ultimately impact student retention. Vroom's Expectancy Theory (1964) and Bandura's Social Learning Theory (1977) are based upon the student's motivation for successful academic outcomes. The application of these theories on academic achievement is evident through student's seeking short-term outcomes without any recognition of long-term effects of that behavior such as poor academic performance. Alcohol expectancy and academic self-efficacy are therefore predictive variables that may be useful in identifying students at risk of academic failure (Bandura, 1994; Weschler, Davenport, Dowdall, Moeykens, & Castillo, 1994). Such a resource could provide institutions of higher education means of early intervention to guide and support students on their collegiate journey toward degree attainment.

Definition of Terms

Academic achievement-is measured using term grade point average to compare weighted levels of student achievement on a scale ranging from 0.0 to 4.0 (Astin, 1993).

Alcohol expectancy-is a learning theory where early learning experiences related to alcohol influence are predictive of future behavioral choices (Brown, Christiansen, & Goldman, 1987).

Academic self-efficacy-is an individual's belief about their ability to generate a given effect (Bandura, 1994).

Limitations of the Study

It is recognized that participants in the study were students enrolled at a rurally located campus of a large university in Western Pennsylvania, and may constitute a relatively homogeneous sample. It is also possible that students who agreed to participate in the study may differ in alcohol expectancy, academic self-efficacy, and achievement from students who chose not to participate. The survey data rested on the willingness of the participants to be honest and forthcoming in their answers.

Another possible limitation was that the AEQ measures perceptions about the effects of alcohol rather than actual alcohol use. A number of factors not considered in the present study such as use of academic support services, employment status, and intended major may have an impact on first term semester GPA.

Further, the researcher was unable to control for other variables such as student illness, employment, and family issues that may impact academic achievement. However, the sample size of 327 students provided for a valid sample.

Summary

This study rests on the theoretical framework of Social Learning Theory that identifies the concept of individual experiences as shaping and determining future behavior believed to impact student academic success. Social Learning Theory, alcohol-expectancy, and academic self-efficacy will be discussed in Chapter 2 as a means to provide a theoretical framework related to this study. The methodology, delineated in Chapter 3, permits the examination of the relationship between academic self-efficacy and alcohol expectancy as predictors of academic success in first year students. Identifying the strengths of the relationships between the predictor variables of alcohol expectancy and academic self-efficacy, when measured using well-validated and reliable assessments provides substantive information that supports the implementation of target programs with unique solutions for the individual student who may be at risk for academic failure.

CHAPTER II

LITERATURE REVIEW

College age students are at a pivotal developmental crossroads as they transition from late adolescence into young adulthood and begin to formulate their self-identity, personal habits, decision making skills, and moral values that impact their future and ultimately the world's future (Mezirow, & Associates, 2000). Campus wide educational approaches to excessive alcohol consumption may positively impact the campus climate overall, but few if any programs are structured to identify the individual student who may be at risk for problematic alcohol use and academic failure. Identification of factors that the student brings to the university, such as an awareness of alcohol expectancy and proclivity toward academic self-efficacy, may be predictive of student academic achievement and thereby elucidate new approaches for early intervention to ultimately impact student retention.

This chapter will address the pervasiveness of college student alcohol consumption, discuss the importance of reducing student alcohol use, describe some of the many attempts to remedy the problem through the implementation of socio-cultural, preventative, and environmental management approaches, articulate the academic impact of student alcohol use, and provide a theoretical framework identifying alcohol expectancy and academic self-efficacy as predicative variables of academic achievement.

Luminaries such as, Bandura, Lewin, Dewey, and others have dedicated their work to isolating variables that may either promote or inhibit the personal growth and development of an individual. Researchers often categorize these elements as either the inherent characteristics of the individual or the environmental factors that serve to shape and mold the individual in their pursuit of personal goals and aspirations. Institutions of higher education must consider such

variables as they search for ways to enhance student academic success and lower attrition rates. Appraisals that help students to identify their level of risk, alcohol expectancy, and sense of academic self-efficacy can serve to empower the individual to make healthy decisions surrounding alcohol consumption and enable them to progress successfully on their academic journey.

The Importance of Reducing Students' Alcohol Use

The college drinking culture views alcohol consumption as a custom related to a rite of passage for students as they transition from late adolescence to young adulthood (Schulenberg & Maggs, 2002). This cultural norm is deeply entrenched in societal acceptance of alcohol consumption as reportedly 80% of American youth admit to drinking alcohol prior to their twenty-first birthday (U.S. Department of Health and Human Services, 2007) and presumably they continue the practice when they enter college. Many suggest that factors associated with the first year transition enhance a student's decision to drink. The Harvard School of Public Health College Alcohol Study noted that 20 % of matriculating students significantly increase their alcohol consumption once they arrive on campus (Wechsler, Lee, Kuo, & Lee, 2002). The students' desire to experiment with alcohol, alcohol expectancies, and expectations of drinking as part of the college experience, or a means to achieve a sense of integration into the college social culture are all factors which impact student alcohol consumption (Hunter & Gahagan, 2003). This mindset in conjunction with the widespread availability of alcohol sustains a campus environment that engenders drinking.

The U. S. Department of Education Fund for the Improvement of Postsecondary Education (FIPSE) developed the Core Alcohol and Drug Survey to assist colleges and universities in determining the effectiveness of their prevention programs and to provide a means

to assess the magnitude of alcohol and drug use among college students (Presley, Meilman, & Lyerla, 1994). Survey data gathered by the Core Institute (2004) found that 45.3 percent of all first year students meet the criteria for heavy drinkers even though the majority of these students are under the legal drinking age of 21. The survey, with approximately 58,000 nationwide respondents, indicated that students consume an average of 3.2 and 7.5 drinks per week: 8% of the students reported consuming as much as 16 drinks per week. The researchers also noted that 42% of the students surveyed reported binge drinking during the previous two-week period. These findings are worrisome as increased alcohol consumption and frequency of consumption are directly correlated with negative consequences that impact student physical health, mental well-being, safety, and academic success (Core, 2012).

The Monitoring the Future (MTF) longitudinal study noted the level of college student alcohol consumption as high when compared to the general population. The MTF study assessed the general population to determine the trends and prevalence of drug and alcohol use from pre-adolescents through middle adulthood (Johnston et al., 2005). The study's methodology included the gathering of annual data through follow-up surveys sent to a representative sample of previous study participants. The results reveal a long-term pattern of decline in national alcohol use and consumption across the general population attributed to public service campaigns against drunk driving, and perceived risk (Johnston, et al., 2005). Nevertheless, the researchers noted that college students continue to reflect a higher monthly propensity to consume alcohol when compared to 12th graders or non-college age-peers.

The Harvard School of Public Health College Alcohol Study (CAS) has further delineated these concerns (CAS), through the gathering of data under the direction of Henry Wechsler on college student alcohol consumption that defines the drinking behaviors of students

classified within a high risk group (Wechsler et al., 1998). CAS provided a national, comprehensive picture of the prevalence, the magnitude, and the consequences of college student alcohol use and abuse. The CAS study found that 44% of American college students enrolled at 4-year institutions engage in binge drinking. Data were gathered across four administrations of the survey from 1993 to 2001 and found that binge drinking was a frequent activity reported by 68% of the college students surveyed. Additionally, 50% of the college students who reported binge drinking indicated that it was their intent to drink to become intoxicated (Wechsler et al., 2008).

A recent study by Crawford and Novak (2010) of 190 students enrolled at a private Midwestern university, ages 18 to 22, who reported consuming alcohol determined that many students viewed alcohol abuse as synonymous with the college experience. The study also revealed that a student's personal decision to consume alcohol is affected by his or her individual beliefs regarding alcohol, campus drinking norms, and the college experience. The research findings of Maggs and Schulenberg (2004), who examined the factors that motivate or inhibit college drinking from a developmental perspective, found that social influences greatly impact alcohol use and determined that students who shared the perception that alcohol consumption was part of the normative college experience were more likely to consume alcohol.

Leiva (2007) considered the gender variable in researching the social and drinking behavior of college women, which has been reported to have significantly increased over the last 30 years. This study sought to determine specific motivators of women's drinking behavior through the use of ethnographic methods with 15 upper level female students. The theoretical basis of the study was formulated with the Feminist Standpoint Theory, which supports the need

to better understand experiences surrounding the female gender. Leivia suggests that social expectations are a key factor in impacting women's college drinking.

Academic Impact of Alcohol Consumption and Abuse

Historically, institutions of higher education have relied on college admissions tests to predict a student's potential for achievement upon matriculation (Daugherty & Lane, 1999; DeBerard, Spielmans, & Julka, 2004; Galicki & McEwen, 1989; Wolfe & Johnson, 1995). The ACT (American College Testing Service, 2004) in their examination of college student success found that cognitive ability and records of academic achievement are the best predictors of students' ability to perform in college. The findings of Korbin, Patterson, Shaw, Mattern and Barbuti (2008) lend further support, finding that the Scholastic Aptitude Test (SAT) is a valid predictor of levels of intelligence that positively correlates with first year college grade point average.

Dweck (1999) observed that sometimes very bright and academically gifted individuals fail to achieve at levels consistent with their intellectual abilities (1999). Hanson (1994) referred to these students as "lost talent" as they fail to rise to their academic potential and drop out of college. Ironically, the ACT Policy Report (American College Testing Service, 2004) a compilation of information citing the effect of non-academic factors on student retention and performance at four-year institutions encouraged consideration of such elements that impact academic success, noting an individual's psychosocial features, motivation, and self-regulation are relevant in predicting college students' academic performance. An exploration of the different elements that may impact student academic success is timely as the National Center for Educational Statistics (2012) reported that only 58 percent of full-time, male and female, first-time students who pursued a bachelor's degree at a 4-year institution in fall 2004 completed that

degree within 6 years of enrollment. Identification of the factors that impact students' academic achievement could provide institutions of higher education a guide to offer specific services to support students at risk for academic failure and to positively influence students' retention and degree persistence.

Alcohol awareness research elucidates the relationship between alcohol use and academic achievement (Jeynes, 2002). The negative relationship between alcohol consumption and student level of academic achievement has been well documented as research supports the existence of an inverse relationship between college students' grade point average (GPA) and patterns of alcohol consumption (Bloch, Crockett, & Vicary, 1991; Donovan & Jessor, 1998; Schulenberg, Bachman, O'Malley, & Johnston, 1994; Sutherland & Shepherd, 2001).

DeBerard, Spielmans, and Julka, (2004) conducted research to examine the psychosocial predictors associated with freshman retention as a means to identify the risk factors that may be associated with low academic performance and attrition. The participants of the study included 204 undergraduate freshman students enrolled in a psychology course at a private west coast university. The study examined the relationships between academic achievement, attrition rate, and proposed risk factors. DeBerard et al., conclude that 10 variables were predictive of first year university GPA. The positively correlated predictive achievement variables were female gender, high school GPA, and SAT total scores. Conversely, the variables of drinking, cigarette smoking, lack of social support, and poor coping skills were strongly correlated with low academic performance as measured by university GPA. This study notes the inverse relationship between alcohol consumption and achievement, demonstrating the use of predictive models to identify students who may be at risk for poor performance during their freshman year.

The National Institute on Alcohol Abuse and Alcoholism (NIAAA) (2002) Task Force on College Drinking reported that approximately one-fourth of college students who drink associated poor performance and lower test scores, lack of class attendance, and general academic problems with alcohol use (2002). Wechsler et al., (2002) examined the relationship between academic performance and binge drinking and found that students who engage in binge drinking spend less time studying each day, are behind on assignments, and have failing grades when compared to their peers who do not present with these drinking patterns.

More recently, the refinement of assessment tools and interviewing techniques fostered a deeper understanding between the elements of alcohol expectancy that influence academic achievement. Jeynes (2002) reviewed data that were gathered on 18,726 participants who completed the National Educational Longitudinal Survey in 1992 to determine if a relationship existed between the consumption of drugs and alcohol by adolescents and their levels of academic achievement. Jeynes determined that there was a significant relationship between substantial levels of alcohol consumption and lower academic achievement as higher levels of drinking resulted in lower grade point average (GPA). Moreover, Breitmeier, Seeland-Schulze, Hecker, and Schneider (2007) found that even low levels of alcohol consumption such as 0.03% blood alcohol level concentrations, impact cognitive psychomotor performance, suggesting that even minimal amounts of alcohol use and consumption could have negative effects on academic performance. Such noted research provides further support for the existence of an inverse relationship between college students' GPA and patterns of alcohol consumption (Sutherland & Shepherd, 2001). This research demonstrated that even minimal alcohol use and consumption could have major effects on perception, visual processing and one's overall health and wellbeing.

Socio-cultural and Environmental Management Approaches

At one time, college and university officials regarded drinking as a developmental rite of passage. College administrators believed that students would find ways to successfully navigate the phase of alcohol use and emerge unscathed (Agrawal & Bierut, 2012). The ubiquitous belief was that students who experienced problems with alcohol consumption must have a familial history or a genetic predisposition toward alcohol use (Brooks, Whiteman, & Gordon, 1985; Ellickson & Hays, 1991). However, in the mid-1990s a wave of concern over student alcohol consumption emerged as universities became aware of strategies to help students who evinced a problem with alcohol. In 1998, Congress charged the U.S. Department of Education, Office of Safe and Drug-Free Schools (OSDFS) with the responsibility of addressing the ongoing concerns surrounding unacceptable levels of alcohol and drug use on college campuses (2010). OSDFS in response launched the Alcohol and Other Drug Prevention Models on College Campuses Grants program to engage the efforts of colleges and universities in the development of student alcohol awareness programs.

Over the years, administrators in higher education have sought a variety of solutions to curb students' consumption of alcohol and thereby limit the associated negative consequences. Some colleges and universities have implemented alcohol abuse prevention and treatment programs as a means to change the drinking behavior of college students. The OSDFS awarded grants to 44 institutions of higher education between 1999 and 2009 to support the development of alcohol prevention programs. The awardees consisted of applicants who had established effective programs to reduce alcohol and other related problems in the promotion of healthy and safe campus environments. Several examples of awarded programs include George Mason University that implemented *Healthy Expectations: Preventing High-Risk Drinking by*

Transforming Campus Cultures in 2002 (U.S. Department of Education, Office of Safe and Drug-Free Schools, 2010). The focus of this program was to encourage students to adopt healthy lifestyles as a means to reduce the negative effects associated with student alcohol and drug use. During the 2007-2008 academic year the *Healthy Expectations Program* expanded to reach 3,500 first year students in programs that addressed 31 different topics associated with success in college, healthy eating, stress management, and alcohol use.

Project REAL, developed by Gonzaga University, was funded by a Department of Education grant in 2003 and developed a social marketing campaign known as *Project REAL*. The emphasis of this program was to develop messages that supported the university's mission of volunteerism, community engagement, and spirituality and also served to alter student misperceptions surrounding alcohol and drug use. Similarly, the *HWS Alcohol Education Project* developed by Hobart and William Smith Colleges that encompassed the entire campus community was designed to engage students in a research course, develop campus activities, and launch a media campaign to remedy student misperception surrounding patterns of alcohol use on campus. The program was deemed to be successful in developing a social media, peer education program that generated *Campus Factoids* to educate the campus community on topics ranging from academic success, to alcohol and drug use (U.S. Department of Education, Office of Safe and Drug-Free Schools, 2010).

Concerns surrounding student high risk drinking caused Michigan State University (MSU) to appoint an Action Team to design a program that encompassed data gathering and evaluation of student alcohol consumption and social norms (U.S. Department of Education, Office of Safe and Drug-Free Schools, 2010). The program devised campaign messages to alert students of the realities of drinking, reduce misperceptions, enhance protective behavior, and

lessen alcohol consumption. The results of the National College Health Assessment (NCHA) survey conducted at MSU in 2000 and subsequently in 2006, noted a decline in student self-reports of alcohol consumption from 5.42 drinks to 4.97 drinks consumed during an evening of partying.

These alcohol intervention programs and many others cited by the OSDFS were based upon the socio-cultural model of prevention. This model of intervention asserts that a change in student knowledge about drinking fosters a change in social norms that ultimately reduce alcohol consumption behaviors among college students (Larimer & Cronce, 2007). Models that focus solely on educating the masses have proven to be less than effective as increased knowledge has failed to lead to a significant decrease of alcohol consumption (Braucht & Braucht, 1984; DeJong, 2009).

Recognizing the limited impact of these socio-cultural initiatives, the OSDFS shifted their focus in 2008 to emphasize environmental alterations as a means to reduce campus wide alcohol consumption (Wood, DeJong, Fairlie, Lawson, Lavigne, & Cohen, 2009). This refocusing, according to the U.S. Department of Education (2008), encouraged universities to implement environmental management approaches to reduce student drinking. Examples of such measures include the implementation of policies to: increase academic requirements; restrict alcohol promotion on campus; provide alcohol free campus activities; enforcement of campus alcohol compliance; judicial measures for students who demonstrate unacceptable behaviors; and parental notification of student alcohol violations (U.S. Department of Education, 2008).

