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The Prediction of Wellness Factors on Alcohol Consumption and Behaviors Related to Alcohol among College Students

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By

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The purpose of this dissertation study was to investigate wellness as a predictive variable of alcohol consumption among college students. The Five Factor Wellness Inventory (5F-Wel-A) was used to measure the five second-order factors of wellness (e.g. Essential Self, Creative Self, Physical Self, Social Self, and Coping Self). The Alcohol Use Disorders Identification Test (AUDIT) determined college student alcohol consumption by measuring the frequency of consumption, number of drinks, binge drinking, inability to stop drinking, normal expectations of drinking, morning drinking, guilt, memory loss, injury, and recommendations by others. A multiple regression analysis was used to determine the relationships between these variables. The results indicated that wellness factors can predict alcohol consumption and behaviors related to alcohol. Even though Essential Self second-order factor was the most influential wellness factor, Physical Self, Social Self, and Coping Self also were significant predictors of alcohol consumption and behaviors related to alcohol. The results of the research can be used to support the development of wellness programs, to identify at-risk students, and to implement positive lifestyle interventions.

DEDICATION

First, I could not have completed this dissertation without God. Even though I have not always listened to His instructions for my life, He just "took care" of so many hurdles throughout this dissertation journey.

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CHAPTER I

INTRODUCTION

After World War II, United States colleges have had their moments of stabilization and extraordinary increases in undergraduate enrollment. Other than a slight dip from 1983 to 1985, undergraduate enrollment has steadily increased since the 1970s (National Center for Educational Statistics [NCES], 2011). The NCES reported a substantial increase in undergraduate enrollment of 39% between 1999 and 2009 for 18 to 24 year-olds (NCES, 2011). Mississippi State University (MSU) also enjoyed a steady increase in undergraduate student enrollment. From 2006-2011, MSU enrollment increased 34% for 18 to 24 year-olds (MSU, 2011b). Because colleges such as MSU have to accommodate large populations of traditional-aged students, many are trying to expand and serve this population with both academic and non-academic programs to promote student success. Some of these non-academic programs help students in areas of their life that may be causing distractions or problems physically, legally, or academically. One factor that has been identified as problematic among college students to be a source of distractions and problems is alcohol consumption.

For this study, the focus of concern was college student alcohol consumption and their behaviors associated with alcohol. This study reviewed variables of wellness (i.e. an individual's total sense of health and well-being) in the prediction of alcohol consumption and behaviors among college students. In order to better address issues with

student alcohol consumption, college administrators and college counselors have started to develop non-academic programs or wellness programs using a holistic approach (Myers & Sweeney, 2005a). The holistic approach to wellness involves an assessment of the person as whole rather than assessing physical, psychological, and emotional characteristics separately. Using Adlerian Theory principles, the holistic approach includes the observation of the individual's strengths and areas needing improvement (Sweeney, 1975). These strengths and areas of improvement are used in the development of programs addressing problems with alcohol. These programs include counseling services, prevention plans, alternative activities without alcohol present, and information about positive lifestyle changes. Unfortunately, researchers have not provided much guidance on the development of wellness programs for college campuses or how wellness impacts the alcohol consumption among college students.

The goal of this research study was to expand the scientific knowledge of what elements of student wellness predict alcohol consumption and behaviors associated with alcohol. This scientific knowledge could help counselors and college personnel identify students who have misconceptions about alcohol, who participate in risky behaviors because of drinking alcohol, who acquire academic problems because of alcohol, and who are predisposed to alcohol abuse and dependence. This research also could be helpful in guiding the development of wellness programs, which can assist counselors with offering interventions that promote positive lifestyle changes. The following contains a discussion of college student misperceptions about alcohol, how much college students are drinking, and negative implications in the misuse of college student alcohol consumption.

College Alcohol Consumption

According to multiple sources, an increased interest exists in the problems associated with the alcohol consumption of college students (Hingson, Zha, Wenxing, & Weitzman, 2009; National Institute on Alcohol Abuse and Alcoholism [NIAAA], 2006; Wechsler et al., 2002). One major concern is that most college students perceive alcohol consumption as a natural part of the college experience (NIAAA, 2006). This misrepresented view increases the likelihood that alcohol will be present at social events and increases the pressure of social acceptance being dependent on alcohol consumption. Some college students will participate in alcohol consumption because they think that it is a natural part of the college experience or it will help them be accepted socially. As a result, the combination of available alcohol and peer pressure can increase the risk for alcohol abuse, alcohol dependence, and problem behaviors due to alcohol consumption (NIAAA, 2006).

College students' perception of alcohol only addresses part of the problem. There also is the issue of how much college students are drinking and their subsequent behaviors while under the influence of alcohol. College students report that alcohol is the preferred drug of consumption (Data Spotlight, 2012). Consequently, college students report higher rates of drinking alcohol in comparison to individuals of the same age that are not attending college (Office of Applied Studies, 2003). For example, 83% of students enrolled in college reported consuming a drink containing alcohol; 41% reported binge drinking (Johnston, O'Malley, Bachman, & Schulenberg, 2007); and one in four full-time college students were identified as frequent binge drinkers (Wechsler et al., 2002).

Researchers indicate that alcohol consumption among college students can have many negative consequences physically, legally, and academically. The most notable of the physical effects include mortality, injuries, assault, rape, police arrest, and academic problems (Hingson et al., 2009; Johnston et al., 2007; NIAAA, 2006; Wechsler et al., 2002). From 1998 to 2005, the mortality related to alcohol of college students ages 18 to 24 increased from 1,400 to 1,825 (Hingson et al., 2009). Almost 600,000 college students were unintentionally injured due to drinking; 696,000 college students were hit or assaulted by another drinking college student; and 97,000 college students were sexually assaulted or date raped because of drinking (Hingson et al., 2009). All of these statistics imply the severity of the physical consequences of college students' alcohol consumption. The legal problems related to college student alcohol consumption tend to affect individuals negatively. For example, college students do not perceive the dangers of driving under the influence of alcohol compared to non-college students of the same age (Office of Applied Studies, 2003). Almost half of college students ages 18 to 24 reported driving under the influence of alcohol in the past year (Office of Applied Studies, 2003), which is a 17% increase from the previous year (Hingson et al., 2009). Other legal implications include the 11% of college students who reported vandalizing property while under the influence of alcohol and the 5% of college students who were arrested or disciplined by campus or local police (Wechsler et al., 2002).

Legal implications can overlap into academic repercussions. When college students consume alcohol, several academic problems can occur: missing class, falling behind academically, failing grades, academic probation, lessened level of arousal during class or class activities, and difficulties completing other academic tasks. Even though

many full-time students report that they wait until the weekend to drink, their drinking still negatively affects their academic performance (Johnston et al., 2007). Wechsler and his colleagues found that one in four college students reported difficulties with academics because of alcohol use (Wechsler et al., 2002). These academic difficulties can hurt the success and reputation of college campuses. Parents and school counselors, for example, might discourage students from attending colleges with increasing liquor-law violations.

Because this study used a target sample from MSU, liquor law violations were evaluated to determine the prevalence of alcohol-related problems on campus. In 2008, the campus only reported 25 violations while 120 violations were reported in 2010. In 2008, all 25 liquor law violations received a disciplinary or conduct referral but in 2010 only 21 of the 120 violations received a disciplinary or conduct referral. Of the 2010 liquor law violations, approximately 38% occurred in residence halls, while 62% occurred on public property (MSU, 2011). MSU's liquor law violations have increased dramatically in two years. Further research and the implementation of wellness programs may help decrease college student drinking and risky behaviors associated with alcohol.

Most of the research on college alcohol consumption has provided useful information on the misperceptions about alcohol that could influence student drinking and behaviors, which can have negative physical, legal, and academic repercussions. There is a need for action to further evaluate college student drinking and discover ways of predicting alcohol consumption. If administrators and college counselors can predict alcohol consumption, they will be more likely to help those students with issues concerning alcohol. Using a holistic approach, this study looked at the prediction of alcohol consumption using wellness factors. Alcohol consumption and behaviors related

to alcohol were measured using a brief screening assessment call the Alcohol Use Disorders Identification Test (AUDIT; Saunders, Aasland, Babor, de la Fuente, & Grant, 1993), and wellness was measured using the Five Factory Wellness Inventory (5F-Wel; Myers & Sweeney, 2004). Based on the Adlerian Theory of Individual Psychology, wellness as a prediction variable was chosen because it assesses the individual's strengths and areas of improvement and because individuals are evaluated based on the sum of their parts. This means that individuals' mind, body, and spiritual factors were assessed at the same time rather than only looking at what was physical or psychological. The information from this study can be used to help develop wellness programs with a holistic approach to address alcohol consumption.

Wellness

In this study a holistic approach to wellness was used in order to asses all aspects of a college students' life and relates these aspects to their alcohol consumption. A holistic approach to wellness provides a more comprehensive view of the students' strengths and weaknesses. This holistic approach incorporates "a way of life oriented toward optimal health and well-being in which body, mind, and spirit are integrated by the individual to live life more fully" (Myers, Sweeney, & Witmer, 2000, p. 252). For this study, Myers and Sweeney's (2005b) Indivisible Self (IS-WEL) was used as an evidence-based model of wellness. The IS-WEL was based on the Adlerian Theory of Indivisible Psychology that emphasizes the mind, body, and spirit moving in a purposeful manner to pursue life tasks (Myers & Sweeney, 2005a; Sweeney, 1975). This model incorporated the students' social, personal, and environmental factors by assessing their life tasks. These life tasks of college students are measured by second-order factors on

the 5F-Wel, Adult Version (5F-Wel-A), which is based on the IS-WEL (Myers & Sweeney, 2005b). The second-order factors are the Essential Self, Creative Self, Physical Self, Social Self, and Coping Self (Myers & Sweeney, 2004). A brief description of each of these factors can be found in the definition of key terms at the end of this chapter.

Using the 5F-Wel, college students were assessed using a combination of multiple variables such as mattering, stress, body consciousness, and loving attitudes (Gibson & Myers, 2006; Myers & Bechtel, 2004; Myers & Mobley, 2004; Myers & Sweeney, 2005a; Myers & Sweeney, 2008; Shurts & Myers, 2008; Sinclair & Myers, 2004). This research will be explained in further detail in chapter two. In the available research, researchers have provided valuable information and insight on college student wellness, yet studies do not evaluate wellness' role as it relates to alcohol consumption.

Statement of the Problem

As undergraduate enrollments continue to climb nationwide (NCES, 2011), college administrators are experiencing increased difficulties in serving such massive and diverse population of students. Coinciding with these increasing enrollment trends has been the increase in college student drinking and alcohol-related issues on college campuses (NIAAA, 2006; Data Spotlight, 2012; Office of Applied Studies, 2003; Johnston et al., 2007; Wechsler et al., 2002). In fact, researchers have pointed out that college students who participate in non-academic activities such as drinking alcohol, are more likely to find themselves facing physical, legal, and academic consequences (Hingson et al., 2009; Johnston et al., 2007; NIAAA, 2006; Wechsler et al., 2002). Even though college campuses are academic institutions, college students need non-academic programs to promote student success and degree completion. Some colleges have already

developed wellness programs as part of their non-academic programs to address alcohol consumption. These programs consist of counseling, prevention planning, non-alcoholic activities, and education. Despite the need and popularity of wellness programs, little data is available to guide the development of wellness programs from a holistic approach.