DeLong, Larimer, Wood, Hartman, (2009) noted that environmental approaches positively impact the campus climate but campus and community prevention efforts must extend beyond the implementation of stricter campus policies and tougher enforcement. Environmental

approaches may positively impact the campus climate, but some twenty years later we are still facing the same challenges surrounding alcohol use among college students. According to Larimer and Cronce (2007), intervention programs have failed to identify the individual student who may be at risk for problematic alcohol consumption and implement evidence based approaches to address student alcohol abuse and consumption.

The NIAAA (U.S. Department of Education, 2012) underscores the importance of developing strategies to identify a comprehensive scope of intervention that begins with the individual student who may be at risk for alcohol consumption. Additionally it is important to incorporate educational and environmental efforts to enhance and reshape the campus culture with respect to alcohol use.

Institutions that administer alcohol assessment tools to their student populations use the data to determine how significant alcohol consumption may be across the campus community and thereby support the academic mission of the university by addressing health and wellness issues on multiple levels as a means to identify students at risk, increase student success, and student retention (Council for the Advancement of Standards in Higher Education (CAS Standards), 2006; LaFountaine, Neisen, & Parsons, 2006). The U. S. Department of Education, Office of Safe and Drug-Free Schools, directs the implementation of an inclusive preventative approach to college student alcohol use that incorporates interventions and programmatic components which target concerns involving: (1) the individual student at-risk for problematic alcohol consumption that makes them vulnerable for negative consequences, alcohol abuse, and/or alcohol dependency; (2) the campus or entire student population, and (3) the university faculty and staff in conjunction with the neighboring community or towns (2010).

A college student's decision to misuse alcohol is influenced by several major factors that include individual dynamics, parental and peer influences, and ecological factors (Baer, 2002; Hawkins, Catalano, & Miller, 1992). According to the Department of Education (2010), programs that encompass these factors give promise to the development of successful solutions to eradicate this problem and ultimately improve student academic success. Specifically, the variable of alcohol expectancy could provide a means to focus on individual student characteristics that are predictive of alcohol use.

Alcohol Expectancy as a Variable in Academic Achievement

Expectancy Theory has strong application in attempting to understand the drinking behaviors of college students as many students bring established drinking patterns with them in the transition from high school to college (Jones et al., 2001; Vroom, 1964). The foundation of this theory gives insight into the development of drinking behaviors as it is embedded in the principle that individuals learn through observation, imitation, and modeling of behaviors within a social setting (Bandura, 1977). The literature reflects that individuals who observe alcohol related behaviors, either firsthand or on television are more likely to demonstrate such alcohol related behaviors as college students (Jones et al., 2001). The major premise of Expectancy Theory is that cognitive processing allows the individual to convert the observed behavior into memory and to store the experience in conjunction with one's interpretation of the experience. Such awareness can impact an individual's future actions as one draws on their understanding of a specific behavior such as alcohol consumption and the anticipated rewards and consequences. The literature indicates that behaviors associated with drinking are formed during the period of late adolescence as almost 75% of twelfth grade students reported that they have engaged in drinking during their senior year in high school (Johnson, O'Malley, & Bachman, 2001).

Proakis-Stone (2006) studied students who abstain from alcohol use as a means to garner insight into this behavior. Individual interviews and focus groups were conducted with 12 undergraduate students at the University of Richmond. The results identified three significant reasons that students abstain from alcohol consumption including: a desire to maintain control; underage; and not wanting to disappoint parents. The findings also suggest that student decisions regarding alcohol use are framed in high school emphasizing the importance of a supportive environment to help students to formulate healthy decisions surrounding alcohol use.

Student motivations for drinking are a central factor to be considered in understanding behaviors surrounding alcohol consumption. Brown (1985), who studied college student alcohol consumption, found that alcohol expectancy was a significant factor in predicting college drinking. Baer (2002) noted that while many individual characteristics may impact alcohol consumption, alcohol expectancies supported increased levels of consumption. Pullen (1994) established that the most dominant predictors of alcohol consumption included family abuse of alcohol, depression, anxiety, low self-esteem, and GPA. Adolescents who have early observations related to alcohol consumption formulate associations between the behavior of consuming alcohol and the perceived outcome or consequences (Engels, Wiers, Lemmers, & Overbeek, 2005). These learning experiences are stored in long-term memory and thereby impact the development of future behaviors (Engels et al., 2005). This research supports the theory of alcohol expectancy and the impact of early exposure in the formulation of drinking patterns.

The NIAAA (U.S. Department of Education, 2012) supports interventions to diminish positive expectations or alcohol expectancies associated with alcohol consumption as a means to reduce drinking. The research of DeBenedittis and Borjesson-Holman (2006) supports the college students associated with drinking. DeBenedittis et al. conducted a 2006 pilot study with

college students funded by a grant from the U. S. Department of Education that compared the drinking behavior of students in an experimental group who participated in a program to alter the cognitive process associated with positive alcohol expectancies and noted a decrease in alcohol consumption when compared with a wait-list of control subjects who had not been exposed to such a curriculum. The results of this pilot study demonstrated the effectiveness of challenging expectancies and further support the moderating effect of alcohol expectancy in the reduction of student alcohol consumption.

Young, Connor, Ricciardelli, and Saunders (2006) conducted a similar study to examine the variables of alcohol expectancy, drinking expectancy, and drinking refusal self-efficacy to more deeply understand problem drinking in young adults with an average age range of 23.25 to 26.45 years. Young and Knight (1989) identified drinking refusal self-efficacy as an individual's self-reported confidence in resisting drinking as a factor that influences an individual's drinking behavior. A sample of 174 undergraduate students were asked to complete the Alcohol Expectancy Questionnaire, Drinking Expectancy Questionnaire, and the Drinking Refusal Self-efficacy Questionnaire to determine the moderating effects of drinking refusal self-efficacy in predicting the severity of alcohol dependence, frequency, and level of consumption. Young et al. (2006) concluded that both positive alcohol expectancy and drinking expectancy were strongly correlated with levels of university student drinking. The researchers further noted that such a predictive relationship between the variables of alcohol expectancy and drinking expectancy is likely to be useful in the design of future interventions aimed at reducing the severity of alcohol related harm with university students.

LaBrie, Cail, Pedersen, and Migliuri, (2011) studied the usefulness of a single, 60 to 75 minute, alcohol intervention session in reducing alcohol consumption with a group of 230 first-year and upper-class male students who were sanctioned by their respective university to participate due to alcohol-related infractions. The comprehensive alcohol intervention program included the cognitive reframing process of expectancy challenge as a means to reduce future alcohol consumptions of the participants. The participants were followed weekly for a three month period with 29 % reporting a decrease in alcohol consumption and 32 % evidencing a decrease in alcohol related consequences. LaBrie et al. concluded that the intervention was successful in reducing the alcohol consumption across the population of adjudicated male college students.

Alcohol expectancy is strongly predictive of drinking behavior as a coping mechanism for individuals experiencing high levels of social anxiety (Ham, Bonin, Hope, 2007). Carrigan, Ham, Thomas, and Randall (2008) studied the alcohol outcome expectancies and drinking as a coping device for 56 identified participants who reported a range of alcohol usage and social anxiety. The purpose of the study was to identify individuals who use alcohol to cope that might be at increased risk for alcohol consumption due to positive beliefs associated with the use of alcohol as a coping mechanism. The alcohol outcome expectancy measure was a concrete predictor of participants who consumed alcohol to improve their ability to cope with anxiety provoking social situations.

Ham, Zamboanga, Olthuis, Casner, and Bui (2010) hypothesized that positive expectations surrounding alcohol use as a coping strategy to reduce tension and enhance sociability would increase alcohol use in social situations. This hypothesis was the basis of a study conducted by Ham et al. with 715 students from eight different universities to examine the

effect of alcohol outcome expectancy in moderating the relationship between social anxieties and drinking games. The results of the study noted that students with high levels of social anxiety with positive expectations about the effects of alcohol use were more likely to participate in drinking games when compared with other high socially anxious participants with lower levels of alcohol outcome expectancies. These findings contribute to the literature demonstrating that individual alcohol expectancy beliefs shape future behavior, social interactions, and support the belief that alcohol expectancy is predictive of future alcohol use.

The results of a qualitative study by Dodd, Glassman, Arthur, Webb, and Miller (2010) sought to determine why underage students engage in high-risk drinking, to study the underlining factors that inhibit such drinking, and to identify the behavioral deterrents to excessive alcohol consumption parallel the findings of Ham et al. (2010). Dodd et al. conducted focus groups with 59 college students under the age of 21 who reported drinking four to five drinks in one sitting within the last two weeks. The researcher concluded that each of the participants acknowledged peer influence, support, and reduced social anxiety as positive expectancies associated with alcohol consumption. The participants identified relationship issues and embarrassment as deterrents for excessive alcohol consumption. The results of the study revealed that college students placed an elevated value on the social approval and peer acceptance associated with drinking and that these factors outweighed the negative consequences related to drinking.

Leeman, Kulesza, Stewart, and Copeland (2012) studied the level of alcohol expectancy associated with problem drinking in a sample of 612 undergraduate college students. The researchers found that a positive strong expectancy was associated with a problematic “at risk”

profile for student behavior with issues of self-control and significant alcohol use. The results suggest that an individual's level of alcohol expectancy may be predictive of their use of alcohol and further provide a means of intervention for students at risk for alcohol use.

Cronce and Larimer (2011) conducted qualitative reviews of research spanning twenty-three years that support the premise of individual approaches to address college student drinking. The researchers found that the literature promotes the implementation of individualized challenge interventions as a means to identify alcohol expectancy as a first step toward to reshaping college student motivation for drinking.

Comparably, Birath, DeMarinis, and Klinteberg (2010) undertook an exploratory study of the moods and expectancies of 50 adult female alcoholics who were engaged in treatment in a Swedish clinic as a means to identify trigger factors for drinking and to develop insight into treatment modalities for alcohol abuse. The researchers used a mixed methods design including the gathering of qualitative interview data and quantitative data from questionnaires that were administered to the participants. The interview process collected participant information with respect to life histories, relationships and alcohol experiences. Participants also completed three separate inventories that measured alcohol use, personality traits, and perceived psychological and physiological health.

The major findings of the study revealed that negative feelings or a depressive mood were often precursors to alcohol consumption. A significant correlation was noted between participants' drinking and reports of high levels of paternal alcohol abuse. Additionally, the existence of negative familial relationships and poor perception of psychological health of participants were also consistent across the sample populations. These findings lend support to the application of academic self-efficacy measures in combination with alcohol expectancy as a

means to determine impact on academic achievement in first year college students as this study concluded that alcohol use and psychological traits are significant risk factors in alcohol consumption.

Academic Self-efficacy as a Specific Indicator of Academic Achievement

Academic self-efficacy has been identified as a predominant variable that influences an individual's ability to achieve academic success. The concept of academic self-efficacy, first identified by Albert Bandura in 1977, marries behavioral and cognitive concepts that provide a foundation for the development of coping mechanisms with the dimensional parameters of strength, duration, and frequency during periods of human adversity.

Bandura's Social Learning Theory emphasizes that learning occurs through observing and modeling the behaviors, attitudes, and emotional reactions of others. This provides the theoretical framework for the basis of academic self-efficacy (Bandura, 1994). Such observational learning has four process components: awareness of modeled behaviors; retention, coding, and rehearsal of the observed behaviors; physical reproduction of the observed behaviors; and motivation and reinforcement to replicate the behavior in the future.

According to Bandura, it is this last element of motivation and reinforcement to replicate the behavior in the future that provides the mechanism for human agency or how individuals influence their own motivation and behavior. One's ability to achieve high levels of motivation and to persevere in the face of obstacles directly relates to one's beliefs about his/her abilities or one's level of perceived academic self-efficacy which influences behavior and the final outcome.

Specifically, an individual's self-efficacy beliefs became intertwined with theories of human agency or motivation because an individual's level of a self-efficacy is necessary for action, and to effect change. Zimmerman, Bandura, and Martinez-Pons (1992) verified the

relationship between academic self-efficacy and self-regulated learning, finding that academic self-efficacy had both a direct and indirect effect on self-regulated learning endeavors of students. Zimmerman et al. noted that an individual's ability to triumph is determined by one's level of academic self-efficacy and confidence in his or her abilities that provide the cognitive momentum towards success, while pathways or environmental factors either support or impede the achievement of academic goals. This research led Snyder (1995) to the development of the Hope Theory as a cross-situational construct in the field of education. The Hope Theory explains the elements of motivation and environment as key pieces that come together to effectuate academic achievement. According to Snyder, the Hope Theory involves the formulation of goals by the individual, efficacious behavior and motivation toward the established goals, and the pathways or environment to achieve the goals.

Today, the concept of academic self-efficacy is viewed as a key psychological component in the determination of human motivation and learning outcomes, particularly as institutions of higher education search for avenues to enhance the academic achievement of college students. Cowles (2004) studied the characteristics that impacted students' academic success when compared with peers of similar or equal intellectual ability. A total of 19 students from a freshman class at a western university participated in the study. Data were gathered through individual tape-recorded interview sessions. Statistical analysis consisted of coding of each conversation to identify significant emerging themes across interviews. The major findings noted that the significant pre-college differences that contributed to academic success were encouragement from guidance counselors, strong academic interest, and time-management skills. Many renowned theorists in the field of education have held this view, asserting that one's beliefs provide a framework for self-appraisal and subsequently direct future behaviors (Abelson,

1979; Bandura, 1977; Dewey, 1959; Pajares, 1994; Pajares, 1996). Over the years a number of instruments have been developed and tested to measure and assess the variations of self-efficacy as even Bandura himself chose to publish a guide to the development of self-efficacy assessments (2006).

Hutchinson-Green, Follman, and Bodner (2008) conducted a qualitative study of 12 students who were enrolled in first year engineering courses at Purdue University and examined their academic self-efficacy beliefs with respect to their decision to major in engineering using a thematic analysis. Open-ended, individual interviews were conducted with students as a means to gather data regarding their efficacy beliefs and experience. The study concluded that all participants had a high degree of academic self-efficacy as they entered the engineering program. However, their various levels of academic self-efficacy changed through the first semester as their academic self-efficacy beliefs were impacted and often shaped by performance comparisons to other students in the program.

Educational researchers Artino, LaRochelle, and Durning (2010) sought to determine the importance of motivation and emotion in student learning and performance of 136 second-year medical students. The researchers administered various surveys, gathered students' course grades and national board examination scores during this longitudinal study across two semesters. The quantitative findings confirmed the positive importance of motivation and emotion on students' learning and performance. Specifically, the findings noted that students' levels of academic self-efficacy were predictive of anxiety, signifying that those who were confident about their ability to master the course were less likely to experience course-related anxiety. The results of this research support the premise that academic self-efficacy is a positive contributing factor of student academic achievement.

Similarly, Niehaus, Moritz, and Adelson (2011) conducted a one-year, longitudinal study to examine how academic self-efficacy, intrinsic motivation, and student participation in an after-school program influenced the academic achievement of 47 Latino middle school students. The purpose of the study was to provide further research and empirical data to support the premise that academic self-efficacy is positively correlated with the measured performance of academic tasks. The after-school program, under the guidance of an executive director and two full-time staff members, was held in the participants' home school for 2.5 hours, one day per week. A volunteer staff of 12 tutors from the local high schools and a university worked with the core staff to implement the program, consisting of a recreational activity, snack time, journal writing, and student identified tutoring related various homework assignments. The team members, who were matched with individual students for the duration of the academic year, implemented the program components and tracked the students' academic progress. The Morgan-Jinks Student Efficacy Scale (MJSES), a 30 item, Likert-type instrument with acceptable levels of internal reliability ($\alpha = .82$) was used to measure student academic self-efficacy of the participants. The data analysis used ordinary least squares (OLS) regression and Reading scores were used as a control variable. The results revealed that academic self-efficacy was a significant predictor of school attendance and math achievement. The researchers further concluded that the results of this study were consistent with previous research studies for Latino students that note the important value of academic self-efficacy on student academic success (Acoach & Webb, 2004; Buriel, Perez, DeMent, Chavez, & Moran, 1998).

Tatum (2012) studied 165 sophomore-level students at a large southwestern university located in the United States. The purpose of the study, which administered several paper and pencil surveys to the students during one semester and gathered exam scores, was to assess work

and job performance within a classroom setting utilizing a causal/path model to test predicted relationships. Self-efficacy was considered to be a key construct in the motivation causal/path model as it echoed the belief an individual has in their ability to perform a specific task. Tatum's study showed that individuals with high self-efficacy were more likely to persist when faced with struggles, display intrinsic motivation, and succeed in their academic pursuits. Regression analysis confirmed the predictive relationships between ability and achievement motivation with student grade expectations and academic self-efficacy. The results specifically noted that there was a strong positive correlation between grade expectancy/academic self-efficacy and earned class grade. These results lend further support to the premise that academic self-efficacy is a vital construct that may be used to predict students' expected academic success (Bong, 2001; Bong & Clark, 1999; Bouffard, Boileau, & Vezesu, 2001; Lane & Lane, 2001; Lane, Lane, & Kyprianou, 2004; Ofori & Charlton, 2002; Pintrich & De Groot, 1990; Richardson, 2007; Schunk & Zimmerman, 1997).