Purpose of the Study

The purpose of this study was to investigate wellness as a predictive variable of alcohol consumption using the IS-WEL model of wellness. More specifically, this study attempted to explain whether alcohol consumption of college students could be determined by the wellness factors of the 5F-Wel-A, an instrument designed to assess the holistic components of IS-WEL model of wellness. Even though some researchers have tried to explain college alcohol consumption in relationship to wellness factors, they have failed to use a holistic approach. Because research has been limited and unclear about the relationship between college alcohol consumption and wellness, further assessment was required to help identify college students who participate in risky behaviors because of drinking and to provide guidance for wellness programs through the recognition of strengths and challenges facing college students and developing program content accordingly. To this end, the following research questions were developed to guide this study:

Research Questions

1. What are the levels of the five second-order factors of wellness (e.g. Essential Self, Social Self, Creative Self, Physical Self, and Coping Self), alcohol consumption, and alcohol-related behaviors for the college student population?

2. To what extent can the variance of alcohol consumption be accounted for by the second-order factors of wellness (e.g. Essential Self, Social Self, Creative Self, Physical Self, and Coping Self)?

In addition, the following research hypotheses were tested:

1. The stepwise regression model will result in all of the five second-order factors of wellness being significant predictors of alcohol consumption and alcohol consumption behaviors at a .05 alpha coefficient level.
2. In terms of individual relationships, a significant relationship at the .05 alpha coefficient level will exists separately between the five second-order variables of wellness and alcohol consumption and alcohol consumption behaviors.

Definition of Key Terms

1. *Alcohol abuse*: Is defined using the DSM-IV-TR (American Psychiatric Association, 2000). The definition is characterized by the following symptoms: A maladaptive pattern of substance use leading to clinically significant impairment or distress, as manifested by one (or more) of the following, occurring within a 12-month period:

- Recurrent alcohol use resulting in a failure to fulfill major role obligations at work, school, or home.
- Recurrent alcohol use in situations in which it is physically hazardous.
- Recurrent alcohol-related legal problems.

- Continued alcohol use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of the alcohol.

2. *Alcohol consumption*: This refers to drinking or the action of ingesting alcohol based on a one-drink scale.
3. *Alcohol consumption behaviors or alcohol-related behaviors*: These are behaviors identified by the AUDIT, which include not being able to stop drinking, having a morning drink, failure to complete responsibilities because of alcohol, experiencing guilt, memory loss, injury to oneself or others, and recommendations to quit or cut down drinking (Saunders, et al., 1993).
4. *Alcohol dependence*: Is defined using the DSM-IV-TR (American Psychiatric Association, 2000). The definition is characterized by the following symptoms: A maladaptive pattern of substance use, leading to clinically significant impairment or distress, as manifested by three or more of the following occurring at any time in the same 12-month period:

- Tolerance defined as a need for markedly increased amounts of the substance to achieve intoxication or desired effect or noticeably diminished effect with continued use of the same amount of the substance.
- Withdrawal characterized by withdrawal syndrome or consuming the same (or a closely related) substance to relieve or avoid withdrawal symptoms.
- Drinking larger amounts of alcohol or drinking alcohol over a longer period than intended.

- Persistent desire or unsuccessful efforts to cut down or control the use of alcohol.
- A great deal of time spent in activities necessary to obtain, use, or recover from the effects of alcohol.
- Important social, occupational, or recreational activities are given up or reduced because of alcohol use.
- Alcohol use is continued despite knowledge of having a persistent or recurrent problem that is likely to have been caused or exacerbated by alcohol.

5. *Alcohol Use Disorders Identification Test (AUDIT)*: The AUDIT is the assessment used to evaluate college students' alcohol consumption (Saunders,et al., 1993). The World Health Organization developed the AUDIT as a brief assessment to screen for excessive drinking patterns and alcohol-related problems (Babor, Higgins-Biddle, Saunders, & Monteriro, 2001).
6. *Binge drinking*: Binge drinking is understood as 5 or more drinks in a row for men and four or more drinks in one setting for women over the course of two weeks (Wechsler, Dowdall, Davenport, & Rimm, 1995; Wechsler & Nelson, 2001). For this study, the AUDIT evaluates binge drinking with question three: frequency consuming 6 or more drinks containing alcohol in one occasion with options of (0) never, (1) less than monthly, (2) monthly, (3) weekly, and (4) daily or almost daily

7. *College students*: For this study, college students are defined as non-random volunteer participants above the age of 18 that are currently pursuing an undergraduate degree from Mississippi State University. In this study, any reference of a student indicates a college student.
8. *Coping Self*: Contains realistic beliefs, stress management, and self-worth components. Students scoring low on the Coping Self factor might have irrational beliefs or expectations about their life. These students could feel pressured to be perfect, finding little time to indulge in activities to de-stress their life (Myers & Sweeney, 2005a).
9. *Creative Self*: Involves the individual's external environment and how he or she relates to others. This factor will address how students perceive their environment, their ability to control their emotions, their cognitive processes, and their humor response (Myers & Sweeney, 2005a).
10. *Essential Self*: Includes an individual's spirituality, identity, and purpose in life, which incorporates the life tasks of essence or spirituality (Myers & Sweeney, 2005a).
11. *Five Factor Wellness Inventory (5F-Wel):* The 5F-Wel is the name of the assessment used to measure wellness by assessing the five second-order factors. For this study, the adult version of the 5F-Wel is used (5F-Wel-A) because the target sample is college students, 18 years of age or above. This assessment can be used as a screening tool in counseling setting to find out the strengths and areas of improvement of wellness (Myers & Sweeney, 2008a).

12. *Holistic approach to wellness*: This approach is expressed as an integration of the mind, body, and spirit in a purposeful manner within the boundaries of an individual's capabilities (Myers et al., 2000).
13. *Non-academic program*: For the purpose of this study, non-academic programs reference wellness programs. Wellness programs are identified as student development programs that help students make positive lifestyle changes through a variation of services, including counseling, prevention planning, non-alcoholic activities, and education.
14. *One drink*: A drink is defined as one 12 ounce beer or wine cooler, one 5 ounce glass of wine, or 1.5 ounces of 80-proof distilled liquor (National Institute of Alcohol Abuse and Alcoholism, 2008).
15. *Physical Self*: Consists of actions towards exercise and nutrition. For example, optimal Physical Self might include those students who eat healthy, exercise regularly, participate in health screenings, and attend regular doctor's visits (Myers & Sweeney, 2005a).
16. *Social Self*: Comprises of friendship and love connections, which are based on a continuum. For a college student, this factor will evaluate the quality of relationships rather than the quantity (Myers & Sweeney, 2005a).
17. *Wellness*: It is defined as "a way of life oriented toward optimal health and well-being in which body, mind, and spirit are integrated by the individual to live life more fully within the human and natural community" (Myers, Sweeney, Witmer, 2000, p. 252). For this study, wellness is measured by

the second-order factors (e.g. Essential Self, Creative Self, Physical Self, Social Self, and Coping Self) on the 5F-Wel-A.

CHAPTER II

REVIEW OF LITERATURE

College can be one of the most insightful and exciting times in an individual's life. Opportunities are available to grow socially, creatively, spiritually, and professionally. Unfortunately, some college students get distracted in their freedom of choices and opportunities, which can cause them to make unhealthy decisions, including decisions about alcohol consumption. These unhealthy decisions about alcohol consumption can result in several repercussions such as mortality, injury, assault, police arrest, financial burden, and academic problems (Hingson et al., 2009; Johnston et al., 2007; NIAAA, 2006; Wechsler et al., 2002). In order to address these issues among college students, many colleges are developing campus-based student wellness programs to encourage positive lifestyle changes, target at-risk students, implement appropriate interventions (e.g. counseling), and ensure student success (Hettler, 1980; Lewis & Myers, 2010; Sinclair & Myers, 2004).

These wellness programs are considered non-academic programs in the student development area on college campuses, and their administrators strive to use a holistic approach to address the strengths and challenges among college students. The holistic approach of wellness incorporates the mind, body, and spirit, providing a more comprehensive view of issues concerning college students. For example, MSU's wellness program includes areas of general health, nutrition, sexual health, alcohol, drugs, tobacco

cessation, and exercise (MSU, 2012). Despite the varied focus of wellness programs offered on college campuses nationwide, this study focused specifically on student alcohol consumption and attempt to provide information on how to develop wellness interventions designed to address this problem with alcohol.

First, this chapter will include a thorough review of wellness that includes the definition, the theoretical orientation, and the available research on wellness. Second, there is a discussion of alcohol consumption that consists of defining alcohol consumption and elaborating on drinking trends among college students. Lastly, a review of research will involve the combined variables of alcohol and wellness.

Wellness Theories and Models

Aristotle, a Greek philosopher in the 5th Century B.C., endorsed the first model of good health, which is described by a state of balance or "nothing in excess." He focused his model on the nature of what he defined as a healthy person and tried to incorporate the factors of a healthy person in a hierarchy of capabilities (Maslow, 1954). Aristotle concluded that the human expression of living well and striving to flourish as a condition of eudaemonia (Myers & Sweeney, 2005a). His identification of eudaemonia was highly influential to Abraham Maslow's concept of self-actualization, which will be discussed later in the literature review.

Descartes (1596-1650), known as the father of modern philosophy, developed the first model of health in which the body and mind work as a machine in the prevention of disease or disability (Larson, 1999). Descartes did not view health in holistic terms but rather separated health problems treatable in divided components. Because Descartes

placed such emphasis on illness, disease, and disability, his perspective resembled the medical model approach that views health as the absence of disease (Larson, 1999).

How health should be defined and how it is separate from wellness has been an ongoing controversy. Some critics feel that only focusing on disease and disability limits the strategies of prevention medicine and do not incorporate the psychological and emotional aspects of the individual (Larson, 1999). Some organizations and researchers desire to develop a new paradigm of medicine, concentrating on a more holistic approach to health (Larson, 1999).

One political organization, the World Health Organization (WHO), provided guidelines for what is considered health and how to promote healthy alternatives globally (WHO, 2007). The WHO defined optimal health as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity" (WHO, 1964, p. 1). WHO's definition started to lean towards a more integral approach of the mind, body, and spirit and was the introduction to the modern wellness movement (Miller, 2005).

Most of the early contributors to the modern wellness movement were physicians, such as Halbert Dunn, John Travis, and Bill Hettler (Miller, 2005). Even though the traditional medical training of physicians in the 1960s did not incorporate working with or researching healthy people, Dunn, Travis, and Hettler became fascinated by the idea of preventing diseases from ever occurring, studying healthy people, and made several efforts to promote the modern wellness movement (Hettler, 1998).

Halbert Dunn

Halbert Dunn, known as the architect of the modern wellness movement, defined wellness as "an integrated method of functioning, which is oriented toward maximizing

the potential of which the individual is capable" (Dunn, 1961, p. 4). Dunn added that an individual's wellness was based on how he or she functions on a continuum of balance and direction; he also conceptualized that high level wellness was an individual functioning at his or her maximum level (Dunn, 1959). He believed that during the course of one's life, wellness was the pursuit of growth to achieve maturity, self-actualization, and purpose of life (Dunn, 1961).

In forming his definition, Dunn was influenced by the social dimensions of wellness and by the access an individual had to basic needs such as food, water, safety, and financial stability (Miller, 2005). His definition incorporated an individualized way of functioning on the basis of a person's capabilities. Abraham Maslow, a psychologist, agreed with Dunn's notion that wellness was about movement taken into consideration an individual's capabilities. Maslow contributed to Dunn's definition by identifying self-actualization as the development of fulfillment of one's own potential (Dunn, 1961; Maslow, 1954), and incorporated Dunn's ideas about the access of basic needs and how the lack of fulfillment of these needs could impact their maximum development or self-actualization (Miller, 2005).

John Travis

After Dunn's death, physician John Travis began the development of a wellness inventory based on Dunn's ideas (Miller, 2005). Travis explained that high-level wellness included sub-factors such as physical awareness, educational development, emotional growth, social involvement, and awareness of one's physical, mental, and spiritual self (Travis & Ryan, 1981, 1988). He also used the concepts of self-actualization and identified wellness as the highest point of health on a continuum with illness being the

lowest point while health provides the neutral point (Myers & Sweeney, 2005a). Travis felt that across someone's lifespan a person moves fluidly between high-level wellness and premature death. He also stressed the complexity of factors associated with wellness (e.g. the sub-factors of wellness) and self-actualization.

Unlike Dunn, Travis was able to market his model of wellness and promote the business of the modern wellness movement. In the early 1970s, John Travis' workshop at the Wellness Resource Center in California influenced a university staff nurse to collaborate with her boss in starting the first wellness program on a college campus at the University of Wisconsin (Miller, 2005). At the time, Bill Hettler happened to be on staff at the University of Wisconsin and was highly influenced by the progress of the modern wellness movement. So much in fact, Bill Hettler eventually became known as the father of wellness (Hettler, 1984, Miller, 2005; Myers & Sweeney, 2005a).

Bill Hettler

Hettler co-founded the National Wellness Institute (NWI) and declared that the NWI defined wellness as "an active process through which people become aware of, and make choices toward a more successful existence" (Hettler, 1984, p. 14). He also developed a model of wellness that included dimensions of social, intellectual, spiritual, physical, emotional, and occupational components presented in a hexagon diagram (Hettler, 1984). He used environmental resources available to the human species as the basis of the dimensions he used in his model of wellness. Because of the environmental emphasis, Hettler's model of wellness has been highly publicized and used in community and social settings. It has supported the development of wellness programs for the YMCA (Myers & Sweeney, 2005a).

Overall, Dunn, Travis, and Hettler identified wellness as an individualized, active journey and as an active process of development rather than a static destination (Myers & Sweeney, 2005a). These early contributors referred to wellness as a personalized experience that an individual could choose to participate in or withdraw from. The person's response depended on their freedom, basic resources, capabilities, and social environment.

Don Ardell

Another contributor to the conceptualization of wellness was Don Ardell, an activist of the movement. Unlike Dunn, Travis, and Hettler, Ardell was not a physician but rather a health planner (Miller, 2005). He added that by definition wellness required action, commitment, and self-responsibility. He reinforced the commitment and self-responsibility aspects to maintain that wellness as an optimum goal and a conscious decision (Myers & Sweeney, 2005a).

Don Ardell (1982a; 1982b; 2010) developed four models of wellness emphasizing things such as self-responsibility, nutrition, physical fitness, relationships, meaning/purpose, and emotional intelligence. In 2010 Ardell developed his fourth wellness model to provide a visual representation of what he believed were the important factors to conceptualize wellness. The fourth model was given the acronym REAL that stands for reason, exuberance, athleticism, and liberty.

Even though many contributors to the wellness movement had similarities among their definitions and conceptualizations of wellness, they began to discriminate between wellness, health, and holistic living and add sub-factors of wellness. The definitions comprehensively termed wellness as an optimal approach that is conducted in a

purposeful manner in order to maintain a healthy lifestyle or a high level of well-being. Wellness included physical functioning, mental capacity, emotional development, social environment, and spirituality. The authors of the previous models gave the historical foundation of wellness as a construct, and some wellness models have been tailored for the mental health profession. More specifically, one of the primary models of wellness for counseling purposes was based on Alfred Adler's Individual Psychology, which was the theoretical orientation for this study.

Adlerian Theory of Individual Psychology

Alfred Adler proposed the theory that an individual must be understood within a dimension of his or her individuality and their memberships of different groups (Ansbacher & Ansbacher, 1956). These group memberships could range on a continuum from face-to-face contacts to general existence of mankind. An individual's social development was the most important factor of Adler's Theory of Individual Psychology.

The three constructs of Adler's theory can best be understood by examining his definition of socio-teleo-analytic. Adler used these constructs to explain the individual and his or her relationship to the environment. Adler believed the socio- or social construct involved a natural inclination to move toward others, a development to seek connection, and a desire to fulfill their social interest (Sweeney, 1975; Myers & Sweeney, 2005a). The social construct is of importance for this study because the following literature using college student participants refers to them as social beings. They tend to rank their relationships and social interactions highest in comparison to all other wellness factors. This construct was used in the evaluation of college students' wellness factors and was used in the implications for counselors and college administrators.

The teleo- or teleological construct focused on the goal-striving behaviors of individuals. Because the individual or observer does not always notice these goals or intentions, Ansbacher explained that the teleological construct involved "mysterious creative power of life" (1969, p.1). This power was related to an individual's willingness and determination to achieve success in their set goals. For this study, the teleological construct was evaluated by the Essential Self second-order factor of wellness. Every participant in this study was attending college at the time of data collection, and therefore, it can be assumed they are actively goal-striving towards the completion of a class, a specific grade, a degree, or a continual education credit. Even though these participants may not feel or realize they are striving to achieve a goal, they were willingly working towards a set goal.

The third construct, analytic, was based on Adler's notion that many behaviors are based on unconscious thought and are not understood (Sweeney, 1975; Myers & Sweeney, 2005a). This construct tied in the previous information about how college students may not understand all of their behaviors in goal-striving. Adler believed that individuals would continue their unexamined behaviors until circumstances, crisis, or other negative reactions occurred (Sweeney, 1975). Basically, individuals would think and behave consistently the same way until something bad happened to encourage them to examine their lifestyle. An example of this could be when a college student does poorly in psychology classes but wants to be a psychologist. Their poor grades could motivate them to reexamine their major and career path. If the student had never faced the difficulties with successfully completing the psychology classes, they may have mindlessly continued in getting their degree in psychology without evaluating if that was

the best major for them. Adler's constructs focused on the interaction between the individual working within their society.

Adler also emphasized that an individual's lifestyle was a combination of thoughts, feelings, and behaviors dictated by antecedents rather than heredity or environment. This combination resulted in a holistic approach to describe individuals not in parts but in the sum of all their parts. Adler emphasized a fourth construct known has holism (Myers & Sweeney, 2005a). This construct noted the reciprocal relationship between the mind, body, and spirit. In other words, the mind, body, and spirit are known to be equally important, and each part affects or interacts with the other parts. Adler said that the interaction makes up the holism of an individual (Adler, 1954). Therefore, the whole person has the ability to make positive lifestyle changes within their personal environment.

Adler purposefully added the term "individual" to the theory in confirming the idea that each sum or each person was unique (Sweeney, 1975). He considered an individual's lifestyle to be a unique expression used in pursuing life tasks. Therefore, Adler's theory incorporated the idea of mind, body, and spirit moving in a purposeful manner (Sweeney, 1975; Myers & Sweeney, 2005a). For this study, Adler's concept was used in the evaluation of college students' wellness factors. Instead of assessing only physical factors or only psychological factors, students' mind, body, and spiritual factors were assessed as a whole in order to evaluate their prediction power of college student alcohol consumption and behaviors related to alcohol. Because of Adler's focus on the interaction between the mind, body, and spirit, Adler's Theory of Individual Psychology was used as the theoretical orientation for this study. His theory also was implemented in

the development of the wheel of wellness (Sweeney, 1975; Myers & Sweeney, 2005a), a modern examination of individual wellness.

The Wheel of Wellness

Sweeney and Witmer (1991) developed the first model of wellness for counseling, the wheel of wellness, by deviating from merely focusing on physical health and incorporating a more holistic approach. They founded their theoretical wheel of wellness on Adler's principles of Individual Psychology, which focuses on a holistic relationship "between the individual and society" by reinforcing harmony being driven by social interest (Ansbacher & Ansbacher, 1979). Another influence on the development of the wheel of wellness was Maslow's self-actualization or the "desire to become more and more what one is, to become everything that one is capable of becoming" (Maslow, 1954, p. 92). Because both Adler and Maslow studied the characteristics of healthy people, the developers of the wheel of wellness based the incorporation of its components on the characteristics of healthy people derived from a review of multidisciplinary literature (Witmer & Sweeney, 1992).

The original wheel of wellness (Figure 2.1) had spirituality as its center with rims of life tasks described as work, friendship, and love. Spirituality was considered a life task of creative energy that involved an individual's life purpose, their values, and level of optimism (Sweeney & Witmer, 1991; Witmer & Sweeney, 1992). Adler referred to spirituality as a concept of God having "a concrete goal of perfection [that] corresponds best to man's dark longing to reach perfection" (Ansbacher & Ansbacher, 1964, p. 33). The wheel of wellness was able to capture this movement of active process by being a wheel that moves and corresponds through self-regulation.

The second life task, self-regulation, demonstrates how an individual can control the balance and stability of their personal environment (Sweeney & Witmer, 1991; Myers & Sweeney, 2005a). Self-regulation directed seven sub-tasks or spokes of the wheel: sense of worth, sense of control, realistic beliefs, spontaneous/emotional response, intellectual stimulation/problem solving/creativity, sense of humor, and physical fitness/nutrition (Sweeney & Witmer, 1991; Witmer & Sweeney, 1992).

The outer band of the rim was comprised of societal institutions or seven life forces that influence or impact the life tasks (e.g. work, friendship, and love). The life forces included family, religion, education, community, media, government, and business/industry (Sweeney & Witmer, 1991; Witmer & Sweeney, 1992). The developers of the wheel of wellness created these life forces to "represent the major societal institutions which impinge on the health and well-being of each individual" (Sweeney & Witmer, 1991, p. 537). They also were basing their concept on Adler's philosophy of an individual's social interest and their life attitudes. Adler described social interest as a feeling associated with "the whole" involving the goal of developing an external world (Ansbacher & Ansbacher, 1979), while defining "life-attitudes" as how an individual relates to the outside world by reacting to their work, love, and society (Adler, 1929). He went on to state that this social interest or social feeling was a product of "everything we find valuable in life, what exists and what will remain the same" (Ansbacher & Ansbacher, 1979, p. 35).

The social interest or social institutions of life forces were not without the global events that take place around the world and their pressure on an individual's wellness. Global events were incorporated to address the environmental impact on the individual's

quality of life. Some examples of global events were the influences of the economy, unemployment rates, gas prices, war or the absence of war, poverty, overpopulation, and pollution (Witmer & Sweeney, 1992). These events addressed the environment of living and how it can alter or change positive life-style alternatives towards wellness.

The wheel concept focused on the level of balance of each component or how much energy the individual is expending for each one. It examined the relationship or interaction between each one component, which reflected Adler's emphasis on the reciprocal actions among the mind, body, and spirit. The wheel of wellness components were designed to consider development and capabilities of the individual, which were observed through a developmental continuum (Sweeney & Witmer, 1991; Witmer & Sweeney, 1992).