Achievement and adjustment are factors for academic success. Chemers, Li-tze, and Garcia (2001) conducted a longitudinal study on the academic performance and adjustment of 373 first year college students in relation to students' perceived academic self-efficacy. The results of the study demonstrated a positive correlation between academic self-efficacy and academic performance across a sample of university students and concluded that efficacy-activated processes play a key role in student academic achievement. The results specifically noted that students who presented with strong academic self-efficacy and assurance in their abilities to successfully accomplish new tasks demonstrated higher levels of academic achievement and adjustment to the college environment. The inverse was true for individuals who presented with a weak sense of efficacy, doubting their capabilities to achieve, looked to

challenges as threats to avoid, and performed poorly, further demonstrating that academic self-efficacy directly impacts academic performance and adjustment in first year college students.

Majer (2009) undertook a longitudinal study of 96 first generation college students to determine the academic self-efficacy of college students in relation to socio-demographic characteristics seeking to determine if one's level of educational self-efficacy and socio-demographic characteristics are predictive of academic success. Majer concluded that academic self-efficacy of first generation students was predictive of their level of academic success. These results are consistent with the earlier research of Chemers, et al. (2001) as they demonstrated a positive correlation between academic self-efficacy and academic performance across a sample of first generation university students. Chemers showed that low academic self-efficacy not only had a direct correlation with academic achievement but may also impact an individual's emotional stability as negative thoughts produce stress.

There are many levels of academic achievement and many pitfalls along the journey with degree completion the ultimate level of success. Devonport and Lane (2006) studied the relationship between academic self-efficacy, coping, and student retention across 131 first year students pursuing undergraduate degrees in the areas of physical fitness and sports. For the purposes of this study, the researchers developed an open-ended questionnaire to measure academic self-efficacy in conjunction with the administration of the COPE Inventory as a means to assess students' level of coping strategies and behaviors. The primary focus of the study was to determine the relationship between academic self-efficacy and coping and to further ascertain if academic self-efficacy scores were predictive of retention. The results and major findings support the existence of a strong positive correlation between coping skills, academic self-efficacy, and student retention. More specifically, students' level of coping strategies was

directly correlated with students' sense of academic self-efficacy with respect to time management and planning behaviors, which are known to positively impact academic success.

A study directed by Moseki and Schulze (2010) encouraged student self-regulated learning with 20 engineering students who were performing poorly at Tshwane University of Technology (TUT). The researchers administered the Learning and Study Strategies Inventory (LASSI) and implemented 12 workshop sessions over a three-month period as an intervention. The LASSI was also administered post-intervention. The program was found to be successful in enabling students to move towards self-regulated learning as noted by the statistically significant increases across seven of the ten measured scales on the LASSI and improved academic achievement. Moseki and Schulze (2010) further determined that the program helped to cultivate participants' development of academic self-efficacy, noting that academic self-efficacy is a critical component of self-regulated learning. This conclusion echoes the previous findings of Gaskil and Hoy (2002), as well as Parajes and Schunk (2001) who identified academic self-efficacy as being directly correlated with enhanced student success.

Environmental Factors as Variables in Academic Achievement

The present study considers the impact of environmental factors and learning experiences in shaping variables to academic achievement. John Dewey (1933), an American philosopher and educator, highlighted the role of experiences in the learning process defining reflective thinking as that which incorporates one's experiences as a basis for learning. According to Dewey, "We never educate directly, but indirectly by means of the environment. Whether we permit chance environments to do the work or whether we design environments for the purpose makes a great difference" (Dewey, 1959, p. 35). Dewey's model of learning directs that experiences provide the individual with the opportunity to reflect and deliberate over an event

and thereby grow from the experience. This process culminates in young adulthood in correlation with the physiological development of the frontal lobe that allows for enhanced executive functioning and higher-level thinking (Luna et al., 2001).

Brain development and the college social environment provide the necessary ingredients to enhance the development of reflective thinking, and through such opportunities, students increase their proficiency in applying skills to life problems and challenges (Sowell, Thompson, Tessner, & Toga, 2001). Integrating new knowledge about brain function with Dewey's position on progressive education serves to underscore the link between educational purpose and development but also serves to highlight an opportunity in the realm of higher education for administrators to provide students with occasions to enhance such growth.

Lewin (1935) would argue that "behavior evolves as a function of the interplay between a person and his or her environment (p. 73)," concluding that ecological variables impact a student's academic success in relationship to the environmental factors present across institutions of higher education. The conceptual basis of understanding differences in student academic achievement rests with Bronfenbrenner (1979) who believes that the understanding of human development necessitates a broadened perspective that examines the individual in relation to their environment:

The ecology of human development involves the scientific study of the progressive, mutual accommodation between an active, growing human being and the changing properties of the immediate settings in which the developing person lives, as the process is affected by relations between these settings and by the larger contexts in which the settings are embedded. (Bronfenbrenner, 1979, p. 21)

Bronfenbrenner (1979) defines the significance of the relationship between the individual and his or her environment in response to the individual's changes and the environment which is not static, but responsive to the interaction between the individual and environment which further impacts the development of behavior. In essence, Bronfenbrenner recognizes and validates the impact of the university system on the development of the individual student who in turn changes the environment and shapes the campus culture.

Considerable research supporting the value and relevance of environmental factors emphasizes the interplay and impact of study skills, class attendance, housing, commuting to campus, and the level of student engagement in the campus community on student academic success and rates of attrition. The American College Testing (ACT) Policy Report (2004) examined the role of academic and non-academic factors in increasing the retention rates of college students and found that retention programs that center on study skill development, peer support, tutoring and faculty-mentors positively influence student academic success.

A study of 874 first year students conducted by Lecompte, Kaufman, and Rousseeuw (1983) revealed that students who regularly attended class were less likely to withdraw from college than students who did not engage in regular class attendance. The study also found that students who were engaged with campus services and/or had regular interaction with faculty were less likely to leave the institution than those who avoided such contacts and interactions. In addition, a study conducted by Comeaux (2005) of 459 football and basketball players also found that faculty mentoring positively impacted students' academic success and desire to remain in college. Their study also revealed that students who lived at home and commuted to

campus were two times more likely to withdrawal from the university. These findings support Tinto's (2012) model of student engagement and the importance of environmental factors in influencing academic success and ultimately, student retention.

Pascarella (2001) reported on a National Study of Student Learning (NSSL) that was conducted between 1992 and 1995 with a representative sample of students from 23 different U.S. colleges and universities to determine and examine the influences of academic and nonacademic factors on undergraduate learning. The study revealed that universities that utilize programming to enhance student development are more successful at impacting learning than universities who do not provide such programs. Follow-up data collection and analysis by Pascarella, Flowers, and Whitt (2009) across a three-year period was conducted. The study demonstrated the negative impact of Greek life affiliation on academic performance of male students decreased across the sophomore and junior years of college enrollment. Pascarella (2001) further showed that student engagement in off-campus employment greater than fifteen hours per week or involvement with Greek organizations had a negative impact on learning of first year male students. This finding parallels the early findings of Ehrenberg and Sherman (1987), which discovered that employment by male students who worked part-time, negatively affected their ability to graduate within four years of enrollment in the university.

The institutional characteristics of class scheduling and class size were two other environmental variables identified as having an impact on student academic achievement. Toth and Montagna (2002) examined eight studies that inspected the role of class size in affecting student academic achievement, and found three of the eight studies reviewed demonstrated a negative inverse relationship between class sizes as larger classes impacted student academic achievement lending support to the premise that environmental factors indeed impact success.

Perception of barriers also plays an important role in motivation to succeed. Wirth and Padilla (2008) undertook a qualitative study of student perspectives on barriers to academic success within a community setting. The theoretical framework of the study was based on Padilla's (2004) model for student success. Data gathering occurred in the form of small focus or dialogical groups who completed matrices regarding barriers to success and knowledge of strategies that successful students use to overcome such barriers. A process of taxonomic analysis was applied to the data with specific consideration of barriers to success, heuristic knowledge, and measures that successful students possess and implement in overcoming barriers. The major findings revealed that students who are successful indeed possess a deep understanding and knowledge of strategies to overcome barriers. Hence the data demonstrated that student retention could be increased with the implementation of student assistance programs that help students to develop such knowledge and coping strategies to enhance academic success.

Blake (2007) endorses the necessity for shifting the role of the institution in impacting student development and gives credence to the value of embracing a paradigm that is concerned with all aspects of a student's college experience. According to Blake, the direct engagement of students in the learning process is essential to the individual student as a means to foster human growth and development. In addition, it provides a positive return to the university through increased retention and graduation rates. He further advised that program development should be in response to the assessed needs of students and compliment the changing times of the world in which we live; emphasizing that one must be equally mindful of the students' needs in relation to the environment.

Professionals in the field of higher education must understand the elements that impact student academic successes as a means to support the educational mission of the university and

to further enhance the development of the whole person. The predominant factors that influence student academic achievement include both the construct of academic self-efficacy, the propensity of the student to consume alcohol, as well as many environmental and ecological factors that have been positively correlated with academic success.

It must be considered that individuals with low self-efficacy may experience greater levels of personal stress and look to alcohol consumption as a coping mechanism. Pohorecky (1991) and Wagner (1993) document that life stressors significantly contribute to the initiation of alcohol use. Scharf (1999) further identified alcohol use as a maladaptive coping mechanism in response to stress. The relationship between academic self-efficacy, alcohol consumption, and coping mechanisms support the assumption that these variables directly impact academic achievement. Research by Broer (1996) at the University of Cleveland examined a number of these variables and their relationship to problem solving and coping. Biscaro, Broer, and Taylor (2004) updated the original work of Broer and re-examined the importance of academic self-efficacy, alcohol expectancy and problem solving as predictors of alcohol use in undergraduate college students. The study, which included 79 students (40 males and 39 females) from a Mid-western university, revealed that alcohol expectancy and gender arose as predictors for alcohol use. Although academic self-efficacy and problem solving did not emerge as predictors of alcohol use, Biscaro et al. concluded that further study of these variables was warranted and suggested that larger and more diverse college populations be included in the implementation of future research.

Summary

This literature review addressed the concerns for student health, wellbeing, and academic success negatively impacted by alcohol consumption, delineated the value of academic self-efficacy in achievement, and the practicality of examining the variable of alcohol expectancy as a means to formulate effective interventions to eradicate student alcohol consumption and to enhance students' academic success. It is imperative that colleges and universities enact effective interventions, as imparting knowledge is not a singular focus limited to the classroom. Institutions must also cultivate the psychological construct of achievement across the campus community and thereby offer the enrolled student holistic support to continue their collegiate journey. The study methodology and procedures in Chapter Three outline the measures necessary to identify students at risk for alcohol consumption and academic failure through assessment of alcohol expectancy and academic self-efficacy.

CHAPTER III

METHODOLOGY

College students' alcohol consumption and a campus culture that seems to encourage remain important causes for concern among U.S. colleges and universities, despite a half a century of research aimed at reducing campus alcohol use and abuse. The magnitude of this problem and the impact of alcohol consumption on students' health and safety require the identification of remedies to eradicate this problem (Hingson et al., 2005; Johnston et al., 2011). The variable of alcohol expectancy as a predictor of student alcohol consumption has been well documented (Johnston et al., 2011). Similarly, research has demonstrated that the variable of academic self-efficacy is also a strong determinant of student academic success. The early identification of college students at risk for alcohol consumption and academic problems through the implementation of alcohol expectancy and academic self-efficacy measures gives promise of identifying students who may be at risk for academic failure. The current study examined the variables of alcohol expectancy and academic self-efficacy to further determine the influence of the variables of interest influence on student academic achievement as measured by first semester GPA.

This chapter presents details regarding the study design, the characteristics, and demographics of the sample population, the survey instruments, and the corresponding reliability associated with each assessment tool, the data collection process, and the data analysis.

Study Design

This study examined alcohol expectancy and student academic self-efficacy as predictors of college academic achievement. The purpose of the study was to determine if, and to what extent, there is a relationship between alcohol expectancy, academic self-efficacy, and academic

achievement of first year students in as measured by semester GPA. This study measured the predictor variable of student academic self-efficacy using The Self-efficacy for Academic Achievement (SEAA) and Self-efficacy for Self-regulated Learning (SESRL) subscales. Alcohol expectancy was measured by the Alcohol Expectancy Questionnaire (AEQ) and the criterion variable of first semester Grade Point Average (GPA) was measured by the variable Semester_GPA. The categorical variables of High School GPA, and High School Standardized Achievement Test (SAT), were considered in relation to the criterion variables.

The study involved a non-random, convenience sample of participants and based upon enrollment numbers in fall of 2013 it was projected that approximately 390 first year students would participate in the study from a potential pool of approximately 2600 entering first year students.

A Qualtrics survey was administered electronically during the second month of the fall 2013 term. Data were analyzed using Statistical Package for the Social Sciences (SPSS) version 21.0 for Windows.

Population/Participants

The study included first year students who attended a large mid-Atlantic University during the fall, 2013 academic term and who agreed to participate in the study. Students who completed the surveys and did not finish the fall 2013 semester or separated from the university were removed from the pool due to lack of end-of-first semester GPAs.

The typical first year student attending the University in 2013, as reported by the university Office of Institutional Research was over 18 years of age and ranked in the top half of their high school graduating class. Over 39 percent of the entering freshman also reported SAT scores in the 1000-point range for combined critical reading and math. Women students

outnumbered men students only slightly with women totaling 1510, and men totaling 1099. The ethnic distribution of students was predominately Caucasian (2031), Black (306), Hispanic (114), and Asian (27) with four other ethnicities comprising the student population at less than 5% of the total. The first year returning student rate in the University system was 75% with nearly 83% of all enrolled undergraduate students having achieved their degree within six years.

Instruments

A Qualtrics electronic survey tool consisting of the Alcohol Expectancy Questionnaire (Brown, Christiansen, & Goldman, 1987), and Self-efficacy for Academic Achievement and Self-efficacy for Self-regulated Learning Scales (Zimmerman, Bandura, & Martinez-Pons, 1992) was presented to all eligible first year students. These assessment tools are not currently administered at the University.

Measures of Alcohol Expectancy

The short form version of the Alcohol Expectancy Questionnaire (AEQ) used in the present study is a 68-item self-report measure developed to assess one's current level of alcohol expectancies or perceived effects of alcohol as they relate to the positive and negative effects of alcohol (Goldman, Greenbaum, & Darkes, 1997). The AEQ short form is the condensed version of the Alcohol Expectancy Questionnaire initially developed by Brown, Christiansen, & Goldman (1987) and is reported to be the most widely used alcohol expectancy instrument (Goldman, et al., 1997). Permission to use the AEQ was obtained from University of South Florida through Karen Obremski Brandon, Ph.D. (2012, June 12) (Appendix A).

Alcohol Expectancy Questionnaire

The purpose of the AEQ is to explore the student's anticipated short-term effects of alcohol use. Two versions of the AEQ are available, the original 90 item form and the 68-item

form (Goldman, et al., 1997). Each version of the instrument measures one's personal experience of alcohol effects to determine if a particular alcohol effect is expected to follow alcohol consumption. The questionnaire which uses a Dichotomous Scale (agree/disagree) attempts to measure positive expectancies associated with alcohol consumption across six subscales including: Global Positive Changes in Experience, Sexual Enhancement, Social and Physical Pleasure, Social Assertiveness, Relaxation/Tension Reduction, and Arousal/Interpersonal Power.

Validity and Reliability

Brown et al. (1987) reported positive psychometric evaluation of the AEQ noting reliability scores ranging from 0.72 to 0.92 across the six subscales. Goldman, Greenbaum, and Darkes (1997) conducted an ongoing 5-year study with a random sample of 638 first year students at a large state institution. Data was obtained from 428 of the original participants who completed the initial assessment and a 1-year follow-up assessment. The data gathering process consisted of an assessment including a 30-minute personal interview and completion of a self-administered survey that gathered information across the variables of personality characteristics, level of risk, family history of substance abuse and psychiatric issues, peer related alcohol and drug use, family dysfunction, and alcohol expectancies. The confirmatory factor analysis of the AEQ compared the six subscales with two statistically sound models and noted that the AEQ met the criteria for acceptable fit (Goldman et al., 1997). Additionally, Brumback (2010) reported that Goldman et al. (1997) obtained a mean reliability of 0.84 in their correlation between alcohol consumption, alcohol abuse, and participant's behavior while drinking.