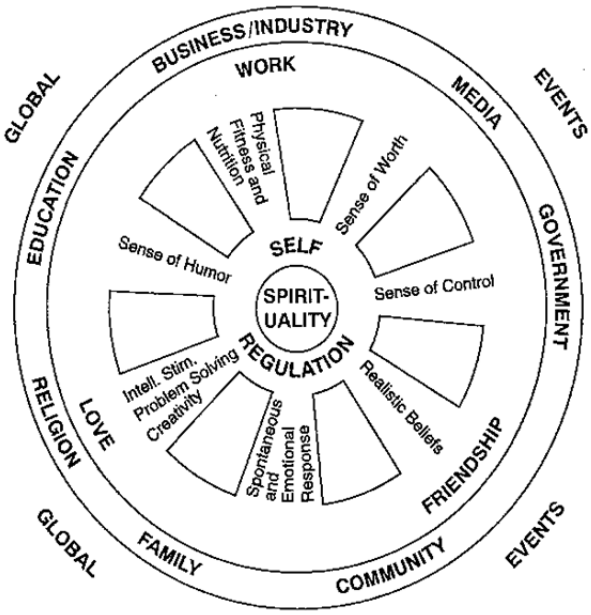

Figure 2.1 The Original Wheel of Wellness

From The Original Wheel of Wellness by J. M. Witmer, T. J. Sweeney, and J. E. Myers. Copyright 1998. Reprinted with permission of the authors.

In 1998 Witmer, Sweeney, and Myers revised the wheel of wellness (Figure 2.2) (Myers, et al., 2000). The revision came from the researchers' further study of healthy people in the areas of medical, social, and psychological sciences. They found that some components of healthy people were lacking from the original wheel of wellness, while others were not credited with the appropriate level of emphasis. The revised wheel maintained spirituality as the center of the wheel but added leisure to the work life tasks to incorporate their findings that a relationship exists between the factors of wellness (e.g. social support, life satisfaction, and stress) and leisure activities (Coleman & Iso-Ahola, 1993; Melamed, Meir, & Samson, 1995).

The spokes were also modified to include 12 subtasks of self-direction. The self-direction spokes included sense of worth, sense of control, realistic beliefs, emotional awareness/coping, problem solving/creativity, sense of humor, nutrition, exercise, self-care, stress management, gender identity, and cultural identity (Myers, et al., 2000).

Based on the action of the self-direction 12 sub-tasks, the outcome of life tasks (i.e. work/leisure, friendship, and love) identified the level of balance for each component (e.g. sense of worth, sense of control, etc.). The revised wheel of wellness concept suggested an interdependence between each component in order to maintain or develop wellness. It also included additional sub-tasks to represent the researchers' findings among the medical, social, and psychological sciences (Myers, et al., 2000).

Both wheel of wellness models indicated similar life forces or ecological contexts on the external wall of the wheels' rim that included family, religion, education, business/industry, media, government, and community. These life forces could be impacted by global events (i.e. natural disasters or human nature), and therefore have

causal impact on life tasks (Myers & Sweeney, 2005a; Myers & Sweeney, 2008). As mentioned in the description of the original wheel of wellness, researchers developed the life forces to identify social institutions and global events that impact wellness.

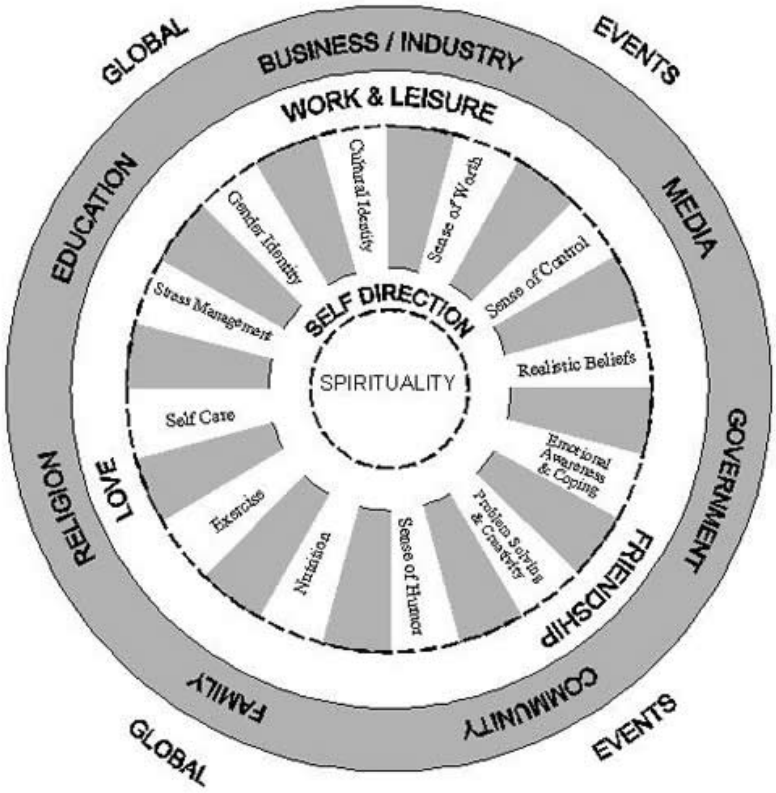

Figure 2.2 The Wheel of Wellness

The Wheel of Wellness by J. M. Witmer, T. J. Sweeney, and J. E. Myers. Copyright 1998. Reprinted with permission of the authors.

Wellness Evaluation of Lifestyle (WEL)

Myers, Sweeney, and Witmer used the hypothesized components of the wheel of wellness to develop the Wellness Evaluation of Lifestyle (WEL; Myers & Sweeney, 2008). The most recent version, the WEL-S, is comprised of 131 items measured on a 5-

point Likert scale with scores ranging from strongly agree to strongly disagree. The WEL assessment has been used in several research studies evaluating wellness in a variety of populations such as managers (Hutchinson, 1996), Korean adolescents and young adults (Chang 1998), adult gay males (Dew, 2000), employees of ages 21 to 61 (Connolly, 2000), geriatric population (Dice, 2002), Native American high school students (Garrett, 1996), and medical school residents and their spouses (Powers, Myers, Tingle, & Powers, 2003). The WEL has also been used to evaluate college students' wellness in combination of variables such as perceived social support and ability to empathize (Granello, 1995), subjective well-being (Hermon & Hazler, 1999), family-of-origin structure and family conflict resolution tactics (Steigerwald, 2000), and career development (Vecchoine, 1999). This research created the foundation for observing wellness holistically and the advancement of wellness empirical research.

Indivisible Self

After over seven years, Hattie, Myers, and Sweeney (2004) concluded that the statistical analysis using the WEL did not support the Wheel of Wellness model. Myers and Sweeney developed the Indivisible Self (IS-WEL; Figure 2.3) as an evidence-based model of wellness, which more accurately represented the relationships they were observing (Myers & Sweeney, 2005b).

The Wheel of Wellness' 17 hypothesized components were validated in the Indivisible Self model as 17 independent and discrete wellness factors. However, the relationships among the factors were very different from what was originally proposed. The 17 components were defined as Cultural Identity, Gender Identity, Self-Care, Spirituality, Love, Friendship, Intellectual Stimulation, Control, Emotions, Humor, Work,

Exercise, Nutrition, Leisure, Stress Management, Self-Worth, and Realistic Beliefs. Five grouping or second order factors were identified and named Essential Self, Social Self, Creative Self, Physical Self, and Coping Self, as well as a higher order factor of Total Wellness being identified (Myers & Sweeney, 2005a). The center of the model is surrounded by the five second-order factors (Myers & Sweeney, 2005a). As in the wheel of wellness, the IS-WEL model proposed ecological contexts, described as systems of local, instructional, global, and chronometrical (Myers & Sweeney, 2005a; Myers & Sweeney, 2008).

Higher Order Wellness Factor

The higher order wellness or Total Wellness factor was derived from Adler's theory of individual psychology, which theorizes an individual is the sum of their parts (Myers & Sweeney, 2005a; Myers & Sweeney, 2008). It was evaluated by loading all assessment items into the structural model. The results indicated that all assessment items highly correlated with the higher order wellness factor, thus confirming Adler's holistic approach to observing wellness.

Second-Order Factors

The Creative Self included five third-order factors: Intellectual Stimulation, Emotions, Control, Positive Humor, and Work. These factors integrated an individual's behaviors, attitudes, and personality in relationship to others and environment (Myers, 2004; Myers & Sweeney, 2005a; Myers & Sweeney, 2008).

The Coping Self measured how one deals or holds oneself accountable with interpersonal relationships, environment, society, and other factors of life. The third-order

factors of the Coping Self were Leisure, Stress Management, Self-Worth, and Realistic Beliefs (Myers, 2004; Myers & Sweeney, 2005a; Myers & Sweeney, 2008).

The Social Self is composed of third-order factors of Friendship and Love that explains social connections or relationships involving family, friends, and community. Because the Social Self lies on a continuum from social association to intimacy, the Social Self included measures of trust, healthy communication, conflict resolution styles, and self-disclosure (Myers, 2004; Myers & Sweeney, 2005a; Myers & Sweeney, 2008).

Myers and Sweeney described the Essential Self as "our essential meaning-making processes in relation to life, self, and others" (2005a, p. 35; 2008, p. 485). The Essential Self had four third-order factors of Spirituality, Self-Care, Gender Identity, and Cultural Identity in order to focus on an individual's purpose of life (Myers, 2004; Myers & Sweeney, 2005a; Myers & Sweeney, 2008).

The Physical Self included third-order factors of Exercise and Nutrition. It incorporated actions towards health care, mental health, and genetic health implications (Myers, 2004; Myers & Sweeney, 2005a; Myers & Sweeney, 2008).

Contextual Variables

The IS-WEL model of wellness included four contextual variables: local, institutional, global, and chronometrical. These contextual variables were mentioned in the wheel of wellness model as life forces and global events (Sweeney & Witmer 1991; Witmer & Sweeney, 1992). The basis for the incorporation came from Adler's influence of social interest, which elaborates on the ideas of how present community, society, and environment affect an individual (Ansbacher & Ansbacher, 1964).

Another contributor of the contextual variables was Bronfenbrenner and his development of the ecological systems theory (Myers & Sweeney, 2005a). Bronfenbrenner's theory was comprised of four levels: microsystem, mesosystem, exosystem, and macrosystem (Bronfenbrenner, 1977). The microsystems level incorporated the direct influence of settings on an individual's development (Bronfenbrenner, 1977), which can be identified as the local context of the Indivisible Self model of wellness. The local context identified settings such as family, neighborhoods, and community, which are the settings an individual has the most direct contact (Myers & Sweeney, 2005a). Bronfenbrenner's mesosystem referred to the "interrelations among major settings" that could affect the individual's development, and the exosystem related to the indirect influences on the direct contact settings (Bronfenbrenner, 1977). The institutional contexts such as education, religion, government, business/industry, and media reflect the mesosystem and exosystem (Myers & Sweeney, 2005a). Bronfenbrenner stated that the macrosystem depicted those institutions that motivated or influenced the indirect contact settings (Bronfenbrenner, 1977). In the IS-WEL model of wellness, the global contexts of politics, culture, global events, and environment represents the macrosystem (Myers & Sweeney, 2005a).

Bronfenbrenner's ecological systems theory does not refer to the chronometrical context, but the context was consistent with the Adlerian concept of the individual using their mind, body, and spirit in a purposeful manner (Myers & Sweeney, 2005a; Sweeney, 1975). The chronometrical context conceptualizes the effects of change over time and how that change can increase or decrease wellness (Myers & Sweeney, 2005a). Through

this context, it is possible to observe the influence of an individual's changes over their lifespan (Myers & Sweeney, 2005a).

Even though the wheel of wellness and the Indivisible Self models can both provide understanding and knowledge of wellness using a holistic approach, the Indivisible Self model is based on empirical research and validation. It evaluated interactions of components, contextual influences, and responses of contexts' impact. After ten years of research and the development of the Indivisible Self model, Myers and Sweeney developed the 5F-Wel to measure the model's wellness factors (Myers & Sweeney, 2005a; Myers & Sweeney, 2008).

Figure 2.3 The Invisible Self: An Evidence-Based Model of Wellness

From The Indivisible Self: An Evidence-Based Model of Wellness by T. J. Sweeney and J. E. Myers. Copyright 2003. Reprinted with permission of the authors.