AEQ Subscale Relationships

The six instrument subscales of the AEQ were reported to exhibit adequate reliability with respect to internal consistency and test-retest stability. The reliability of the instrument was

established for the total score and for each of the five scales using Cronbach's alpha within a 95% confidence interval ranged from $\alpha = 0.80$ (Global Positive Changes in Experience) to $\alpha = 0.59$ (Arousal/Interpersonal Power). The subscales assess six dimensions of alcohol expectancies: (1) Global Positive Changes in Experience (14 items; $\alpha = 0.80$), (2) Sexual Enhancement (14 items; $\alpha = 0.76$), (3) Social and Physical Pleasure (13 items; $\alpha = 0.73$), (4) Assertiveness (13 items; $\alpha = 0.79$), and (5) Arousal/Interpersonal Power (14 items; $\alpha = 0.59$), (Goldman et al., 1997).

Measures of Self-efficacy

The *Children's Multidimensional Self-Efficacy Scales* were developed to determine if the students' efficacy beliefs surrounding achievement and self-regulated learning affected students' levels of academic achievement. Zimmerman et al. (1992) conducted a study to determine if the tool was a valid and reliable measure of a student's academic self-motivational factors and if so, were the factors predictive of academic achievement. The population consisted of 116 ninth and tenth graders enrolled in social studies classes of two high schools in a large Eastern city. The convenience sample was comprised of 102 students and their parents from low socio economic backgrounds with diverse ethnicity. The parent participants were administered two measures developed by Locke and Bryan (1968) as a means to compare parental goals of academic expectations for their children with student self-efficacy. Data from the parent surveys, student surveys, and the student's social studies grade was compiled at the end of the school term.

Two notable subscales from the *Children's Multidimensional Self-Efficacy Scales* (Bandura, 1989; Zimmerman, Bandura, & Martinez-Pons, 1992) were utilized to assess student levels of perceived self-efficacy for the present study. The Self-efficacy for Academic Achievement (SEAA) and Self-efficacy for Self-regulated Learning (SESRL) assessment

subscales were designed to measure various aspects of the variable of self-efficacy that may impact students' academic success (Zimmerman, et al., 1992). Permission to use the self-efficacy scales was obtained from Dr. Barry Zimmerman (2013, June 24) via email (Appendix B).

Validity and Reliability

Cronbach's alpha reliability tests were conducted on each of the scales. The results of this study indicated a high level of reliability for the two measures of self-efficacy noting that a coefficient of $\alpha = 0.70$ was found for The Self-efficacy for Academic Achievement, and a coefficient of $\alpha = 0.87$ was noted for The Self-efficacy for Self-regulated Learning Scale. The results also noted Cronbachs reliability coefficients of $\alpha = 0.63$ for parental goal items and $\alpha = 0.80$ for student goal items.

The researchers also conducted a path analysis, noting a significant causal path ($P = 0.51$) between students' perceived self-efficacy for academic achievement and students' perceived self-efficacy for self-regulated learning. Additionally, the results revealed that students' grade goals were also significantly predictive ($P = 0.43$) of their end term social study grades. The results indicate that these subscales are both valid and reliable to measure individual attitudes and self-regulatory behaviors that may impact academic performance (Zimmerman et al., 1992).

Self-efficacy for Academic Achievement (SEAA)

Bandura (1989) hypothesized that perceived academic self-efficacy to achieve would impact a student's overall academic success. Specifically, the subscale SEAA, which was composed of Likert type items, measured students' beliefs in their proficiency to comprehend

nine separate academic areas of course work. These areas included: mathematics, algebra, science, biology, reading and written language, computer usage, foreign languages, social studies, and English grammar.

Self-efficacy for Self-regulated Learning (SESRL)

The SESRL subscale, which consisted of eleven Likert type items, served to evaluate students' perceived self-regulatory efficacy or motivation to employ an assortment of self-regulated learning tactics believed to enhance academic achievement. The academic tasks encompassed the following capabilities associated with academic success: planning academic activities, organizing of academic activities, memory techniques, ability to limit study distraction, self-directed completion of academic assignments, ability to assemble study environments, and class participation.

Data Collection Procedures

Survey Administration

All first year students who were enrolled with the University by September 15, 2013 were invited to participate in the study. Once approval was granted by the Institutional Review Board (IRB) the University's Office of Institutional Research generated a list of eligible participants (Appendix C). All eligible participants were emailed an electronic survey through Qualtrics, a University survey administration program. Student confidentiality was ensured because the Office of Institutional Research issued a number-code for each of the participants. The code corresponded with the student's identification number and was known only to the Office of Institutional Research. This coding was necessary so that each student's first term GPA, High school GPA, and SAT scores could be matched with the student's assessment scores for alcohol expectancy and academic self-efficacy.

The invitational email contained a description and information regarding the research project as well as a consent form that explained that participation in the study was completely voluntary. Students who received the email and chose to participate were directed to click on the study's URL to access the survey. Participants were then directed to read the brief instructions, complete the FERPA waiver for capture of the GPA and anonymous reporting of aggregate data, and to then complete the survey tool (Appendix D). Electronic safeguards and Qualtrics monitoring software ensured that each participant only completed the survey once. The process of administration and completion of the consent forms and surveys took approximately 15 to 20 minutes. One week following the survey launch, all non-responders received a reminder email. A second reminder email was sent two weeks after the survey launch to non-responders. The survey remained open for a period of four weeks from the initial launch date at which time the survey was closed.

As a means to encourage survey completion, all participants were queried as to whether or not they wished to be included in a drawing to win one of ten twenty-five dollar Get Go gift cards. The participants who wished to be entered in the drawing were asked to enter their university email address and were included in the drawing once they completed the survey by answering all questions and consent forms. Submission of the survey by the participants served to enter the data into a database. A computer-generated drawing was conducted with winners of the drawing selected randomly. The winners were notified by email and directed to visit the University office of Administration and Leadership Studies to obtain their gift card.

Once student survey data collection was completed, the demographic data, High School GPA and SAT scores were retrieved from the University's Office of Institutional Research and the initial data analyses of the survey correlations were conducted. Further analyses were

completed following the availability of initial term grades.

Data Analysis

Statistical analysis was performed using the Statistical Package for the Social Sciences (SPSS) version 21.0 for Windows. Descriptive statistics on all variables were reported for the population, entire sample, and by relevant variables. Semester GPA data were not available until the end of the first term at which time correlations of all variables were computed. Correlations including multiple regression analyses were conducted to determine how well the AEQ, SEAA, and SESRL alone and also in combination with high school GPA, and SAT scores were predictive of first semester GPA. The SPSS variable names for the three scales were AEQ, (var_TOTAL_AEQ_SCORE), SEAA, (var_SEaa), and SESRL, (var_SESRL). The demographic variables were named, respectively: High School GPA, (var_HS_GPA), and SAT total score, (var_SAT_Total). In the analysis phase which related to Question 4 of the research study, the variables of (var_HS_GPA) and (var_SAT_Total) were combined to create (var_HSscores_computed) and the Self-efficacy total scores were combined to create (var_SE_combined) in order to clarify the predictive relationships of the variables (Appendix E). Descriptive statistics were generated on each variable of interest and correlational analysis was used to evaluate whether or not a predictive relationship existed between the individual variables and the criterion variable of academic achievement as measured by first semester GPA.

An initial correlation was performed to examine the scores on the AEQ, SEAA, and SESRL relative to the first semester GPA. Additional correlation factors relative to high school achievement as measured by high school GPA, and ability as measured by SAT scores were evaluated. Descriptive statistics and correlations were conducted with the overall and subscale scores of the three inventories (AEQ, SEAA, and SESRL) compared to first year student scores

of their High school GPA, SAT scores, and with the first semester university GPA were conducted to determine the relative contribution of each variable and strength of relationship in the prediction of first year student academic success. A single order multiple regression was conducted to assess the strength of the relationship of the predictor variables to the criterion variable. F-Tests for overall significance of the model were reported to evaluate the linear relationship between the predictor variables with first semester GPA.

Summary

This quantitative study examined the relationship of alcohol expectancy, academic self-efficacy, and first semester GPA to determine the predictive value of these variables in forecasting the academic success in each first year student. The methodology directed the administration of the AEQ, SEAA, and the SESRL that respectively measured the predictor variables of alcohol expectancy and academic self-efficacy. Statistical measures included a multiple regression analyses that was conducted to determine how well the AEQ, SEAA and SESRL, individually and jointly, with high school GPA, and SAT scores predicted first semester GPA in first year students. The results of this study and data analysis are discussed in detail in Chapter Four.

CHAPTER IV

RESULTS

The purpose of this study was to determine whether there was a positive relationship among the predictor variables of Alcohol Expectancy, Academic Self-efficacy (two scales), High School Grade Point Average, recorded SAT scores and the criterion variable of academic success as measured by first semester Grade Point Average for first year students. This chapter provides a description of the population demographics; sample demographics; the data collected for this study, an analysis of the data and summary of the findings.

Qualtrics software was employed to develop and deliver the survey, which included a FERPA waiver, consent to participate in the study, instructions, and survey questions. Sixty-eight of the survey questions related to the student's propensity to consume alcohol in a variety of circumstances, 8 questions related to the student's belief that they could be successful across academic courses, and 11 questions assessed the student's ability to be self-motivated and apply various academic skills. The online survey was emailed to all enrolled first year students. Random numbers were assigned to the entire population of students by the university Office of Institutional Research. The resulting responses had the actual students' emails removed to maintain participant anonymity (Appendix 1-Qualtrics Survey). Students were allotted four weeks to complete the survey. Students who initially failed to participate were sent follow-up invitations. Qualtrics reported that 459 students opened the survey with 389 completing part or all of the survey. The Office of Institutional Research obtained the first semester GPA and provided demographic information for all participating students.

Population Descriptive Data

All enrolled first year students at a large Mid-Atlantic university were invited to participate in the study. The first year total population consisted of 2,609 students that included both male and female students enrolled across the three campuses within the university system. Of this total population, 1510 were females and 1099 were males that were invited to participate in the study (57.9% females, 42.1% males) via emails sent to their university addresses as shown in Table 1.

Table 1 shows describes the ethnicity for the population, consisting predominately of White Non-Hispanic at 2031, 77.85%, Black Non-Hispanic: 306, 11.73%; and Hispanic: 114, 4.37%.

Table 1

Ethnicity and Gender for Population Subjects

Population (N = 2609)	Gender		Total	Percent
	F	M		
American Indian or Alaskan Native	1	1	2	0.08%
Asian or Pacific Islander	18	9	27	1.03%
Black Non-Hispanic	163	143	306	11.73%
Hispanic	64	50	114	4.37%
Multi-Racial	52	43	95	3.64%
Non-Resident Alien	5	12	17	0.65%
Pacific Islander	2	1	3	0.11%
Unknown	7	7	14	0.54%
White Non-Hispanic	1198	833	2031	77.85%
Total	1510	1099	2609	

Students in the population had a mean age of 18.17 years, across all of the university campuses as described in Table 2. Gender and age frequencies for the population were within the age range (16-33 years) for entering first year students.

Table 2

Descriptive Frequencies for First Semester Population: Gender and Age

Gender					Age		
	Frequency	Percent	Valid Percent	Cumulative Percent	N	Valid	Missing
Valid	F	1510	57.9	57.9			2609
	M	1099	42.1	42.1			0
	Total	2609	100.0	100.0			
					Mean		18.17
					Std. Error of Mean		0.016
					Median		18.00
					Mode		18
					Std. Deviation		0.800
					Variance		0.639
					Skewness		8.712
					Std. Error of Skewness		0.048
					Kurtosis		119.785
					Std. Error of Kurtosis		0.096
					Range		17
					Minimum		16
					Maximum		33

The High School GPA is a conversion score to a 4.0 scale as reported by the university Office of Institutional Research. The High School GPA mean score was calculated as 3.26 with a SD of 0.559, which reflects 96.7% of the population with 3.3% of the data missing. The distribution of grade point averages for the population is shown in Table 3. The Scholastic Aptitude Test Total (SAT_Total) mean score was 974.0 with a SD of 129.0 and a skewness of 0.520 for the Population of First Year Students. The first semester GPA mean was 2.63 with a SD of 1.10 and was slightly negatively skewed with a value of -.808 and provides the frequency of university GPA scores across a 4.0 scale. All distributions are shown in Figure 2.

Table 3

Mean Scores for Variables for Population

		Statistics		
		High School GPA	SAT Total	First semester GPA
N	Valid	2524	2512	2608
	Missing	85	97	1
Mean		3.2564	974.11	2.6262
Std. Error of Mean		0.01114	2.583	0.02161
Median		3.3000	960.00	2.8667
Mode		3.30	930	4.00
Std. Deviation		0.55984	129.484	1.10334
Variance		0.313	16766.150	1.217
Skewness		-0.119	0.520	-0.808
Std. Error of Skewness		0.049	0.049	0.048
Kurtosis		-0.558	0.569	-0.203
Std. Error of Kurtosis		0.097	0.098	0.096
Range		3.43	1000	4.00
Minimum		0.96	560	0.00
Maximum		4.39	1560	4.00

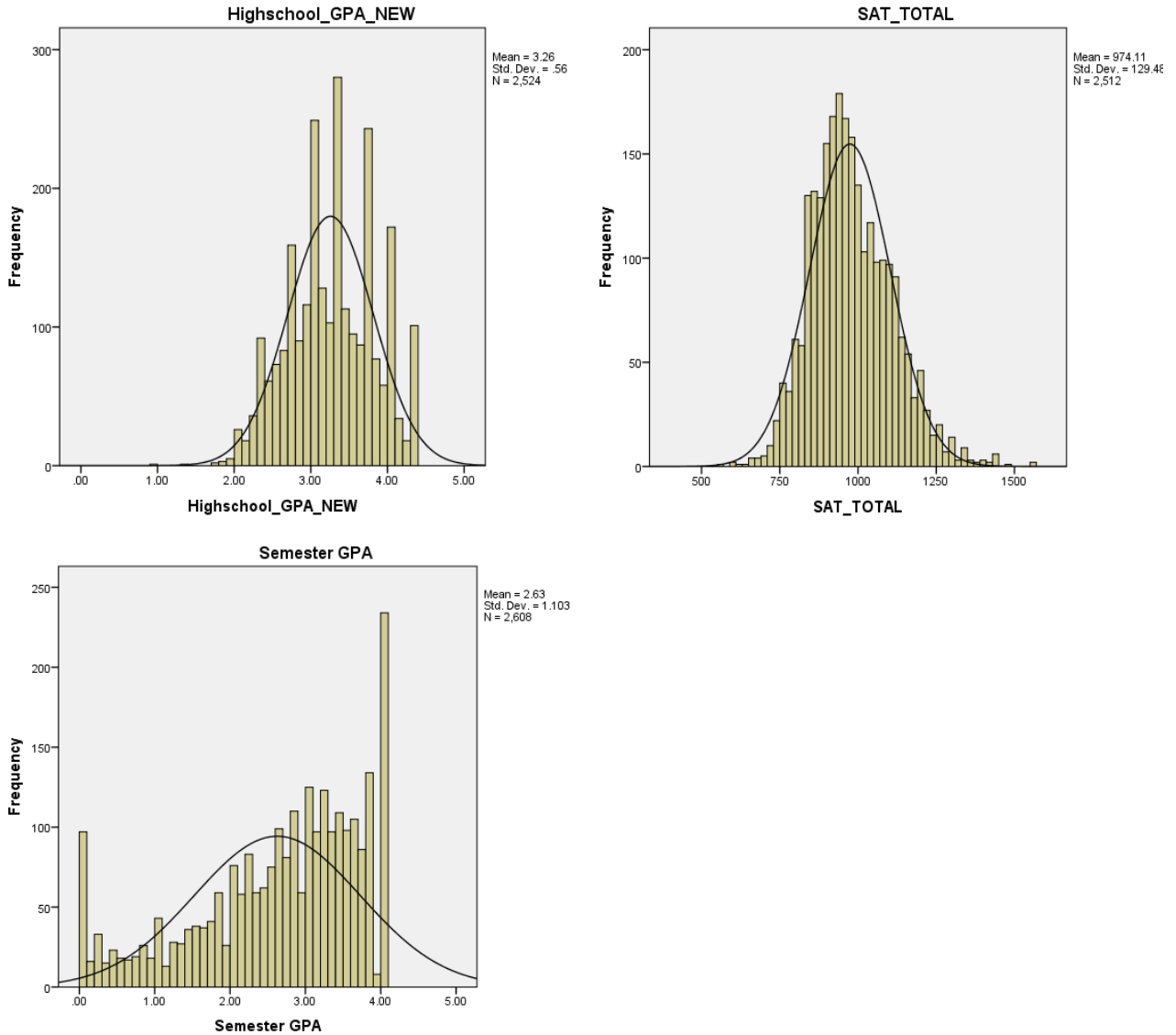


Figure 2. Relative scores and distributions for high school grade point average, Scholastic Aptitude Test total score, and first semester grade point average for the population of entering freshmen at a mid-sized university.