Wellness Research

Using the IS-WEL model, several research studies have evaluated wellness in a variety of populations and in combination with multiple variables. Researchers have analyzed minority populations on wellness paired with variables such as acculturation (Chang, 1998; Mitchell, 2001), ethnic identity (Chang, 1998; Spurgeon, 2002), life satisfaction, subjective age (Degges-White, 2003), and self-esteem (Spurgeon, 2002). Minority populations have included African American junior and senior undergraduate males (Spurgeon, 2002), heterosexual, homosexual and bisexual midlife females aged 35 to 65 (Degges-White & Myers, 2006), and African American undergraduate females (Booth, 2005).

General Population

Wellness has been evaluated in occupational settings in relationship to mattering and job satisfaction. Among 82 employees, ages of 21 to 62 years of age from a variety of occupations, wellness and mattering were significant predictors in job satisfaction. The researchers concluded that as the individual's level of wellness increases so does their job satisfaction (Connolly & Myers, 2003). This research offered some indication that wellness can contribute to an individual's productivity and the importance of implementing wellness programs to ensure occupational stability and growth.

In another study with a broad age range of participants, Degges-White, Myers, Adelman, and Pastoor (2003) conducted an exploratory analysis of 60 patients between the ages of 18 to 82 seeking treatment for headaches. In comparison to an adult norm group, headache patients scored notably lower levels of sense of Control, Nutrition, Exercise, and Leisure third-order factors as well as significantly lower levels of Total

Wellness. For headache patients, a negative relationship existed between stress and Total Wellness. The researchers concluded that headache patients might benefit from wellness programs to decrease their perceived stress and headaches (Degges-White et al., 2003). The results indicated a connection of how wellness interacts with stress and physical ailments. Individuals could benefit from wellness programs with a holistic approach in dealing with the interactions of the mind, body, and spirit.

Counseling Profession

Because the 5F-Wel was founded from a counseling perspective of wellness, many researchers have studied populations within the counseling professions such as school counselors, counseling educators, and counselors-in-training. In research of school counselors, Woods (2009) measured self-efficacy in relationship between personal activities and wellness. The results indicated that the school counselor's level of wellness was affected by self-efficacy and personal activities (e.g. non counseling activities), and more specifically, the school counselor's years of experience had a predictive strength on their level of wellness (Woods, 2009). Woods' research has revealed the importance in an individual's belief to accomplish tasks, self-care or participating in non-work activities, and acknowledging the benefits of experience. All of these factors have been incorporated in the holistic approach of wellness in the Self-worth, Self-Care, and Realistic Beliefs third-order factors of wellness (Myers & Sweeney, 2005a).

In a study of counselor educators, wellness was evaluated in relationship to demographics (i.e. gender, marital status, and number of children), academic ranks, and perceived stress (Wester, Trepal, & Myers, 2009). Counseling educators scored higher on the second order factors of wellness in comparison to the adult norm sample. In one

analysis, the researchers found that the perception of stress and number of children had a negative correlation with Total Wellness, and participants with no children scored higher on the Essential Self (Wester et al., 2009). The researchers' findings pointed out that stress, occupational transitions (e.g. promotion and tenure), and life changes (e.g., having children) can have negative implications on an individual's level of wellness. This research can guide the development of wellness programs in addressing the positive and negative adjustments that come with the developmental life cycle.

Studies of wellness have evaluated counselors-in-training using the 5F-Wel. At three different points in a counseling program, Roach (2005) surveyed the wellness of 204 master's level students between the ages of 21 and 58. When the second-order factors of wellness were assessed, students scored highest on the Social Self and scored lowest on the Coping Self. Even though Roach's research did not find any significant changes of wellness across the points of collecting data, she did find that students who participated in a wellness course during their counselor education program had statistically significant higher levels of wellness than those participants not offered a wellness course. The researcher's findings also determined that students reported the importance of wellness but did not integrate wellness' importance into their daily lives (Roach, 2005). This was an indication that education of wellness is not enough to implement change. Therefore, wellness programs need to call for active participation in tasks that encourage and motivate positive lifestyle changes.

Smith (2006) measured wellness in relationship to psychological disturbance and social desirability among 204 master's level counseling students ages 21 to 51 years old. Her results indicated a negative relationship between wellness and psychological

disturbance as well as a negative relationship between psychological disturbance and social desirability. Even though Smith's study reported that counseling students scored higher on wellness levels than the norm population, she found a portion of master's level counseling students that met the criteria for having a clinically significant disturbance primarily in two subscales: interpersonal relationships and social roles. Smith tried to explain the clinical significant disturbances of the counseling students by stating that graduate level counseling students might be more sensitive to psychological disturbances and more willing to discuss difficulties as they arise. Although masters' level graduate students might be more aware and open to discuss personal issues, the researcher suggested that the 5F-Wel could be used in the admissions process, course development, and evaluation of programs (Smith, 2006). This study was able to provide an understanding of how some students may still have high wellness scores in addition to psychological difficulties.

Using the 5F-Wel, Myers, Mobley, and Booth (2003) conducted a comparison study among a doctoral counseling student group, an entry-level counseling student group, and a general non-counseling student group, assessing the level of wellness among the college students. Overall, the counseling students scored higher on the wellness levels than the non-counseling students (Myers et al., 2003). This study was able to confirm prior research that counseling professionals and counselors-in-training score higher on levels of wellness than the norm population. Although this is an indication that counseling programs are possibly incorporating wellness in their courses, it brings awareness that there is a need for wellness programs focusing on the normal population of college students.

College Students

Sinclair and Myers (2004) conducted research on 190 traditional-aged, heterosexual, European American undergraduate females. The study used the Objectified Body Consciousness scale (OBC) and the 5F-Wel to focus on the relationship between the body experience and wellness. The researchers found significant negative correlations between the Creative Self and body shame, between the Coping Self and both body shame and body surveillance, and Total Wellness and body shame. A significant positive relationship between appearance control beliefs and wellness was present, which could indicate that feeling competent about controlling one's appearance can increase wellness. Participants scored the highest on the Social Self and the lowest on the Coping Self, which is a confirmation of findings from previous research on undergraduate students. This study has emphasized the need for focus groups and wellness programs to discuss the realties of body image and coping strategies in order to explore alternative ways of conducting one's lifestyle (Sinclair & Myers, 2004).

Shurts and Myers (2008) conducted research on 168 adult college age students using the Rubin Liking Scale (RLS), the Loving Attitudes Scale (LAS), and the 5F-Wel. College students reported positive love styles more than negative ones and indicated a positive correlation between love styles (e.g. liking) and wellness. Because the liking and love styles only accounted for 15.8% of the Total Wellness variance, the authors suggested that it could have been due to the Total Wellness construct being too broad for predictive variables. In confirmation with previous literature, the Social Self second-order factor resulted in the highest scores (Shurts & Myers, 2008). The researchers indicated that their information could offer insight on the relationships of undergraduate students

and the priority relationships maintain for these students. Additionally, this study confirmed how college students emphasize the importance of social interactions and how wellness programs can be used as a medium to reach college students.

Myers and Mobley (2004) researched existing data over a five-year period evaluating the wellness levels using the 5F-Wel. Participants included 1,567 undergraduate college students and 702 non-college students. Both groups had higher scores on Social Self second-order factor, lowest scores on Coping Self second-order factor, and most variability on Physical Self second-order factor. Undergraduate college students had higher scores on third-order factors of Leisure and Exercise, and more specifically, traditional-aged students (24 years and under) scored highest these factors. There were lower scores for the third-order factor of Realistic Belief among traditional-aged (24 years and under) and non-traditional (25 years and older) undergraduate students. The researchers believed that lower scores on Realistic Beliefs could be an implication of irrational beliefs associated with perfectionist behaviors. Based on the second-order factors of wellness, the results indicated that undergraduate college students were very social individuals with difficulties in coping.

The literature provided a wellness profile for undergraduate students. This population reported social wellness as the highest-rated variable (Myers & Mobley, 2004; Sinclair & Myers, 2004; Shurts & Myers, 2008). Studies found that undergraduate students can be described through physical (e.g., sleep, exercise, leisure activities) and social (e.g., friendship, peer networks) terms (Myers & Sweeney, 2005a). Generally, college students stated positive feelings about their ability to maintain intimate friendships that are not romantic (Shurts, & Myers, 2008). The Spirituality third-order

factor and Coping Self second-order factors (i.e., Realistic Beliefs and Stress Management) were of the lowest ranked wellness components. It seemed that Spirituality was only positively correlated when it served as a utility to increase the Social Self second-order factors (i.e., Friendship and Love; Myers & Sweeney, 2005a; Shurts & Myers, 2008). Low scores of the Realistic Beliefs within the Coping Self have been consistent across studies (Myers & Mobley, 2004; Sinclair & Myers, 2004). This consistency of low scores on the Coping Self has indicated that college students have perfectionist tendencies, difficulties accepting rejection, and potential barriers of accepting oneself (Myers & Sweeney, 2005a; Myers & Sweeney, 2008).

The wellness research using the 5F-Wel has provided information on a variety of populations and a combination of relationships between variables. Based on the 5F-Wel, the research was used in the development of a college student profile. Even with the available research using the IS-WEL model and the 5F-Wel instrument, much of the research examining wellness among college students does not provide a comprehensive view of the wellness variables. This research study used the five second-order factors of wellness to provide a comprehensive view of wellness among college students. A gap in the research also exists as to what wellness factors can best predict alcohol consumption. Therefore, this research study focused on wellness variables that predict alcohol consumption of college students. Based on the IS-WEL, the second-order factors will permit the use of the smallest number of independent variables to explain alcohol consumption (Myers, Luecht, & Sweeney, 2004).

Alcohol Consumption Defined

Studying alcohol consumption among college students has become a priority of several organizations and academic institutions (Hingson et al., 2009; NIAAA, 2006; Wechsler et al., 2002). Many college students and the general public have misperceptions about alcohol, consumption of alcohol, social acceptance in relationship to alcohol, and consequences of alcohol (NIAAA, 2006). Several organizations and researchers have attempted to remedy any misconceptions by educating and increasing awareness about alcohol. One major misconception has been how to define what constitutes one alcoholic drink. In the past, many individuals have believed that one drink of alcohol is sold in one container, but this has not been the case. For example, malt liquor is sold in 12 ounce, 16 ounce, 22 ounce, and 40-ounce containers and 80-proof distilled liquor is sold in 8 ounce, 16 ounce, 25 ounce, and 59 ounce containers. Therefore, researchers have found it difficult to determine how many drinks individuals are consuming in one setting. In 1995 the U.S. Department of Health and Human Services (DHHS) and the U.S. Department of Agriculture (USDA) published the definition of one standard drink as having 0.5 ounces or 12 grams of alcohol per beverage (U. S. Department of Agriculture & U. S. Department of Health and Human Services, 1995). The NIAAA defined one drink as one 12 ounce beer or wine cooler, 8.5 ounces of malt liquor, one 5 ounce glass of wine, or 1.5 ounces of 80-proof distilled liquor (2008).

Even though individuals have a better description of what one drink of alcohol consists of, many have continued to debate the description of binge drinking and the influential gender variables of binge drinking. Binge drinking was originally identified as drinking a large amount of alcohol that increased risks of serious health and mental

problems, increased dangers to the others, and increased alcohol-related consequences (Wechsler, Davenpot, Dowdall, Moeykens, & Castillo, 1994; Wechsler & Nelson, 2001). This definition was too broad and seemed to leave out possible gender differences in binge drinking and the influence of metabolism and body mass (Wechsler et al., 1994). Hence, a binge drinking definition was provided to identify how many drinks were involved in a binge drinking episode for males and females separately. It was defined as five or more drinks in a row for men and four or more drinks in a row for women in the course of two weeks. Research confirmed the gender-specific binge drinking measurements by evidence that negative consequences (e.g., missing a class) occurred in women at significant lower levels of drinking alcohol than men (Wechsler et al., 1994; Wechsler et al., 1995; Wechsler & Nelson, 2001).

In 2004 the NIAAA National Advisory Council approved binge drinking as "pattern of drinking alcohol that brings blood alcohol concentration (BAC) to 0.08 gram percent or above." Gender differences of binge drinking were the consumption five or more drinks for males and four or more drinks for females over the span of approximately two hours (NIAAA, 2004). Even though some research may vary, researchers have adopted the 2004 definition in recent studies.

Alcohol Consumption Trends

Alcohol consumption on college campuses has been a concern nationally and locally for quite a long time. In the early 1990's, Wechsler and his colleagues found that 44% of college students reported binge drinking (i.e., five or more drinks in one setting) and that 19% of the reported binge drinkers were classified as frequent binge drinkers (Wechsler et al., 1994). Among those identified as frequent binge drinkers (e.g. binging

three or more times in the past two weeks), researchers found that 47% experienced five or more negative consequences related to drinking such as injuries, unplanned sex, legal problems, and violence (Wechsler et al., 1994).

The previous study mentioned was replicated in 1998 and resulted in a slight decrease in the percentage of college students reporting binge drinking, a statistically significant increase in the alcohol abstainers, and a statistically significant increase in frequent binge drinkers (Wechsler & Dowdall, 1998). In this study, binge drinkers and frequent binge drinkers (e.g. binging three or more times in the past two weeks) were consistently more susceptible to alcohol-related problems than students who did not binge drink (Wechsler & Dowdall, 1998). In both of the previous studies mentioned, an estimated two out of five college students were described as a binge drinker (Weschsler et al., 1994; Weschsler & Dowdall, 1998). Even though binge drinking is a serious problem in relationship to alcohol abuse and dependence, it has not been the only serious issue concerning the alcohol consumption of college students. Several negative consequences have been observed such as the mortality rates, unintentional injuries, assault, date rape, sexual abuse, police arrest, and academic problems.

A study of mortality rates using the National Highway Traffic Safety Administration, the Center for Disease Control, and several survey databanks concluded the estimated number of college students' alcohol-related deaths, injuries, and other health problems. In 1998, 1,400 college students between the ages of 18 to 24 years died from unintentional alcohol-related injuries, 500,000 college students from four-year colleges were unintentionally hurt or injured, and 600,000 college students from four-year colleges were hit or assaulted by another student who had been drinking alcohol

(Hingson, Heeren, Zakocs, Kipstein, & Wechsler, 2002). In 2001 researchers found a 6% increase in deaths of college students between the ages of 18 to 24 years from unintentional alcohol-related injuries and a 6% increase of college students reporting driving while under the influence of alcohol (Hingson, Heeren, Winter, & Wechsler, 2005).

Estimates of mortality and negative consequences due to alcohol consumption have continued to increase. In 2005 Hingson and his colleagues continued their research with the National Highway Traffic Safety Administration, the Center for Disease Control, and several survey databanks. The results indicated 1,825 college students died from alcohol-related car crashes or unintentional injuries, 599,000 college students were unintentionally hurt or injured because of drinking alcohol, 696,000 college students were hit or assaulted by another student under the influence of alcohol, and 97,000 college students were sexually assaulted or date raped because of alcohol (Hingson et al., 2009).

Besides death, injuries, assault, and drunk driving, other negative consequences of alcohol consumption have heavy implications for college students. When college students were asked to report on vandalism and legal implications, 11% of college students reported activities of vandalism, and 5% of college students reported getting in trouble with local or campus police (Wechsler et al., 2002).

From a survey of 119 four-year colleges, the results indicated that 25% of college students reported alcohol-related academic problems (e.g. missed classes or falling behind; Wechsler et al., 2002). The alcohol consumption by college students has the potential to affect individuals personally, their families, the institutions they are affiliated

with, and the general population. Unfortunately, college has not been identified as the first exposure to alcohol consumption for many individuals.

Johnston et al., (2007) and the University of Michigan's Institute for Social Research conducted an annual national survey that began with 1976 high school graduates to examine the prevalence and trends of alcohol and drug use. In 2007 83% of college students reported consuming a drink containing alcohol and 41% of college students reported consuming five or more drinks containing alcohol in a row within the past two weeks. Gender differences were found, with college males reporting substantially higher rates of daily drinking (6.2%) and heavily drinking (49%) than the rates for college females daily drinking (3.1%) and heavily drinking (36%). Even though 4 to 5% of the college population reported daily consumption of alcoholic beverages, the non-college group was slightly higher at 5.4% daily consumption. The authors suggested that college students waited until the weekend to consume alcohol, which increased the likelihood of heavily drinking rather than daily consumption (e.g., five or more drinks in a row; Johnston et al., 2007).

Because many individuals are already exposed to alcohol before enrolling in college, campuses have been trying to increase awareness about the negative consequences of alcohol consumption, address misconceptions about alcohol, and target students that might have difficulties regulating the consumption of alcohol. Their attempts have been implemented through development of non-academic programs indentified as wellness programs. The focus of wellness programs has been to provide a holistic approach to wellness by incorporating aspects of the mind, body, and spirit to promote student success and provide alternatives for positive lifestyle changes. Although

colleges are attempting to accommodate and serve students non-academic needs, little guidance is available for the development of wellness programs and the impact of wellness on alcohol consumption. The following research studies reviewed have each included information on the alcohol consumption of college students in reference to each of the second order factors (e.g. Creative, Coping, Social, Essential, and Physical) as separate entities (Myers & Sweeney, 2005a). The authors of these studies did not use the 5F-Wel-A to conduct the studies but gave some indication of how wellness factors are related to alcohol consumption among college students.

Alcohol and Wellness Research

Creative Self Second-Order Factor

Based on the IS-WEL, the Creative Self has included individuals' emotions, cognitive processes, and perceptions of how he or she will respond and interpret their external environment. This second-order factor has involved a combination or overall formation of an individual (Myers & Sweeney, 2005a). When evaluating the overall interactions and perceptions of an individual, one research study used the General Well-Being (GWB) survey to assess the mental health of 772 college students. Researchers investigated the general well-being of college students by the number of alcoholic beverages consumed per week, social interactions, and past year drug use. In a comparison of GWB scores between college and non-college individuals, the college participants scored 10.7 points lower than the comparison sample. The researchers found that both students who drank very little (e.g. one drink per week) and students who drank frequently (e.g. three –seven drinks per week) reported low GWB scores (Lanier, Nicholson, & Duncan, 2001). Through their study, these researchers verified that the

consumption of alcohol, no matter the frequency, can have negative affects on general well-being.

Emotional perceptions and responses have been evaluated in relationship to the alcohol consumptions of college students in a study by Cyders, Flory, Rainer, and Smith (2009). This team of researchers identified emotional dysregulation as a lack of control to observe the long-term consequences because of high distress or extreme excitability. When correlations were observed, there was a positive relationship between the college students' emotional dysregulation, the quantity of alcohol consumed, and the negative outcomes because of drinking. In other words, students who drink alcohol as an emotional response were more likely to drink a larger quantity of alcohol in one setting and experience more negative consequences of alcohol. In the same study, researchers looked at how college students sought stimulation from their environment. Results indicated a positive relationship between sensation seeking and frequency of alcohol. Therefore, students who sought stimulation from outside resources tended to drink more often. Based on their findings, Cyders and colleagues (2009) suggested that college campuses incorporate programs that offer activities and information on the connection of emotions and cognition in relationship to drinking alcohol. Their suggestions endorse the holistic approach of wellness of how the mind, body, and spirit are connected to positive lifestyle changes and how just offering safer alternatives to drinking might not be enough to decrease the frequency, quantity, and negative consequences to consuming alcohol among college students.

Based on the Creative Self, an individual's thinking or cognitive process has been known to affect one's emotions, body, and interactions with the external environment

(Myers & Sweeney, 2005a). Karwacki and Bradley (1996) studied the relationship between positive and negative thinking and alcohol consumption of 218 college students. The researchers pointed out that the students who endorsed "focus on positive" had a positive relationship with alcohol consumption and academic complications. They suggested that students could have been distracted, denying responsibility, or avoiding problem-solving action. In the same study, motives for drinking were examined based on patterns of coping, which leads to the following discussion of the Coping Self second order factor.

Coping Self Second-Order Factor

The Coping Self includes the third-order factors of Leisure, Stress Management, Self-worth, and Realistic Beliefs. As a whole, this factor has been associated with how an individual responds to adjustments, development, and negative events (Myers & Sweeney, 2005a). Cooper, Russell, and George (1988) defined coping to drink as the "tendency to use alcohol to escape, avoid, or otherwise regulate unpleasant emotions" and proposed using alcohol as a coping mechanism as one of the strongest predictors of alcohol abuse (p. 218). In Karawacki and Bradley's 1996 study, coping strategies involving self-blame, detachment, wishful thinking, and keeping to oneself as associated with social difficulties and increased alcohol consumption. The researchers also stated that as a student acquired more motivations for drinking, their alcohol frequency and social difficulties increased, which could lead to alcohol abuse and dependence disorders (Karawacki & Bradley, 1996). This study was able to elaborate on how the cognitive process and the motives of college students can impact their alcohol consumption.

Another study that influenced Karawacki and Bradley's (1996) research was that of Cooper, Russell, and George (1988), which assessed the affects of coping skills on alcohol abuse among college students. There was a positive relationship between those students who reported that they drank to cope and substance abuse symptoms. Using the criteria for alcohol abuse and dependence from the DSM-III, the researchers concluded that students who relied on alcohol to cope were more likely to develop alcohol abuse disorder (Cooper, Russell, & George, 1988). Even though this is a somewhat dated study, it did provide influence for future research and was able to elaborate on the impact of poor coping skills on serious alcohol-related disorders.

When college students were examined based on their drinking motives, researchers found that students with poor coping skills had a positive relationship with personality traits of neuroticism, anxiety sensitivity, and negative affect. Students classified as coping motivated drinkers of alcohol, reported more binge drinking episodes and more negative drinking consequences. The researchers were able to elaborate on the negative outcomes of college students' poor coping skills and personality traits that might be involved with poor coping skills (Goldstein & Flett, 2009). Although this study did not use the 5F-Wel to evaluate coping, the researchers' findings offered new variables to the interconnection between coping and alcohol consumption.

Park and Levenson (2002) included constructive thinking as a measure of coping ability, which can be defined as the reasoning or control of negative and positive emotions to evaluate stressful situations, implement problem-solving techniques, and deal with the difficult experiences (Epstein & Meier, 1989). Out of 260 undergraduates who reported having consumed alcohol in their lifetime, 42% of students reported they used

alcohol to cope and 37.6% of students reported using alcohol to cope at least slightly with their most recent stressor. Results indicated students who reported higher levels of avoidance coping were associated with drinking alcohol to cope (Park & Levenson, 2002). For example, students who avoid dealing with their feelings were more likely to use alcohol to cope. Other personal traits that led to the increased likelihood of alcohol consumption were depressed mood, positive expectancies of alcohol, and coping skills. This study exemplified a connection in the emotional responses (e.g. Creative Self second order factor) and the Coping Self.