Sample Descriptive Data

A total of 459 students initially responded to the online survey. Eighty-one students who participated but had not reached 18 years of age were removed from both the population and the sample due to an age restriction set forth by the Institutional Research Guidelines of the university. Similarly, six students who failed to respond to the consent to participate in the study or provide a Family Educational Rights Privacy Act (FERPA) waiver were subsequently

removed from the sample. Forty-six participants were also excluded pairwise from the sample for failing to provide data necessary for specific analyses. The adjusted sample size was 327 with a 95% Confidence Interval of 5.10 (326.90, 332.10).

Summarizing, the adjusted sample consisted of 327 students who were 18 years of age or older, agreed to participate in the study, provided a Family Educational Right to Privacy Act (FERPA) waiver for the release of their educational data (i.e. high school GPA, first semester GPA, SAT scores, and demographic data), and completed the survey.

The Office of Institutional Research provided demographic information for the sample tracked through the university's Integrated Post-Secondary Education Data System (IPEDS). The sample included both male and female, first year students enrolled in the university as defined in the IPEDS. Across the sample, participants had a mean age of 18.16 years across all of the university campuses. The ethnicity of sample participants included White Non-Hispanic: at 268, 81%; Black Non-Hispanic: 20, 6.12%; and Hispanic: 20, 6.12%; respectively, representing 100% of ethnicity for the sample (see Table 4). The population ratio of males-to-females was 45% to 54%, with a large response by females (n=263) as compared with males (n=64), (80.43 % females, 19.57% males) as shown in Table 5. A one-sample T-test confirmed that the sample was significantly different from the population with respect to gender at the $p < .001$ level as shown in Table 6.

Table 4

Ethnicity and Gender for First Semester Participants

Sample (n = 327)	Gender		Total	Percent
	F	M		
American Indian or Alaskan Native	0	0	0	0.00%
Asian or Pacific Islander	2	0	2	0.61%
Black Non-Hispanic	14	6	20	6.12%
Hispanic	15	5	20	6.12%
Multi-Racial	9	4	13	3.98%
Non-Resident Alien	1	0	1	0.31%
Pacific Islander	2	0	2	0.61%
Unknown	0	1	1	0.31%
White Non-Hispanic	220	48	268	81.96%
Total	263	64	327	

Table 5

Descriptive Frequencies for First Semester Sample: Age and Gender

Gender#		Cases						Mean	
		Valid		Missing		Total		N	Mean
		N	Percent	N	Percent	N	Percent		
AGE	F	263	100.0%	0	0.0%	263	263	263	18.11
	M	64	100.0%	0	0.0%	64	64	64	18.39

Table 6

T-test Comparison of Sample Gender to Population

Gender#	t	df	Test Value = 1.421			
			Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
	-10.288	323	.001	-.227	-.27	-.18

The distribution of grade point averages for the sample provides the frequency of GPA scores across a 4.0 scale. The High School GPA mean score was calculated as 3.38 with a SD of 0.54 for 96.3% of the reported scores with 3.7% of the scores missing. The Scholastic Aptitude Test Total (SAT_Total) mean score was 1010.93 with a skewness of .454 for the sample of first year students. The first semester GPA mean was 2.98 with a SD 1.00 and was slightly negatively skewed with a value of -1.213. It is interesting to note that the sample participants had higher SAT scores (1010.93), high school GPA (3.38), and first semester GPA scores (2.98) when compared to the respective scores of the population (SAT 974, high school GPA 3.26, first semester GPA 3.26). The means for the variables of interest were calculated for the sample and are reflected in Table 7. A series of one sample T-tests verified that the sample was different in several important ways from the population with SAT, high school GPA, first semester GPA at the $p < .001$ level (see Tables 8, 9, 10). The histograms are presented in Figure 3.

Table 7

Mean Scores for Variables for Study Sample

		Statistics		
		High School GPA	SAT Total	First semester GPA
N	Valid	315	313	327
	Missing	12	14	0
Mean		3.3847	1010.93	2.9830
Std. Error of Mean		0.03015	7.906	0.05531
Std. Deviation		0.53506	139.865	1.00018
Variance		0.286	19562.280	1.000
Skewness		-0.236	0.454	-1.213
Std. Error of Skewness		0.137	0.138	0.135
Kurtosis		-0.608	0.153	0.869
Std. Error of Kurtosis		0.274	0.275	0.269
Range		2.37	770	4.00
Percentiles	25	3.0000	915.00	2.5000
	50	3.3400	990.00	3.2667
	75	3.8000	1100.00	3.8000

Table 8

T-test Comparison of Sample SAT Scores to Population

SAT Scores	t	df	Sig. (2-tailed)	Test Value = 974.11		
				Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
	4.889	323	.000	37.213	22.24	52.19

Table 9

T-test Comparison of Sample High School GPA to Population

High school GPA	t	df	Sig. (2-tailed)	Test Value = 3.256		
				Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
	4.410	323	.001	.12810	.0710	.1853

Table 10

T-test Comparison of Sample First Semester GPA to Population

Semester GPA	t	df	Sig. (2-tailed)	Test Value = 2.626		
				Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
	6.376	323	.000	.35550	.2458	.4652

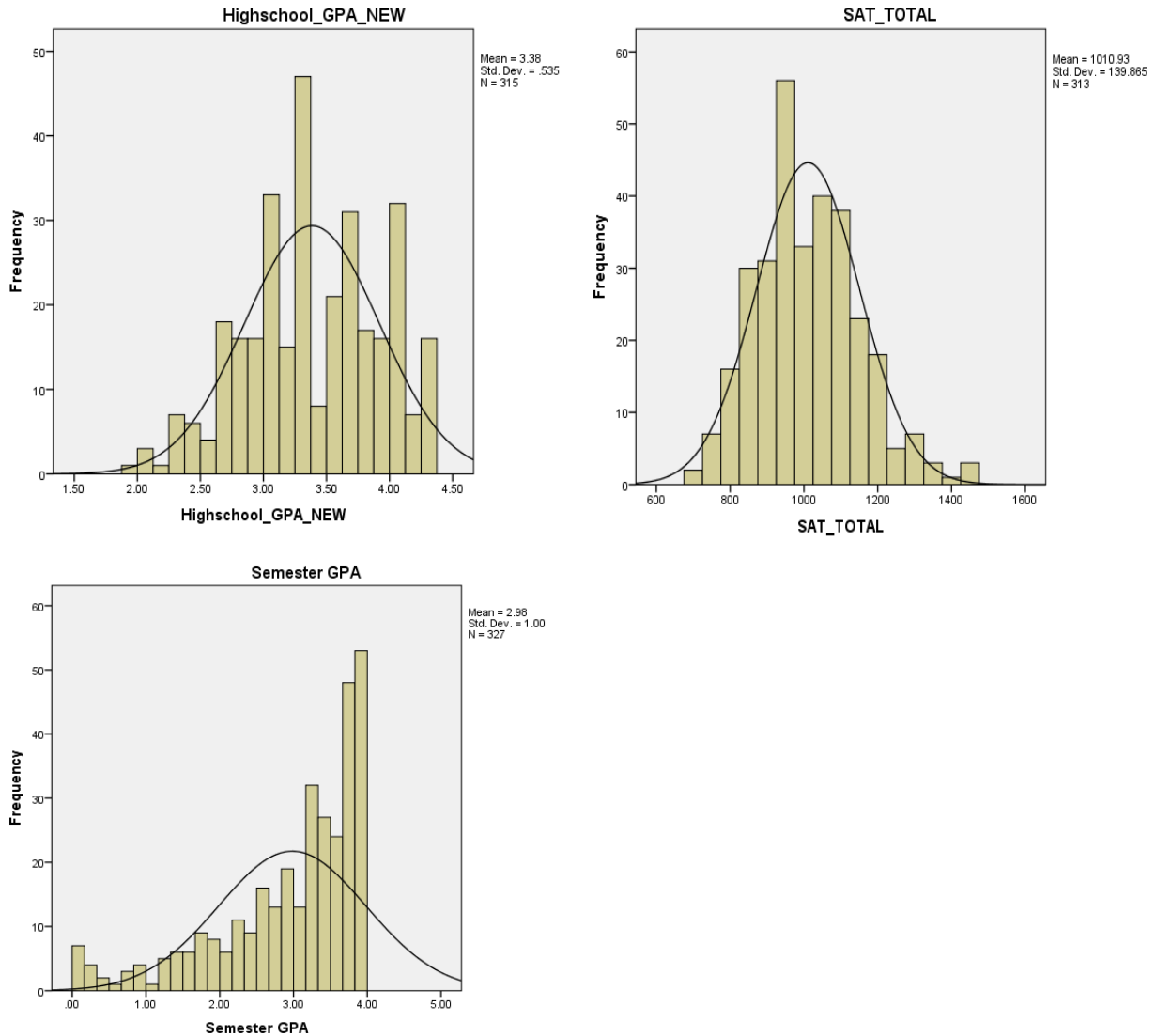


Figure 3. Relative scores and distributions for high school grade point average, Scholastic Aptitude Test total score, and first semester grade point average for the sample of entering freshmen at a mid-sized university.

Research Hypotheses, Data Analysis and Results

Quantitative data were gathered and analyses were applied using Statistical Package for the Social Sciences (SPSS) version 21.0 for Windows to evaluate four research hypothesis:

1. The levels of self-efficacy as measured by the Self-efficacy for Academic Achievement (SEAA), and Self-efficacy for Self-regulated Learning scales (SESRL) are predictors of academic achievement in first year college students.

2. The levels of alcohol expectancy as measured by the Alcohol Expectancy Questionnaire (AEQ) is a predictor of academic achievement in first year college students.
3. There is an interaction between self-efficacy and alcohol expectancy as measured by the Self-efficacy for Academic Achievement (SEAA), and Self-efficacy for Self-regulated Learning (SESRL) and the AEQ that is predictive of academic achievement in first year students as measured by university grade point average (GPA).
4. There is a relationship between the variables of high school GPA, SAT scores, alcohol expectancy and academic Self-efficacy as measured by first semester GPA.

A summary of the research questions for this study and the data analysis conducted to answer each question is provided in Figure 4.

Research Question	Data Collection	Analysis/Results
Are the levels of self-efficacy as measured by the Self-efficacy for Academic Achievement (SEAA), and Self-efficacy for Self-regulated Learning scales (SESRL) predictors of academic achievement in first year college students?	First semester GPA + Self-efficacy for Academic Achievement (SEAA), and Self-efficacy for Self-regulated Learning (SESRL).	Descriptive data, Pearson Correlation Estimates of variance Hypothesis was supported
Are the levels of alcohol expectancy as measured by the Alcohol Expectancy Questionnaire (AEQ) a predictor of academic achievement in first year college students?	First semester GPA + Alcohol Expectancy Questionnaire	Descriptive data, Pearson Correlation Estimates of variance Hypothesis was supported
Is there an interaction between self-efficacy and alcohol expectancy as measured by the Self-efficacy for Academic Achievement (SEAA), and Self-efficacy for Self-regulated Learning (SESRL) and the AEQ that is predictive of academic achievement in first year students as measured by first semester GPA?	First semester GPA + Self-efficacy for Academic Achievement (SEAA), and Self-efficacy for Self-regulated Learning (SESRL) + Alcohol Expectancy Questionnaire (AEQ)	Descriptive data, Pearson Correlation Estimates of variance Hypothesis was supported
Is there a relationship between the variables of high school GPA, SAT scores, alcohol expectancy and academic self-efficacy upon academic achievement in first year students as measured by current first semester GPA?	Surveyed Demographic Information + High School GPA + Current first semester GPA + Self-efficacy for Academic Achievement (SEAA, and Self-efficacy for Self-regulated Learning (SESRL) + Alcohol Expectancy Questionnaire	Descriptive data, Multiple Regression Estimates of variance Hypothesis was supported

Figure 4. Summary of research questions and analysis techniques.

Research Question 1: Are the levels of self-efficacy as measured by the Self-efficacy for Academic Achievement (SEAA), and Self-efficacy for Self-regulated Learning scales (SESRL) predictors of academic achievement in first year college students (GPA)?

Question 1 seeks to determine if the levels of self-efficacy as measured by the Self-efficacy for Academic Achievement (var_SEAA) and Self-efficacy for Self-regulated Learning scales (var_SESRL) are predictors of academic achievement in first year college students.

Pearson r coefficient was calculated to determine if the self-efficacy subscales of SEAA and SESRL were related. SEAA measures a student's perceived self-efficacy for academic achievement and SESRL measures a student's efficacy beliefs related to their self-regulated learning. The analysis yielded a significant positive correlation, $r(319) = 0.435, p < .01$ between SEAA and SESRL which indicates that they are each measuring aspects of self-efficacy as shown in Table 11.

Table 11

Correlations for SEAA Scores and SESRL Scores

		Total SEAA Score	Total SESRL Score
Total SEAA Score	Pearson Correlation	1	0.435**
	Sig. (2-tailed)		<0.001
	N	325	319
Total SESRL Score	Pearson Correlation	0.435**	1
	Sig. (2-tailed)	<0.001	
	N	319	326

**Correlation is significant at the 0.01 level (2-tailed).

The variable of self-efficacy as measured by the SEAA subscale shown in Table 12 was found to be significantly correlated with first semester GPA, $r(318) = 0.103, p = .034$. This means that SEAA would be a good measure of GPA because the correlation was significant at the $p < .05$ level.

Table 12

Correlation for SEAA and First semester GPA

		First semester GPA	Total SEAA Score
First Semester GPA	Pearson Correlation	1	0.103*
	Sig. (1-tailed)		0.034
	N	327	318
Total SEAA Score	Pearson Correlation	0.103*	1
	Sig. (1-tailed)	0.034	
	N	318	318

*Correlation is significant at the 0.05 level (1-tailed).

The variable of self-efficacy as measured by the SESRL subscale shown in Table 13 was found to be significantly correlated with first semester GPA, $r(319) = 0.308, p < .01$. Therefore, SESRL was found to be a predictor of first semester GPA. In fact, SESRL was found to be a more robust predictor of first semester GPA at the $p < .01$ level than SEAA at the $p < .05$ level.

Table 13

Correlation for SESRL and First Semester GPA

		First Semester GPA	Total SESRL Score
First Semester GPA	Pearson Correlation	1	0.308**
	Sig. (1-tailed)		<0.001
	N	327	319
Total SESRL Score	Pearson Correlation	0.308**	1
	Sig. (1-tailed)	<0.001	
	N	319	319

** Correlation is significant at the 0.01 level (1-tailed).

Further analyses was conducted as shown in Table 14 to describe the contribution of self-efficacy to the total variance found in the GPA. An analysis of the self-efficacy scales revealed that SEAA does not significantly contribute to GPA given the small-calculated variance ($R^2 = 0.011$) as shown in Tables 10 and 11 with an $F(1, 323) = 3.735, p = .054$. The correlation at the p

< .05 level is indicative of a relationship between SEAA, however the variance clarifies that SEAA does not significantly contribute to first semester GPA. A larger sample may have reflected a significant relationship between SEAA and GPA.

Table 14

Analysis of Variance for SEAA and First Semester GPA

	Model	Sum of Squares	df	Mean Square	F	Sig.
	Regression	3.804	1	3.804	3.735	.054 ^b
1	Residual	328.955	323	1.018		
	Total	332.759	324			

a. Dependent Variable: First Semester GPA

b. Predictors: (Constant), TOTAL_SEAA_SCORE

Table 15

Model Summary for SEAA and First Semester GPA Analysis of Variance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.107 ^a	.011	.008	1.00918

a. Predictors: (Constant), TOTAL_SEAA_SCORE

SESRL was found to significantly contribute to the GPA as shown in Table 16 and 17, and accounts for 10.20 % of the variance ($R^2 = 0.102$), $F(1, 324) = 36.624$, $p < .0001$.

Table 16

Analysis of Variance for SESRL and First Semester GPA

	Model	Sum of Squares	df	Mean Square	F	Sig.
	Regression	32.831	1	32.831	36.642	<.001 ^b
1	Residual	290.300	324	.896		
	Total	323.132	325			

a. Dependent Variable: First Semester GPA

b. Predictors: (Constant), TOTAL_SESRL_SCORE

Table 17

Model Summary for SESRL and First Semester GPA Analysis of Variance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.319 ^a	.102	.099	.94657

a. Predictors: (Constant), TOTAL_SESRL_SCORE

Research Question 2: Are the levels of alcohol expectancy as measured by the Alcohol Expectancy Questionnaire (AEQ) a predictor of academic achievement in first year college students first semester GPA?

Question 2 sought to determine if the levels of alcohol expectancy as measured by the Alcohol Expectancy Questionnaire (AEQ), (var_TOTAL_AEQ_SCORE) a predictor of academic achievement in first year college students.

The variable of alcohol expectancy as measured by AEQ measures the individual's positive expectations with alcohol consumption. The results of this survey measuring AEQ were found to be significantly negatively correlated $r(305) = -0.171, p < 0.01$ with first semester GPA and accounted for 10.2% of the variance as shown in Tables 18 and 19. There is an inverse relationship between a high score of AEQ and first semester GPA. These results suggest that as AEQ score rises, the first semester GPA decreases.

Table 18

Correlation for AEQ and First Semester GPA

		First Semester GPA	Total AEQ Score
First Semester GPA	Pearson Correlation	1	-0.171**
	Sig. (1-tailed)		0.001
	N	327	305
Total AEQ Score	Pearson Correlation	-0.171**	1
	Sig. (1-tailed)	0.001	
	N	0305	305

** . Correlation is significant at the 0.01 level (1-tailed).

An Analysis of Variance was calculated to predict first semester GPA. An analyses of alcohol expectancy scale revealed that AEQ negatively impacts first semester GPA. The variance associated with R-squared is 0.32 as shown in Table 19. The regression equation was significant, F -test (1, 308) = 8.535, $p = .004$ as shown in Table 20.

Table 19

Model Summary for AEQ and First Semester GPA

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.178 ^a	.032	.029	98903

Table 20

Analysis of Variance for AEQ and First Semester GPA

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.712	1	8.712	8.535	0.004 ^b
	Residual	314.377	308	1.021		
	Total	323.088	309			

a. Dependent Variable: First Semester GPA

b. Predictors: (Constant), TOTAL_AEQ_SCORE

Research Question 3: Is there an interaction between self-efficacy and alcohol expectancy as measured by the Self-efficacy for Academic Achievement (SEAA), and Self-efficacy for Self-regulated Learning (SESRL) and the AEQ that is predictive of academic achievement in first year students as measured by GPA?

A Pearson Correlation was calculated to determine if interactions exist between the independent variables of SESRL, SEAA, AEQ, and the dependent variable First Semester GPA. The analysis (see Table 21) revealed that significant correlations are present. AEQ was negatively correlated $r(305) = -0.171, p < 0.01$ with First Semester GPA, and SESRL $r(298) = -0.168, p < 0.01$ (1-tailed). AEQ and SEAA were negatively related $r(299) = -.044$, but not significantly correlated at $p \leq 0.05$ level (1-tailed). A significant correlation was noted between SEAA and SESRL $r(312) = 0.435, p < 0.01$ (1-tailed). SEAA and SESRL were both found to be significantly correlated with First Semester GPA, SEAA $r(318) = 0.103, p < 0.05$ and SESRL $r(319) = 0.308, p < 0.01$ with First Semester GPA. Therefore, AEQ and SESRL were significantly correlated with each other and are individually strong predictors of first semester GPA. The inverse was found for SEAA as it was not determined to be significantly correlated with first semester GPA or AEQ.

Table 21

Correlations for First Semester GPA, AEQ, SEAA, SESRL

		First Semester GPA	Total AEQ Score	Total SEAA Score	Total SESRL Score
First Semester GPA	Pearson Correlation	1	-0.171**	0.103*	0.308**
	Sig. (1-tailed)		0.001	0.034	< .001
	Sum of Squares and Cross-products		-918.389	226.369	941.032
	Covariance		-3.021	0.714	2.959
	N		305	318	319
Total AEQ Score	Pearson Correlation		1	-0.044	-0.168**
	Sig. (1-tailed)			0.224	0.002
	Sum of Squares and Cross-products			-1612.047	-8457.658
	Covariance			-5.410	-28.477
	N			299	298
Total SEAA Score	Pearson Correlation			1	0.435**
	Sig. (1-tailed)				<0.001
	Sum of Squares and Cross-products				9060.337
	Covariance				29.133
	N				312
Total SESRL Score	Pearson Correlation				1
	Sig. (1-tailed)				
	Sum of Squares and Cross-products				30200.019
	Covariance				94.969
	N				319

** . Correlation is significant at the 0.01 level (1-tailed).

* . Correlation is significant at the 0.05 level (1-tailed).

Research Question 4: Is there a relationship between the variables of high school GPA, SAT scores, alcohol expectancy, and academic self-efficacy upon academic achievement in first year students as measured by first term GPA?

A multiple regression analysis was calculated on the data to determine if there was a relationship between the independent variables of high school GPA, SAT scores, alcohol expectancy measured by AEQ, academic self-efficacy measured by SESRL and SEAA, and academic achievement as measured by first semester GPA of first year students.

The Enter method was employed to analyze the predictor variables (IVs) upon the criterion variable (DV) in the multiple regression. Mahalanobis was used to identify outliers and to impute missing scores that resulted in an $n = 324$ for sample participants. The assumptions that needed to be met for the multiple regression included the removal of outliers ($n = 2$) and the substitution of sample mean scores for the several cases that had missing scores. Using the SPSS MCMC chained equations imputation, a total of twenty-two scores were imputed for High school GPA, five scores were imputed for the SEAA, and six scores were imputed for the SESRL variable. An Additional case was removed as the participant did not attempt the SESRL and the imputation of scores was inadvisable.

Since, theoretically, the variables assessed all have some impact on the first semester GPA, the individual R^2 variances were computed for each variable. The results informed the analysis that several of the variables competed with each other in the variance estimate. For example, adding SAT_Total to HS_GPA reduced the HS_GPA variance by .05%. Theoretically, high school GPA and SAT scores combined should collectively add to the total variance of the first semester GPA and so the two variables were combined into a new variable, HS Scores.

The Self-efficacy for Academic Achievement (SEAA) and Self-efficacy for Self-Regulation (SESRL) are significantly correlated and therefore, they are measuring similar attributes of academic self-efficacy. So to improve the model, these two sub-tests were combined into a new variable, SE_combined. The result, upon comparison, was a more powerful model that better described the relative contribution of each grouping of variables upon the first semester GPA. In using the enter method, the R² value was retained as the highest value in the forward method. The enter method with combined variables was shown to be the most parsimonious solution for identifying variances that contribute to first semester GPA.

Additional data inspection was completed prior to conducting a multiple regression to establish relationships between the variables. Basic descriptive statistics are shown in Table 22 that include the means and standard deviations for the combined variables.

Table 22

Descriptive Statistics on Sample

	Mean	Std. Deviation	N
First Semester GPA	2.9815	1.00353	324
HS Scores computed	1014.7067	137.14121	324
SE combined	105.6914	14.24891	324
Total AEQ Score	90.2790	17.28194	324

Following the analysis, scatter plots were created to view the remaining cases (n = 324). The Malhalanobis outliers are presented in Figure 5 along with the scatter plots. Note that positive responses to the AEQ are viewed negatively.

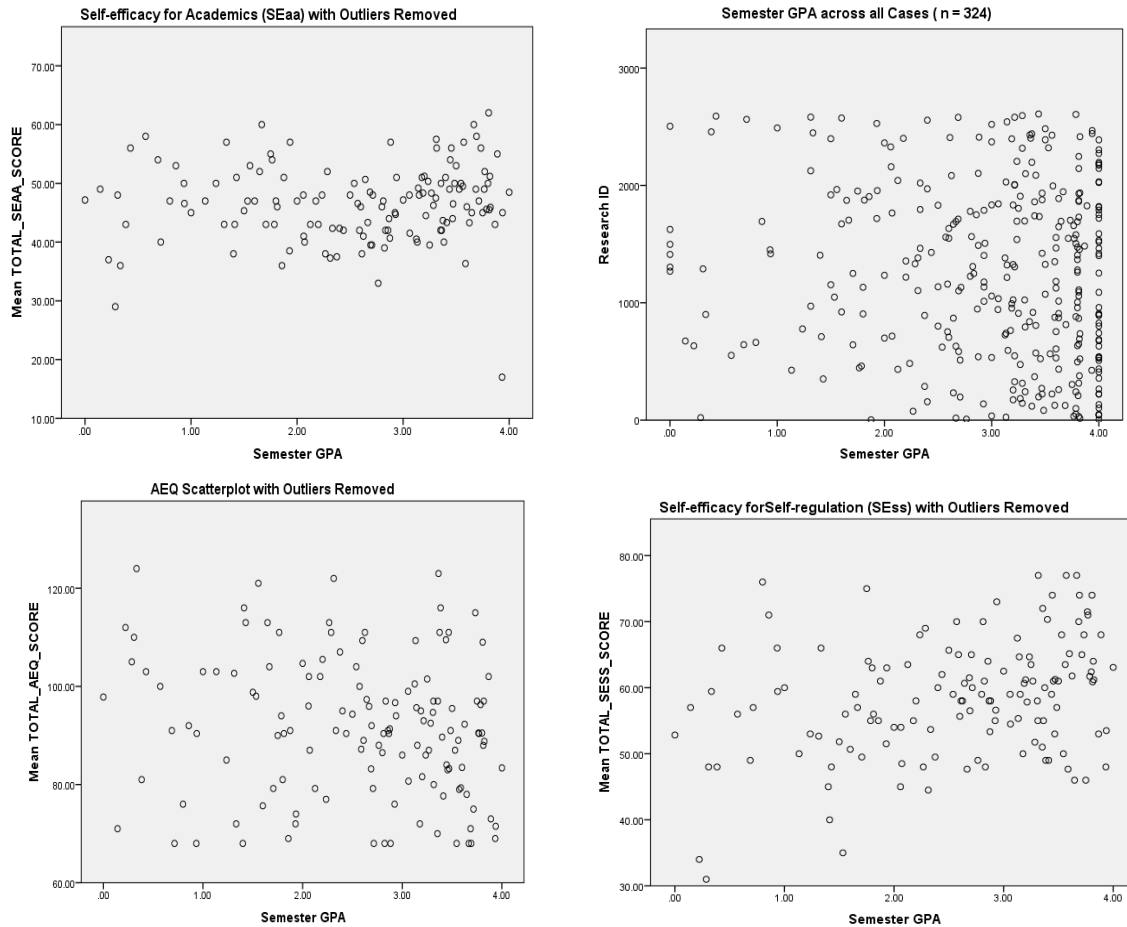


Figure 5. Removal of outliers and subsequent scatter grams upon the resulting data set in preparation for the multiple regression analysis.

The matrix in Table 19 reveals that, plus or minus one standard deviation, the High School scores showed a 0.289 correlation with the first semester GPA while the Self-efficacy combined scores had a correlation of 0.271. The negatively associated Alcohol Expectancy score is described at -0.178. All scores were reported at $p < 0.01$ significance level.

Table 23

Correlation Matrix of the Combined Variables of HS Scores, AEQ and SE_Combined

		First Semester GPA	HS Scores computed	SE combined	Total AEQ Score
Pearson Correlation	First Semester GPA	1.000	.289	.271	-.178
	HS Scores computed		1.000	.175	-.004
	SE combined			1.000	-.141
	Total AEQ Score				1.000
Sig. (1-tailed)	First Semester GPA		.000	.000	.001
	HS Scores computed			.001	.468
	SE combined				.005
	Total AEQ Score				

The result of the multiple regression indicated that First Semester GPA was positively correlated at the $p \leq 0.01$ level with High School Scores ($R^2 = .084$) contributing to 8.4% of the variance, SE ($R^2 = .073$) contributed to 7.3% of the variance and AEQ ($R^2 = .032$) that was negatively correlated contributed to 3.2% of the shared variance between each of the variables. These analyses showed that High School Scores and SE combined are strongly correlated with First Semester GPA. AEQ is also strongly negatively correlated with First Semester GPA. SE combined has the potential to be a robust predictor of First Semester GPA. Correlation data on the variables is presented in Table 24.

Table 24

Correlations Summary for Variables of Interest

		Correlations			
		First Semester GPA	Total AEQ Score	SE Combined	HS Scores Computed
First Semester GPA	Pearson Correlation	1	**-.0178	**0.271	**0.289
	R ² Coefficient of Determination		.032	.073	.084
	Sig. (1-tailed)		.001	.000	.000
	Sum of Squares and Cross-products	325.287	-997.374	1252.038	12847.173
	Covariance	1.007	-3.088	3.876	39.775
	N	324	324	324	324

** . Correlation is significant at the 0.01 level (1-tailed).

The combined score of the multiple regression model, with three explanatory variables, has an R² value of 0.155 or 16% of the variance (see Table 25).

Table 25

Model Summary of the Combined Variables

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.394 ^a	.155	.147	.92675	.155	19.579	3	320	< .001

a. Predictors: (Constant), Total AEQ Score, HS Scores computed, SE combined

b. Dependent Variable: First Semester GPA

The Analysis of Variance (ANOVA) as shown in Table 26 describes the variance between and within the variable groups. The significance demonstrates that there is more variation between the variables than there is within the variables ($F = 19.579$, $DF = 3, 320$, $p <= 0.01$). In multiple regression the ANOVA functions to provide an estimate of the amount of a

model's total variance of all predictors (IVs) that can be attributed to the Regression is found in the Sum of Squares calculation. The amount of variance that remains unaccounted by the model is provided in the Residual calculation.

Table 26

Analysis of Variance in the Regression Model

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	50.449	3	16.816	19.579	< .001 ^b
	Residual	274.839	320	.859		
	Total	325.287	323			

a. Dependent Variable: First Semester GPA

b. Predictors: (Constant), Total AEQ Score, HS Scores computed, SE combined

A review of the standardized Beta coefficients resulting from the regression measures the relative contribution of each of the variables to the total first semester GPA. HS Scores contribute 25% of the variance ($t = 4.833$, $p < 0.001$) while self-efficacy contributes 21% to the variance ($t = 3.908$, $p < 0.001$), and AEQ negatively impacts the variance model by 15% ($t = -2.847$, $p = 0.005$). The regression $GPA = 0.349 + 0.002 \text{ HS Scores} + 0.015 \text{ SE combined}$ is significant at the $p < 0.01$ level as shown in Figure 6 and Tables 27 and 28.

Table 27

Regression Coefficients of AEQ, HS Scores, and SE Combined with T-tests

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error				Lower Bound	Upper Bound
(Constant)	.349	.595		.587	.557	-.820	1.519
HS Scores	.002	.000	.252	4.833	<.001	.001	.003
1 Computed							
TOTAL AEQ SCORE	-.009	.003	-.148	-2.847	.005	-.015	-.003
SE Combined	.015	.004	.206	3.908	.000	.007	.022

a. Dependent Variable: First Semester GPA

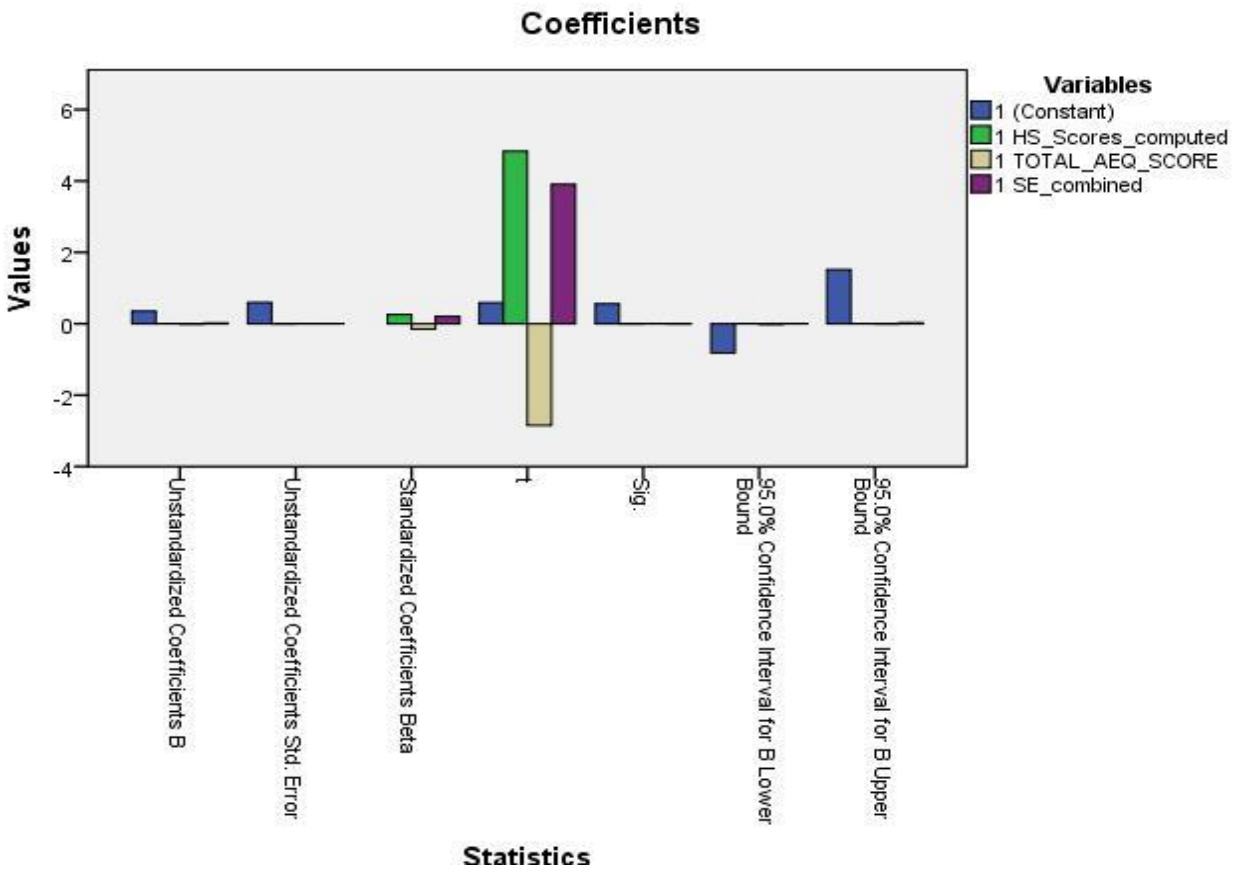


Figure 6. Bar Chart of the relationship of the variables of interest depicting the data shown in Table 27.