In another study involving Park, 137 college students were evaluated by use of an internet-based daily survey to assess their daily stress and coping strategies. The researchers found that avoidance coping was associated with the consumption of alcohol and suggested to lead to an increase in negative affect (e.g. feeling nervous, hostile, angry, sad, and jittery; Park, Armell, & Tennen, 2004). The researchers reported that avoidance coping and the stress of the event impacted the individuals' total alcohol consumption negatively. They concluded by stating, "on average, individuals drank more on days characterized by events perceived as relatively more stressful" (p. 130). Both of the above studies reported on the magnitude of influence that coping skills have on the alcohol consumption. Furthermore, Park and his colleagues' studies were able to incorporate other variables of impact such as the cognitive process, emotions, and personality traits that are related to coping with reference to alcohol consumption among college students. Even though the alcohol and wellness research does not use the holistic wellness approach, it has suggested how the Creative Self and Coping Self second order factors are intertwined in their impact of alcohol consumption. The aforementioned

research related to coping led to the research question on how the Coping Self second order factor was connected to college alcohol consumption.

Social Self Second-Order Factor

The Social Self second-order factor involves the connections an individual has with others whether it is with friends, family, or intimate personnel (Myers & Sweeney, 2005a). Among college students, the social self has been the most endorsed second order factor of the 5F-Wel, which led to college students being profiled as social beings. This particular population has several opportunities to develop their own social network that incorporates personal interest, convenience, and commonality. Many administrators and college personnel serve a diverse population of individuals in early adulthood in a small location and categorize them based on their interest (e.g. majors). Students have the opportunity to be in classes and other non-academic activities with several other individuals that think, feel, and act just like they do.

Dorsey, Scherer, and Real (1999) defined social networks as a range that included friends, family members, and relationships within the college. Cohesive networks were described as a social system with varying levels of direct communication, and included group norms, expectations, interpretations, reinforcements, and acceptable behavior. One example of a college cohesive network is the Greek organizations of fraternities and sororities. A study of 239 college students after a university event, Springfest, evaluated the relationship between social networks and engagement in risky behaviors. The results indicated a positive relationship between broader social networks and excessive drinking, a positive relationship between Greek members and excessive drinking (e.g., two to three times during the week or daily over the past two weeks), and a positive relationship

between the frequency of talk about alcohol and excessive drinking. It was evident that the frequency of talking about alcohol, alcohol related issues, and Greek membership were significant predictors for excessive drinking (Dorsey et al., 1999). Even though college students discuss their positive expectations of alcohol consumption, research has indicated that their social motives have led to an increase in drinking and social complications (Dorsey et al., 1999; Karwacki & Bradley, 1996).

Among 1,894 first year college students under the age of 19, researchers assessed the relationship between binge drinking and the impact of person, social, and environmental factors (Weitzman et al., 2003). One environmental factor was referred to as the "wet" environment, which was defined as a social network of friends who endorsed binge drinking as a location where alcohol was easily accessible. Weitzman and his colleagues found that students were more likely to participate in binge drinking with exposure to a "wet" environment in comparison to those students not exposed. Other variables that influenced an increase of binge drinking were students living on campus, who were affiliated with the Greek system, and those who considered themselves social by definition of five or more friends (Weitzman et al., 2003). The researchers suggested that programs could be mandated for students living in certain settings (e.g. on campus or Greek housing) and should address the social networks that make alcohol easily accessible to minors. From the research involving the Social Self, it is apparent that students place a great emphasis on their social networks. This conclusion could be used effectively in the development and guidance of wellness programs. In other words, wellness programs can use social media to reach students and organize social activities to increase awareness among college students.

Essential Self Second-Order Factor

The IS-WEL model explained that the Essential Self second-order factor is the individual's overall meaning or purpose in life. It has incorporated the essence of Self-Care, Gender Identity, Cultural Identity, and Spirituality. Among college students, the meaning or purpose in life has been associated with goal attainment. In a study analyzing the relationship between goal attainment and alcohol consumption, college students with low expectations or with perceptions of inability to achieve goals had an increase in alcohol consumption and were associated with social complications. The researchers suggested that the alcohol consumption might work as compensatory behavior (Karwacki & Bradley, 1996). For example, students were relying on alcohol as an excuse for their lack of hope, desirability, capability, or opportunity to obtain goals (Karwacki & Bradley, 1996). Although this study included many aspects of the Essential Self, it did not mention spirituality and its relationship to alcohol consumption. Some researchers have felt that spirituality has a positive relationship to optimal health and should be included in the dealing with alcohol-related disorders (MacKinnon, 2004). Therefore, spirituality needed to be reviewed in order to better understand its influence of alcohol consumption among college students.

Addressing this need, Stewart (2001) conducted a study using 337 undergraduate students between the ages of 17 and 29. In his study, he examined the relationships between religious and spiritual beliefs' impact and substance use. The results indicated that the impact of religious and spiritual beliefs was significant for freshmen and sophomore alcohol use but was not significant for juniors or seniors. There were similar results for religious and spiritual beliefs' effect on binge drinking. Although religious and

spiritual beliefs influenced decisions on alcohol consumption for freshmen and sophomores, this effect was diminished as the student moves up in classification (Stewart, 2001).

In a more specific study of spirituality, Galen and Rogers (2004) considered religious affiliation, negative expectations of drinking alcohol, and drinking motives of 265 undergraduate students. Their study included an analysis of extrinsic and intrinsic religiosity, where extrinsic religiosity included social support and resource assistance and intrinsic religiosity described an internal process of religion and as more of a personal accountability. The results indicated a negative relationship between intrinsic religiosity and frequency and quantity of alcohol consumed. Students who experienced a deeper, more internal religious process tended to drink less often and fewer drinks. Among specific religious affiliations, conservative denominations such as Conservative Protestants reported higher negative expectations and lower motivations to consume alcohol (Galen & Rogers, 2004). Many of the authors of research studies involving the wellness factors and alcohol have referred to the external factors of the environment, but this study has stated that the internal process can be just as important. The influence of the external and internal processes of an individual implies the mind, body, and spirit connection of the holistic approach to wellness.

Other aspects involved with the Essential Self such as an individual's identity and their view of how to obtain health benefits and longevity. In a study of 196 undergraduate college students, researchers looked at the relationships among spirituality, mindfulness, and alcohol consumption (Leigh, Bowen, & Marlatt, 2005). They defined mindfulness as being present in one's own life and as "a way of approaching experiences" (Leigh et al.,

2005, p. 1339). Spirituality was described as an adoption of a belief system, which tends to rely more on the guidance and direction of organized religion. When mindfulness was assessed in relationship to binge drinking, the researchers found a positive relationship between the two variables. They suggested that students could be using alcohol to avoid negative events or desensitize physical sensations. Between spiritually and binge drinking, there was a negative relationship, which could indicate that high levels of spirituality involves a sense of control, accountability, and fewer risky behaviors (Leigh et al., 2005). From the available research involving the Essential Self second-order factor, it has been evident that spirituality can impact the alcohol consumption among college students. The Essential Self research also was able to elaborate on contributing variables of goal attainment, mindfulness, and sensitivity of bodily sensations. The following research elaborated more on the physical and biological aspects connected to the alcohol consumption among college students.

Physical Self Second-Order Factor

The Physical Self second order factor has involved Nutrition and Exercise or the biological components that support our development and functioning (Myers & Sweeney, 2005a). In one study, 3,206 undergraduate college students reported on their eating patterns, weight management, and alcohol consumption, which provided information on how the Physical Self is connected to alcohol consumption. Researchers found that binge drinking (e.g. five or more drinks in one setting in the past two weeks) had an adverse influence on students skipping meals, consuming fruits and vegetables, and fast food consumption (Nelson et al., 2009). Binge drinking was associated with body dissatisfaction and compensatory behaviors such as moderate and vigorous physical

exercise. The researchers indicated that binge drinking could promote eating disorder behaviors such as purging or non-purging (e.g. abusing laxatives, excessive exercising, and fasting). When alcohol-related eating was assessed, those students who reported that they ate before or during alcohol consumption were correlated with being overweight (e.g. Body Mass Index [BMI] of 25 or above). This could have been due to students being impaired to make healthy choices while under the influence of alcohol (Nelson et al., 2009). The results of this study were able to represent how the Physical Self is related to alcohol consumption among college students. The researchers indicated the positive relationships with the frequency of alcohol and poor nutrition, exercise, and body self-image. This can help emphasize the relationship between how wellness programs increase positive lifestyle changes for college students.

Even though the research of alcohol and wellness did not use the IS-WEL model as a theoretical framework to assess the wellness components, the research did provide information to conceptualize each of the second-order factors of wellness. Many of the researchers' studies captured the importance of wellness and its influence on the alcohol consumption of college students. This section of research has provided evidence of how wellness variables can have an impact on alcohol consumption and that wellness programs need to be directed towards a holistic approach involving the mind, body, and spirit components of an individual.

Summary

Undergraduate enrollment continues to increase with the problems of college student alcohol consumption coinciding. College students have physical, legal, and academic problems because of alcohol. Therefore, college campus officials have the

opportunity and responsibility to develop non-academic programs addressing alcohol consumption for college students. The literature review intended to provide a better understanding of variables that could impact the consumption of alcohol among college students. These variables were addressed through the IS-WEL model's five second-order factors: Creative Self, Coping Self, Social Self, Essential Self, and Physical Self. The integration of second-order factors has created a construct of wellness, which describes how the mind, body, and spirit move in a purposeful manner (Myers et al., 2000). Based on the IS-WEL, research was used to develop a profile of college students, which concluded that students are very social individuals with difficulties in coping with life stressors. This research indicated that college students face challenges in relationships, body image, and realistic beliefs. It is important to understand wellness and the factors involved so that college campuses can develop more appropriate non-academic or wellness programs to tackle the issues concerning alcohol consumption among college students. Effective programming can target students with problems concerning alcohol, offer alternatives to drinking, increase positive lifestyle changes, and promote academic success. Unfortunately, there has been very little research observing the relationship between the factors of wellness and alcohol consumption among college students.

Therefore, this research study included an investigation wellness as a predictive variable of alcohol consumption among college students. The assessment of the IS-WEL model's second-order factors (e.g. Creative Self, Coping Self, Social Self, Essential Self, and Physical Self) and alcohol consumption will help guide more effective and accurate wellness programs and interventions. It also filled the gap on the literature involving wellness and alcohol consumption among college students. The following chapter will

expand on the overall purpose of the research, the implementation of data collection, the presentation of instrumentation, and the procedures of data analysis.

CHAPTER III

METHODOLOGY

The purpose of this study was to evaluate wellness as a predictive variable of alcohol consumption and alcohol-related behaviors among undergraduate students. The goal was to identify how wellness can predict alcohol consumption. Variables were measured using the 5F-Wel-A (Myers & Sweeney, 2004) and the AUDIT (Saunders et al., 1993). Because there is a lack of understanding as to the factors that contribute to the alcohol consumption of college students, this study filled this gap by exploring how wellness factors played a role as a predictive variable. This chapter includes a description of the general research design, participant characteristics, data collection procedures, instrument properties, and statistical analyses.

Research Design

An explanatory non-experimental research design was proposed in conducting this study to explain variances in alcohol consumption among college students. This type of design investigates the conditions among samples that already exist. At the time of assessment, participants reported their history of alcohol consumption, behaviors related to alcohol, and wellness (based on the 5F-Wel-A). This study includes 10 dependent variables related to alcohol consumption. These variables are frequency of alcohol consumption, number of drinks containing alcohol, frequency of consuming six or more

drinks containing alcohol in one occasion, perceived inability to stop drinking, perceived fulfillment of expectations, morning drink containing alcohol, guilt, memory loss, injury, and recommendations by others.