Table 28

Regression Coefficients of AEQ, HS Scores, and SE combined with T-tests

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
(Constant)	.349	.595		.587	.557	-.820	1.519					
HS Scores computed	.002	.000	.252	4.833	<.001	.001	.003	.289	.261	.248	.969	1.032
SE combined	.015	.004	.206	3.908	<.001	.007	.022	.271	.213	.201	.950	1.053
Total AEQ Score	-.009	.003	-.148	-2.847	.005	-.015	-.003	-.178	-.157	-.146	.980	1.021

Summary

This chapter recounted the significant findings of a quantitative study that sought to determine whether there was a positive relationship between the independent variables of alcohol expectancy, academic self-efficacy, high school GPA, total SAT score and the dependent variable of academic success measured by first semester grade point average for first year university students. These findings will be further discussed and summarized in Chapter V with respect to their significance across the field of higher education specific to the issue of enhancing academic success of first year university students. Additionally, Chapter V will discuss the limitations of this research study and provide recommendations for future research within the field of higher education.

CHAPTER V

DISCUSSION

Academic success of first year students is a timely issue as the National Center for Educational Statistics (2013) quantified that less than 59 percent of first year students successfully attain a bachelor's degree within a six-year period. Dr. Frank Brogan, Chancellor of the Pennsylvania State System of Education, in a PA House Congressional hearing on February 20, 2014 reported that the average graduation rate for all 14 Universities was 55% but when adjusted for student transfers within the system or to a private college or university was upward adjusted to an 85% rate (Pennsylvania House and Senate Appropriations Committees, 2014). Therefore, it behooves the university to identify important personal attributes of students that provide a solid basis and foster the pursuit of academic studies. Argued by Bronfenbrenner (1979), the existing attributes that a student brings to the university are enhanced or diminished by the changes in the context of human development. This study examined three elements of the constellation of influences that impinge upon the motivational and goal setting behavior necessary for students to academically succeed at the university. The results demonstrated that these three variables are important behaviors that mediate a student's academic success.

The isolation of variables that are inclined to impact student success: self-efficacy, alcohol expectancy could provide institutions of higher education proactive measures to significantly increase degree persistence. The association between student alcohol consumption and poor levels of academic achievement has been well established with alcohol contributing to significant negative academic consequences (Bloch, Crockett, & Vicary, 1991; CSCMH, 2009; Donovan & Jessor, 1998; Hingson et al., 2005; Schulenberg, Bachman, O'Malley, & Johnston, 1994; Sutherland & Shepherd, 2001), a finding that was replicated in the present study. The U.S.

Department of Education, Office of Safe and Drug-Free Schools, Higher Education Center for Alcohol, Drug Abuse, and Violence Prevention (2010) supported efforts toward early identification of students who may be at-risk for alcohol consumption. Early intervention and prevention efforts may identify the individual student who is at-risk for problematic alcohol consumption and integrate a framework of academic support programs to positively impact student academic success. Such proactive interventions have far reaching benefits for the student at risk and the institution that seeks to improve student retention and increase graduation rates.

The importance of self-efficacy, either in the general sense of self capability for activities of daily living, for sports or hobbies, or for sufficient environmental control over self-learning and testing skills is the bedrock of a successful learning experience. Most students who attend the university have competencies across a wide range of skills such as planning and note taking but many may fail to activate self-instruction, self-motivation, and other critical behaviors associated with self-regulation. Portions of the Children's Multidimensional Scales of Self-efficacy (Bandura, 1989) were used in this research study. Specifically, the Self-efficacy for Academic Achievement and the Self-efficacy for Self-regulated Learning subscales were selected because of their established reliability and validity in measuring academic self-efficacy.

Chapter V presents the major findings, conclusions, and recommendations of the present research study related to academic success of first year university students. This chapter also offers suggestions about additional variables that may be considered for future research as a means to increase the variance proportion measured by the variables in this study and to foster the development of a more comprehensive model for institutions of higher education to proactively identify students at risk for academic failure.

Findings

Introduction

This quantitative study sought to identify factors that impact first year college students' academic success as a means to support the development of an early intervention model for students at risk for academic failure due to perceived expectations surrounding alcohol consumption and low academic self-efficacy. Specifically, this study examined the variables of alcohol expectancy as measured by the Alcohol Expectancy Questionnaire (Brown, Christiansen, & Goldman, 1987) and academic self-efficacy as measured by two scales: Self-efficacy for Academic Achievement and Self-efficacy for Self-regulated Learning (Zimmerman, Bandura, & Marinez-Pons, 1992). Each of these scales was examined individually and in combination to determine if either or both of the scales (predictor variables) added to the prediction of first semester grade point average (criterion variable). Quantitative data were gathered and analyses were applied using Statistical Package for the Social Sciences (SPSS) version 21.0 for Windows for each of the predictor variables across the data. The university Office of Institutional Research provided the first year students' high school GPA and SAT scores, which are classically established predictors of collegiate academic success (Bridgeman, McCamley-Jenkins, Ervin, 2000; Kobrin, Patterson, Shaw, Mattern, & Barbuti, ,2008).

The results of the sample data analysis address each of the predictor variables in the four research questions and hypotheses with recommendations to enrich the freshmen experience. The research questions and their proposed hypotheses are as follows:

Research Questions and Hypotheses

Question 1:

Are the levels of self-efficacy as measured by the Self-efficacy for Academic Achievement (SEAA), and Self-efficacy for Self-regulated Learning scales (SESRL) predictors of academic achievement in first year college students?

Hypothesis 1:

The levels of self-efficacy as measured by the Self-efficacy for Academic Achievement (SEAA), and Self-efficacy for Self-regulated Learning scales (SESRL) were predictors of academic achievement in first year college students.

Question 2:

Are the levels of alcohol expectancy as measured by the Alcohol Expectancy Questionnaire (AEQ) a predictor of academic achievement as measured by first semester grade point average (GPA) in first year college students?

Hypothesis 2:

The levels of alcohol expectancy, as measured by the Alcohol Expectancy Questionnaire (AEQ) was a predictor of academic achievement in first year college students.

Question 3:

Is there an interaction between self-efficacy and alcohol expectancy as measured by the Self-efficacy for Academic Achievement (SEAA), and Self-efficacy for Self-regulated Learning (SESRL) and the AEQ that is predictive of academic achievement in first year students as measured by first semester GPA?

Hypothesis 3:

There was an interaction between self-efficacy and alcohol expectancy as measured by the Self-efficacy for Academic Achievement (SEAA), and Self-efficacy for Self-regulated Learning (SESRL) and the AEQ that was predictive of academic achievement in first year students as measured by first semester GPA.

Question 4:

Is there a relationship between the variables of high school GPA, SAT scores, alcohol expectancy, and academic self-efficacy upon academic achievement in first year students as measured by first semester GPA?

Hypothesis 4:

There was a relationship between the variables of high school GPA, SAT scores alcohol expectancy and academic self-efficacy as measured by as measured by the Self-efficacy for Academic Achievement (SEAA), Self-efficacy for Self-regulated Learning (SESRL) and the Alcohol Expectancy Questionnaire (AEQ) that was predictive of academic achievement in first year students as measured by university grade point average (GPA).

Research Question 1

Summary and interpretation. Academic self-efficacy has been recognized as a principal variable that affects an individual's capacity to attain academic success. Bandura (1977) identified the concept of academic self-efficacy as an important component that impacts an individual's ability to persist, overcome obstacles, and attain one's goal. The Self-efficacy for Academic Achievement (SEAA) scale measures an individual's perceived self-efficacy or an individual's belief to achieve a positive academic outcome related to a specific subject. In comparison, the scale of Self-efficacy for Self-regulated Learning (SESRL) measures an

individual's level of human agency or motivation, which is necessary for a specific task accomplishment, including modifying environments necessary to improve an academic outcome such as organizing, concentrating, and accessing academic support opportunities. Zimmerman, Bandura, and Martinez-Pons (1992) found that the multidimensionality of domain specific academic self-efficacy (e.g., math versus writing) in combination with adaptability to environmental conditions (e.g., a noisy dorm for example) has a critical effect upon the student's capacity to be academically successful (Zimmerman, 2000).

Question 1 sought to determine if these variables could be used to predict the academic achievement of first year college students. An initial analysis was conducted to determine if SEAA and SESRL scale were related. The results of the correlation indicated that SEAA and SESRL were related and that each measured different aspects of academic self-efficacy. It was also noted that the scales were significantly correlated with the criterion variable, first semester GPA. Further analyses conducted on the data determined that each of the variables contributed to the variance of first semester GPA. However, SESRL was a stronger predictor of academic achievement in its ability to positively impact first semester GPA. Hypothesis 1 was accepted as the levels of self-efficacy as measured by the Self-efficacy for Academic Achievement (SEAA) and Self-efficacy for Self-regulated Learning scales (SESRL) were found to be predictors of academic achievement in first year college students.

Context of findings. The results specifically noted that there was a strong positive correlation between the scales of SEAA and SESRL as measures of academic self-efficacy and offered additional support to the evidence that academic self-efficacy is a fundamental construct that can be used to predict students' expected academic success (Bong, 2001; Bong & Clark, 1999; Bouffard, Boileau, & Vezesu, 2001; Lane & Lane, 2001; Lane, Lane, & Kyprianou, 2004;

Ofori & Charlton, 2002; Pintrich & De Groot, 1990; Richardson, 2007; Schunk & Zimmerman, 1997). The isolation of these variables and their significant correlation with first semester GPA allows institutions of higher education to design more effective approaches to identify students at risk for academic failure, support the development of intervention programs, and directly monitor student progress associated with academic achievement. The brief assessment tools of self-efficacy used in this study could empower students to recognize their current skill set and participate in opportunities to enhance academic success.

Research Question 2

Summary and interpretation. Vroom (1964), who formalized Expectancy Theory, provides a framework for characterizing the drinking behaviors of college students and the established drinking patterns they bring with them as they matriculate. Bandura (1977) recognized that the principle of alcohol expectancy was formulated based upon an individual's observations and experiences with alcohol. Individuals who observe positive behaviors associated with alcohol consumption are likely to form positive expectations associated with alcohol use. Johnston, O'Malley, and Bachman (2001) determined that behaviors associated with alcohol consumption develop during late adolescence and are influenced by alcohol related experiences.

The variable of alcohol expectancy, as measured by Alcohol Expectancy Questionnaire assessed the individual student's expectations surrounding alcohol consumption. The results of this research study found that students who reported positive expectations with alcohol consumption were more likely to have lower first semester GPA. Specifically, the data analysis indicated that the AEQ had an inverse relationship with first semester GPA, noting a significantly negative correlation between the predictor variable of AEQ and the criterion

variable of first semester GPA. The inverse relationship between AEQ and First Semester GPA strongly suggests that students who have a propensity to drink alcohol will be less successful in their academic pursuits. The findings parallel the literature and further demonstrate that individual alcohol expectancy beliefs negatively impact academic achievement. Therefore, Hypothesis 2 was accepted as the level of alcohol expectancy as measured by the Alcohol Expectancy Questionnaire (AEQ) and was found to be a predictor of academic achievement in first year college students.

Context of findings. The results specifically noted that there was a strong negative correlation between the AEQ measure of alcohol expectancy and first semester GPA and offers additional support to the evidence that high alcohol expectancy is a construct that can be used to identify students who may face academic challenges. Student motivations for drinking are a critical aspect to be acknowledged in understanding behaviors that leads to a predisposition toward alcohol use. The research of DeBerard, Spielmans, and Julka, (2004) affirms the work of Pullen (1994) who identified the salient environmental predictors of alcohol consumption. They examined the psychosocial predictors that contributed to low academic performance of first year students and concluded that 10 variables were predictive of first year university GPA, of which alcohol expectancy was identified as a primary predictor. According to Engels et al., (2005) learning experiences are stored in long-term memory and, regardless of conspicuous behavior, the embedded behavioral patterns such as positive alcohol expectancy impact the development of future behaviors as the high school student transitions to the university. This research gives

promise that early identification of student levels of alcohol expectancy and models of proactive interventions may serve to ameliorate academic failure associated with alcohol consumption for at risk students.

Research Question 3

Summary and interpretation. The research of DeBerard, Spielmans, and Julka, (2004) sought to isolate the psychosocial risk factors associated with freshman retention in order to formulate predictive models and identify the causes of student attrition. Comparably, Question 3 examined the predictor variables SEAA, SESRL and AEQ, to determine if relationships exist between the variables of interest and the criterion variable First Semester GPA. The results revealed that a significant interaction was not present between AEQ and SEAA, however AEQ and SESRL were significantly negatively correlated. Interestingly, even though there was an inverse correlation between AEQ and SEAA, a strong positive (43.5%) correlation was found to exist between SEAA and SESRL. The results revealed that significant correlations were present across each of the predictor variables with first semester GPA. These findings support the work of DeBerard et al., and others (Sutherland & Shepherd, 2001, Breitmeier, Seeland-Schulze, Hecker, and Schneider, 2007) who not only identified predictive variables but specifically found an inverse relationship between alcohol consumption and academic achievement.

Context of findings. The relationship between alcohol consumption and lower GPA has been well documented (Bloch, Crockett, & Vicary, 1991; Core, 2012; Donovan & Jessor, 1998; Schulenberg, Bachman, O'Malley, & Johnston, 1994; Sutherland & Shepherd, 2001). Wechsler, Lee, Kuo, & Lee (2002) noted that time taken away from studying in pursuit of alcohol consumption has a significant impact on student academic success. The variable SESRL, which represents self-efficacy associated with self-regulated learning, was inversely correlated with the

variable AEQ indicating an alignment with the findings of Wechsler, et al. Therefore, Hypothesis 3 was accepted as the results showed that there was an interaction between self-efficacy and alcohol expectancy as measured by the scale of Self-efficacy for Academic Achievement (SEAA), Self-efficacy for Self-regulated Learning (SESRL) and the Alcohol Expectancy Questionnaire (AEQ) that was predictive of academic achievement in first year students as measured by First Semester GPA. Thus, it is indisputable that institutions of higher education must adopt a more global approach that includes predictive variables of self-efficacy and alcohol expectancy as vital mechanisms to enhancing the academic success of first year students.

Research Question 4

Summary and interpretation. A compendium of literature has demonstrated the pervasiveness of an inverse relationship between students' patterns of alcohol consumption and college students' grade point average (GPA) (Jeynes, 2002; Sutherland & Shepherd, 2001). In fact, The National Institute on Alcohol Abuse and Alcoholism (NIAAA) (2012) Task Force on College Drinking reported that lower test scores and poor performance are associated with 25% of all enrolled students who consume alcohol.

Also supported were the findings that academic self-efficacy was identified as a predominant variable that was found to influence an individual's ability to achieve academic success (Chermers, et al., 2001; Devonport and Lane, 2006; Majer, 2009). Similarly, the College Board found that High School GPA and SAT were significant predictors of first year academic success (Bridgeman, McCamley-Jenkins, Ervin, 2000; Kobrin, Patterson, Shaw, Mattern, & Barbuti, 2008).

Based upon prior research, Question 4 examined the relationship between the variables of alcohol expectancy and academic self-efficacy, high school GPA, and SAT scores upon academic achievement in first year students as measured by first semester GPA. A multiple regression analysis was calculated to determine the predictive ability of the predictor variables of alcohol expectancy, academic self-efficacy, high school GPA, and SAT scores, on the continuous criterion variable of academic achievement as measured by first semester GPA of first year students. The multiple regression analysis showed the relationship of each of the variables to each other and their individual relationship with the criterion variable. The analysis revealed that each of the predictor variables were significantly correlated with first semester GPA. AEQ was strongly negatively correlated with First Semester GPA. The combined measures of self-efficacy (SE) were a robust predictor of First Semester GPA. The analysis further confirmed that AEQ, SE, and HS Scores (High School GPA and SAT Total combined) were in combination, predictive of first semester GPA. The total variance score revealed the combined influence of the variables upon a student's first semester GPA to be as much as 16%.

The Beta scores further delineated the contribution or impact that each of the standardized predictor variables had on the criterion variable of first semester GPA. Note that a higher beta value is indicative of the impact of the predictor variable on the criterion variable whether or not the values are positive or negative. The coefficient contribution for each of the variables in the analysis found the HS Scores contributed to 25% of the variance, self-efficacy contributed to 21% to the variance, and AEQ contributed to the variance by 15%. Interestingly, HS combined (High School GPA and SAT Total combined), an established predictor of academic achievement, was found to contribute 25% or only half of the overall calculated variance of 50.45% on first semester GPA indicating that AEQ and SE (combined SEAA and

SESRL) accounted for the remaining 50% of the variance. Hence, these results demonstrate that the variables of alcohol expectancy and academic self-efficacy (as measured by AEQ, SEAA, and SESRL respectively) were found to be a robust predictor of student academic success (as measured by first semester GPA).

Context of findings. The findings confirmed the existing bodies of knowledge that elucidate relationships between academic self-efficacy, high school GPA, SAT, and first semester GPA. The results of the analysis demonstrated a strong correlation between academic self-efficacy and academic performance (as measured by GPA) and strongly indicated that alcohol expectancy served to predictably reduce the first semester GPA. This research demonstrates the importance of alcohol expectancy as a significant predictor of first semester GPA. The conventional research is reactive, as it has focused on alcohol consumption. Measures of alcohol expectancy can be administered that assess the individual's perception of alcohol use and foretell the individual student's propensity to consume alcohol. Preventative measures that highlight the consequences of alcohol consumption may empower students to consciously avoid deleterious behavior.

Limitations of the Study

The results of this study clearly revealed that there was a predictive relationship between the variables of alcohol expectancy, academic self-efficacy, and academic achievement. While valid and reliable, these assessment tools used in this study are nevertheless subject to recall confusion as individual's perceptions about their propensity to drink or to apply the skills to be academically successful are not always an accurate representation of their behavior. One may argue that future studies should include a measure of student alcohol consumption for further analysis and validation of propensity measures of AEQ. However, such self-reported

measurements of alcohol consumption can be subject to student willingness to honestly report drinking behaviors or recall confusion.

The sample population was rather homogeneous as it was representative of a group of first year students attending a large Mid-Atlantic University. Also, the sample was more representative of female than male students. It was also noted that the students who chose to participate in the survey earned a first semester GPA that was 15% higher in comparison with the mean first semester GPA reported for the population. One recommendation would be to increase the campus-wide awareness of the survey as a means to more equally engage students who are representative of the population.

Recommendations for Future Research

Replication of this study across other universities and campuses could serve to further support the use of these variables in models of intervention for first year students at risk for academic failure where the sample is more representative of the population. One means to increase sample size and representation would be for future researchers to partner with administrators who oversee first year orientation courses and obtain permission to administer a paper-and-pencil survey during class time.

The sample size was large enough to account for intervening variables such as student employment, student health issues, and family matters that may have impacted first semester GPA. Nonetheless, to further determine the impact of such variables, a social survey such as the Multidimensional Perceived Social Support Scale (MPSSS) used by DeBerard, Scott, Spielman, and Julka (2004) in the study of first year student retention related to predictors of academic achievement could be emailed to sample participants at the end of the first semester as a follow up to the instruments used in the present study. This instrument could quantitatively assess the

impact of experiential events and provide additional insight to further determine the impact of life situations on student academic achievement.

An exhaustive search of the literature has failed to identify other studies that have investigated the direct relationship between alcohol expectancy, academic self-efficacy, and academic achievement of first year university students based on first semester GPA. Therefore, additional research is recommended to further substantiate the value of the predictive relationship between alcohol expectancy, academic self-efficacy, and first semester GPA. Also, other assessments that measure academic study skills should be considered to delineate specific skills to enhance academic success.

Implications for Educators

University administrators, government agencies, and noted researchers have struggled to identify and implement programs to successfully modify campus cultures that engender alcohol use and thereby ultimately lessen the negative effects of student alcohol consumption. Historically, interventions of educational and environmental programs have targeted the masses rather than attempting to identify individual students who may be at risk for alcohol consumption and academic failure. The results of the current study give promise that early identification of students at risk is possible through the use of measures utilized in this study. Such an initiative hopes to provide a resolution to guide the field of higher education toward a model of intervention that can positively impact student retention through academic achievement and further enhance the development of the whole person.

Conclusion

The field of education must implement additional methods to determine the projected academic success for matriculating students. Measures of alcohol expectancy and academic self-efficacy represent two variables that are significantly correlated with academic achievement and parallel the predictability of the historic measures of SAT and high school GPA. A comprehensive use of these measures will indicate the individual student's ability to achieve in higher education and will also identify any existing barriers to that achievement. Ultimately, the personal transformation that occurs during the collegiate years impacts the development of the whole person and solidifies the student's life direction. Therefore, institutions of higher education must collectively consider these additional factors as key to student academic success and incorporate them as a means to support the student on their academic journey. Yes, this is an incredibly complex task, but with a sense of confidence and new paradigm educators are able to seize opportunities when, "The horizon leans forward, offering space to place new steps of change" (Maya Angelo, 1994), and proactively influence student academic success.

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APPENDIX A

Permission to Use Self-efficacy for Academic Achievement and Self-efficacy for Self-regulated Learning

-----Original Message-----

From: Horner, Theresa Messina
Sent: Sunday, June 23, 2013 10:18 PM
To: Zimmerman, Barry
Subject: Permission to use Survey Instruments

Dear Dr. Zimmerman,

I am a doctoral student at Indiana University of Pennsylvania interested in learning more about the relationship between self-efficacy and academic achievement in first year college students. I am writing to obtaining permission to use the Self-efficacy for Self-regulated Learning and Self-efficacy for Academic Achievement survey instruments in my doctoral research. I would greatly appreciate any help and resources that you could offer me to advance my study.

Your time and interest is most appreciated.

With gratitude,

Theresa M. Horner
Doctoral Candidate
Indiana University of Pennsylvania

-----Original Message-----

From: Barry Zimmerman [<mailto:bzimmerman@gc.cuny.edu>]
Sent: Monday, June 24, 2013 8:53 AM
To: Horner, Theresa Messina
Subject: RE: Permission to use Survey Instruments

Hi Theresa:

You have my permission to use the Self-efficacy for Self-regulated Learning and Self-efficacy for Academic Achievement survey instruments in your dissertation research. If you don't have a copy of the scales, let me know.

Sincerely,

Barry Zimmerman

-----Original Message-----

From: Horner, Theresa Messina
Sent: Monday, June 24, 2013 11:45 AM
To: Zimmerman, Barry
Subject: RE: Permission to use Survey Instruments

Hi Dr. Zimmerman,

Thank you for granting me permission to use these instruments and for your prompt response. I would greatly appreciate it if you could forward official copies of the surveys, scoring guidelines, and the corresponding manuals for each of the instruments.

With appreciation,
Theresa

Theresa M. Horner
Doctoral Candidate
Indiana University of Pennsylvania

-----Original Message-----

From: Horner, Theresa Messina
Sent: Monday, June 24, 2013 7:36 PM
To: Zimmermann, Barry
Subject: RE: Permission to use Survey Instruments

Theresa:

I have attached a copy of Bandura's self-efficacy scale that includes the two subscales about which you asked. I don't have any manual for it, but we reported the reliability of the scales in our 1992 study. I attached a copy of that study as well. It is possible that Al Bandura may have additional information. You may wish to contact him if the material that I sent was insufficient.

-----Original Message-----

From: Horner, Theresa Messina
Sent: Monday, June 24, 2013 4:16 PM
To: Zimmerman, Barry
Subject: RE: Permission to use Survey Instruments

Thank you, Dr. Zimmerman.

With appreciation,
Theresa

Theresa M. Horner
Doctoral Candidate
Indiana University of Pennsylvania

APPENDIX B

Permission to Use the Alcohol Expectancy Questionnaire

From: Evans, Christopher
Sent: Wednesday, June 12, 2013 11:43 AM
To: Brandon, Karen Obremski
Subject: AEQ adult packet

Attached please find the copy of the Alcohol Expectancy Questionnaire - Adult form (AEQ) you requested, along with the pertinent scoring information.

Please remember that the AEQ is strictly a research instrument. There has been no comprehensive standardization of the AEQ and scores resulting from its use should not, at this time, be applied to clinical populations. It is strictly used to quantify differing levels of expectancy as compared to prior research populations (see published studies). The development of the AEQ and the derivation of the first 90 items listed on the questionnaire have been referred to in published articles by Goldman and colleagues. The last 30 items are newer and were added in order to investigate factor loadings, etc. The resulting questionnaire contains 120 items.

Should this instrument prove useful to you in your work, we hope you will provide us with a copy of any resulting publications, or a short description of your use of the AEQ and the results of its use. In this way we hope to continue to add to our knowledge of the AEQ and its validity as a measure of adolescent alcohol expectancies.

We also ask that you not publish the AEQ as part of any research report generated based on its use, as it is a copyrighted instrument. Of course, the selection and reproduction of sample items from the scale is acceptable. We hope this causes you no inconvenience.

If you need additional information please do not hesitate to contact our office at (813) 974-6963 or Fax (813) 974-3409, or email mgoldman@usf.edu or crevans@usf.edu. Thank you very much for your interest in the AEQ.

Sincerely,

Christopher Evans

Research Administrative Associate
Alcohol & Substance Use Research Institute
University of South Florida
Psychology Department
4202 E. Fowler Ave. PCD 4118G
Tampa, FL. 33620
813-974-6963 / 813-974-4491
FAX 813-974-3409

crevans@usf.edu

From: Brandon, Karen Obremski
Sent: Wednesday, June 12, 2013
To: Brandon, Karen Obremski
Subject: AEQ adult packet

Teresa, Here is the long (full) version of the AEQ, but we tend to use the short version which I will forward to you next.

Good Luck.

Karen Obremski Brandon, Ph.D.
Department of Psychology, PCD 4118
University of South Florida
4202 E. Fowler Ave.
Tampa, FL 33620

From: Brandon, Karen Obremski]
Sent: Wednesday, June 12, 2013 11:52 AM
To: Horner, Theresa Messina
Subject: FW: AEQ adult short-version

Here is the short (most often-used) version.

Karen Obremski Brandon, Ph.D.
Department of Psychology, PCD 4118
University of South Florida
4202 E. Fowler Ave.
Tampa, FL 33620

From: Horner, Theresa Messina
Sent: Wednesday, June 12, 2013 1:09 PM
To: Brandon, Karen Obremski
Subject: RE: AEQ adult short-version

Many thanks, Dr Brandon!

Enjoy the day!

Theresa

Theresa M. Horner

From: Brandon, Karen Obremski
Sent: Wednesday, June 12, 2013 2:00 PM
To: Horner, Theresa Messina
Subject: RE: AEQ adult short-version
You're welcome.

Karen Obremski Brandon, Ph.D.
Department of Psychology, PCD 4118
University of South Florida
4202 E. Fowler Ave.
Tampa, FL 33620

From: Horner, Theresa Messina
Sent: Wednesday, June 12, 2013 3:11 PM
To: Brandon, Karen Obremski
Subject: RE: AEQ adult short-version

Dr. Brandon,

One more favor... Could you guide me in obtaining documentation with respect to the reliability and validity of the AEQ short form?

Thank you,

Theresa

Theresa M. Horner

From: Evans, Christopher
Sent: Wednesday, June 12, 2013 11:51 AM
To: Brandon, Karen Obremski
Subject: AEQ adult short-version

Scoring information attached.

Christopher Evans

Research Administrative Associate
Alcohol & Substance Use Research Institute
University of South Florida
Psychology Department
4202 E. Fowler Ave. PCD 4118G
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813-974-6963 / 813-974-4491
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crevans@usf.edu

APPENDIX C

Institutional Review Board Permission



Indiana University of Pennsylvania
www.iup.edu

Institutional Review Board for the
Protection of Human Subjects
School of Graduate Studies and Research
Stright Hall, Room 113
210 South Tenth Street
Indiana, Pennsylvania 15705-1048

P 724-357-7730
F 724-357-2715
irb-research@iup.edu
www.iup.edu/irb

August 22, 2013

Theresa Messina Horner
152 Luna Lane
Johnstown, PA 15905

Dear Ms. Horner:

Your proposed research project, "Academic Success of First Year Students: The Effects of Alcohol Expectancy and Academic Self-Efficacy," (Log No. 13-161) has been reviewed by the IRB and is approved as an expedited review for the period of August 9, 2013 to August 9, 2014.

It is also important for you to note that IUP adheres strictly to Federal Policy that requires you to notify the IRB promptly regarding:

1. any additions or changes in procedures you might wish for your study (additions or changes must be approved by the IRB before they are implemented),
2. any events that affect the safety or well-being of subjects, and
3. any modifications of your study or other responses that are necessitated by any events reported in (2).

Should you need to continue your research beyond August 9, 2014 you will need to file additional information for continuing review. Please contact the IRB office at (724) 357-7730 or come to Room 113, Stright Hall for further information.

Although your human subjects review process is complete, the School of Graduate Studies and Research requires submission and approval of a Research Topic Approval Form (RTAF) before you can begin your research. If you have not yet submitted your RTAF, the form can be found at <http://www.iup.edu/page.aspx?id=91683>.

This letter indicates the IRB's approval of your protocol. IRB approval does not supersede or obviate compliance with any other University policies, including, but not limited to, policies regarding program enrollment, topic approval, and conduct of university-affiliated activities.

I wish you success as you pursue this important endeavor.

Sincerely,

A handwritten signature in blue ink that reads 'J. Mills' with a stylized flourish at the end.

John A. Mills, Ph.D., ABPP
Chairperson, Institutional Review Board for the Protection of Human Subjects
Professor of Psychology

JAM:jeb

Cc: Dr. Jennifer Rotigel, Dissertation Advisor
Ms. Brenda Boal, Secretary

APPENDIX D

Survey FERPA Waiver and Consent to Participate

FERPA Waiver

Indiana University of Pennsylvania

I am 18 years of age or older, and hereby authorize IUP to release the following educational records and information including: High School GPA, SAT Score, and first term GPA to Theresa M. Horner, IUP Doctoral Student for the purpose of conducting doctoral research.

I understand further that: 1) I have the right not to consent to the release of my educational records; 2) I have a right to receive a copy of such records upon request; 3) and that this consent shall remain in effect until revoked by me, in writing, and delivered to IUP, but that any such revocation shall not affect disclosures previously made by IUP prior to the receipt of any such written revocation.

THIS INFORMATION IS RELEASED SUBJECT TO THE CONFIDENTIALITY PROVISIONS OF APPROPRIATE STATE AND FEDERAL LAWS AND REGULATION WHICH PROHIBIT ANY FURTHER DISCLOSURE OF THIS INFORMATION WITHOUT THE SPECIFIC WRITTEN CONSENT OF THE PERSON TO WHOM IT PERTAINS, OR AS OTHERWISE PERMITTED BY SUCH REGULATIONS.

- Agree
- Disagree

Indiana University of Pennsylvania

Informed Consent Form

You have been invited to participate in this research study. You are eligible to participate because you are a first-year student enrolled at Indiana University of Pennsylvania. The information outlined below is provided to help you to make an informed decision about whether or not to participate.

This research is being conducted by Theresa M. Horner, a doctoral candidate at Indiana University of Pennsylvania.

The purpose of the study is to find a way to help first-year students who may be at risk for academic failure by identifying different variables that may impact their academic success.

Participation in this study and completion of the survey will require about 30 minutes of your time.

There are no known risks or cost associated with your participation in the study.

The data collected will be used in the researcher's dissertation and may be used in future articles and presentations.

No individual information will be disclosed as results will be reported for the sample population only.

Your responses and any/all data gathered are completely confidential.

Your participation in this study is voluntary. By completing the consent forms and surveys you are voluntarily agreeing to participate. You may contact the researcher at any time with questions or to withdraw from the study.

If you have any questions about the study, please contact:

Research Student:
Theresa M. Horner, Doctoral Candidate
Doctoral Candidate
Administration & Leadership Studies Program Studies
Email: T.M.Horner@iup.edu

Faculty Sponsor:
Dr. Jennifer V. Rotigel,
Professor
Department of Professional Studies
Davis Hall 111
Indiana, PA 15705
Phone: 724-357-2400

This project has been approved by the Indiana University of Pennsylvania, Institutional Review Board for the Protection of Human Subjects (Phone: 724-357-7730).

- Agree
- Disagree