The independent variables are the five second-order factors identified by the 5F-Wel-A. The five second-order factors are the Essential Self, Social Self, Creative Self, Physical Self, and Coping Self. Even though seven third-order factors exist in the 5F-Wel-A, little research focuses on the second order factors among college students. These second-order factors of wellness offer a more comprehensive view, and how it as a whole is able to predict alcohol consumption. This research study examined the five second-order wellness factors (Essential Self, Social Self, Creative Self, Physical Self, and Coping Self) as predictive variables in relationship of alcohol consumption among college students.

Participants

Population

The sample for this study was drawn from MSU, which is considered a medium-sized university in the Southeastern United States with a population of 19,035 students and a community population of 24,322 residents. The university consists of 16,312 undergraduate students. The fall 2011 statistics report determined that the student body is comprised of 51% males and 49% females with 21% of students self-identifying as African American, 69% Caucasian, and 10% as Other. The target sample's goal was to be similar to the Southeastern regional college populations of the United States. The Digest of Education Statistics 2010 indicated that on average, the Southeastern region comprised

of a student body with ethnicities of 25% African American, 65% Caucasian, and 10% Other (NCES, 2011).

Sample

In order to calculate the appropriate number of cases needed to determine statistical significance using best practice guidelines, Tabachnick and Fidell (2007) suggested a minimum N value of 50 + 8m (with m representing the number of independent variables in the study) for testing multiple correlation and a minimum N value of 104 + m for testing individual predictors. Because the expression $m \geq N$ does not provide statistical solutions (i.e. $R^2 = 1.0$), the N is expected to be large enough to withstand skewed dependent variables, small effects sizes (i.e $f^2 = .02$), independent variables with large measurement error, and data cross-validation. According to the formulas, the proposed study should have had at minimum 115 to 138 participants.

The target sample was non-random volunteer undergraduate participants from first-term summer classes. The descriptive analyses were conducted for variables of gender, age, race, and highest level of education. The final sample had 160 participants with a racial distribution of 50% African American, 45% Caucasian, 3% Asian or Pacific Islander, and 2% Native American. The average age was 22.44 with 35% of the participants were male, 63% were female, and 2% did not report their biological sex. In addition 66% of participants were pursuing their first bachelor's degree, 29% completed an associate degree, and 5% had already completed a bachelor's degree. The only exclusion criteria focused on the area of response completion and students under the age of legal consent. There were 35 surveys that did not complete all aspects of the study and were excluded from analyses.

Data Collection

The Institutional Review Board for MSU approved the collection of data for Summer, First Term, 2012. With the Institutional Review Board's approval, the proposed study was able to use MSU students as human participants.

Using the MSU course catalog, introductory classes within the psychology, educational foundations, and counseling and educational psychology departments were identified and selected based on the highest numbers of student enrollment. After the instructors' names of the selected classes were chosen using the master schedule, the MSU directory was used to collect instructor email addresses and contact information. Some of the courses chosen were Introduction to Counseling, Rehabilitation Services, Plan for the Diverse Learner, Behavioral Modification, Introductory Psychology Statistics, Experimental Psychology, and Clinical Child Psychology. These classes were solicited for their high enrollment numbers and because they were upper division classes with more "of age" (e.g. students at or above 21 years of age) students.

Instructors of selected undergraduate classes were emailed a summary of the study and a request of permission to enter their classroom to collect data. With pre-approval of instructors and a mutually arranged time and date, participants were given packets by the researcher. The distributed packets were organized in the following order: summary and purpose of study, informed consent, 5F-Wel-A (Myers & Sweeney, 2004), and AUDIT (Saunders et al., 1993). The summary and purpose of the study (Appendix A) explained the voluntary participation, option to refuse at any time, any risk of the study, potential negative consequences for participation, and contact information. Because no identification was requested within the packet and no one has access to their

responses, the informed consent explained the anonymity and confidentiality of the research.

In order to decrease complications of procedural integrity, the primary researcher was fully responsible for the collection of data during the course of the study. After the instructors' permission was granted, date and time was agreed, and packets were organized, the researcher entered the classroom with the approximate number of packets and a plastic bin. The plastic bin was placed inside the classroom for students to turn in their packets at the end of the time period. The researcher verbalized a brief explanation of the study and its purpose (Appendix B), and handed packets to potential participants. The verbalized explanation included a statement about voluntary participation and instructed participants to refrain from writing any identifying information on packet materials. Students, who wished not to participate, could take a 30-minute break or turn in an unused packet at the end of the time period. The primary researcher did not provide any incentives for students participating in this study.

Instrumentation

The Five Factor Wellness Inventory (5F-Wel-A)

Myers and Sweeney (2004) developed the 5F-Wel-A (Appendix C) based on the IS-WEL model of wellness. The 5F-Wel includes five second-order or grouping factors, Essential Self, Social Self, Creative Self, Physical Self, and Coping Self, with each grouping factor consisting of discrete wellness factors (Myers & Sweeney, 2004). The following represents each second order factor and its corresponding discrete wellness factors:

- Essential Self-cultural identity, gender identity, self-care, and essence

- Social Self-love and friends
- Creative Self-intelligence, control, emotions, humor, and work
- Physical Self-exercise and nutrition
- Coping Self-leisure, stress, worth, and beliefs

The 5F-Wel-A instrument consists of 73 questions measuring the five second-order factors, the 17 third-order factors, and the higher-order factor (Total Wellness). Nineteen questions measure contextual variables (local, institutional, global, and chronometrical) and eight items assess demographic information (Myers & Sweeney, 2004). The 5F-Wel is available in adult, adolescent, and child versions as well as in English, Korean, Hebrew, and Turkish languages. It also is accessible in both paper-and-pencil and electronic format, and is written at a 9th grade reading level or lower (Myers & Sweeney, 2004). This study used the adult version (5F-Wel-A) that is at a 9th grade reading level. The administration of the study used the paper-and-pencil 5F-Wel-A that should take approximately 30 minutes (Myers & Sweeney, 2004).

The demographic questions assessed current marital status, current employment status, student status, highest level of completed education, gender, biracial status, cultural background, and sexual orientation. Sample questions measuring the factors of wellness include: “I can laugh at myself”; “I am satisfied with how I cope with stress”; and “I eat a healthy diet” (Myers & Sweeney, 2004).

Except for one reverse scored item, the four-point Likert scale is numerically interpreted on all items by four points for strongly agree, three points for agree, two points for disagree, and one point for strongly disagree. The first step of the calculation is the summation of each subscale, 17 discrete wellness factors, five second-order factors,

and one higher-order factor. Total scores for each scale are divided by the number of items within the scale then multiplied by 25. This computation provides a linear transformation that ranges from 25 to 100. This places all scales on a common metric, which can be more expressive for interpreting data. In general, the 5F-Wel-A has scales that range from 25 to 100. Higher scores are indicative of a greater level of perceived wellness on the part of the individual (Myers & Sweeney, 2008a); however, there are no established criterion scores to indicate varying degrees of wellness (i.e., high or low) provided by the original authors.

The reliability alpha coefficients included Total Wellness, 0.90; Creative Self, 0.92; Coping Self and Social Self, 0.85; and Essential Self and Physical Self, 0.88. The discrete wellness factors included reliability alpha coefficients ranging from 0.70-0.87 except for self-care (0.66) and realistic beliefs (0.68).

The Alcohol Use Disorders Identification Test (AUDIT)

The AUDIT (Saunders et al., 1993) is a 10 item self-report questionnaire to evaluate three domains: hazardous use of alcohol (questions 1,2, 3), alcohol dependency (questions 4, 5, 6), and alcohol use-related problems (questions 7, 8, 9, 10). A copy of the instrument is included in Appendix D. For the following questions, there is a number in parentheses. This number represents the item number's score.

Question one assesses the individual's frequency of alcohol consumption (scale from never drinking to drinking four or more times a week). For example, the question reads, "How often do you have a drink containing alcohol?" (Saunders, et al., 1993). The frequency of alcohol consumption is represented by a five-point scale with ranges of (0)

never drank, (1) drinks monthly, (2) drinks two to four times a month, (3) drinks two to three times weekly, and (4) drinks four or more times a week.

Question two assesses the number of drinks (scale from 1-10 or more drinks). It states, "How many drinks containing alcohol do you have on a typical day when you are drinking?" (Saunders et al., 1993). The number of drinks containing alcohol is defined as how many drinks with alcohol an individual consumes on a day when they are drinking alcoholic beverages. On a five-point scale, the number of drinks containing alcohol ranges from option (0) one to option (4) 10 or more.

Question three evaluates the variable of frequency consuming 6 or more drinks containing alcohol in one occasion with options of (0) never, (1) less than monthly, (2) monthly, (3) weekly, and (4) daily or almost daily. The questions ask, "How often do you have six or more drinks on one occasion?" (Saunders et al., 1993). The NIAAA (2007) defines binge drinking as the consumption of five or more drinks containing alcohol for men and four or more for women in approximately two hours. Even though this question does not exactly reflect the NIAAA definition of binge drinking, it closely represents the definition and was used in the interpretation of binge drinking.

Questions four through eight evaluate inability to stop drinking, normal expectations, morning drink, guilt, and memory loss based on a scale of (0) never, (1) less than monthly, (2) monthly, (3) weekly, and (4) daily or almost daily. For example question four asks, "How often during the last ear have you found that you were not able to stop drinking once you had started?" (Saunders et al., 1993). The perceived failure of expectations variable defines the frequency in the last year that an individual perceived he or she failed to comply with normal expectations because they were drinking. The

normal expectations are the individual's perceptions of norms within their situation. The morning drink containing alcohol assesses the frequency of occurrence in the last year that an individual felt that he or she needed a drink containing alcohol in the morning. Guilt measures the frequency of occurrence in the last year that an individual had feelings of guilt and remorse after consuming drinks containing alcohol. Memory loss evaluates the frequency of occurrence in the last year that an individual was unable to remember events the night before due to consuming drinks containing alcohol.

Questions nine and ten determine injury from drinking alcohol and recommendations by others concerning the individual's drinking with a scale of (0) No, (1) yes, but not in the last year, and (2) yes, during the last year. The injury variable asks the occurrence of personal injury or injury of someone else as a result of his or her consumption of drinks containing alcohol. The recommendations by others variable inquires the occurrence of a friend, relative, doctor, or other health worker showing concern or making suggestions to decrease the individual's consumption of drinks containing alcohol.

The AUDIT has been reviewed for reliability and validity in a variety of studies (Allen, Litten, Fertig, & Babor, 1997; Bohn, Babor, & Kranzler, 1995; Clements, 1998; Hays, Merz, & Nicholas, 1995). There were five studies that evaluated the internal consistency of the AUDIT across varied populations such as substance abusers, primary care patients, college students, substance abusers in treatment, and individuals arrested while drinking and driving. All studies had a Cronbach's alpha above .77, establishing high reliability for the AUDIT (Allen et al., 1997). It also has high test re-test reliability with a *r* of .92 during a two-week period (Lennings, 1999). The AUDIT has been known

to have high correlations with the Michigan Alcohol Screening Test (MAST; r = .88) (Bohn et al., 1995) and the CAGE (.78; Hays et al., 1995), which are also used as alcohol screening tests. In a comparison study of the AUDIT, CAGE, MAST, and Svanum's scale, the AUDIT was better at predicting current alcohol dependence of college students (Clements, 1998).

Statistical Analysis

Data was analyzed using descriptive statistics and a multiple regression analysis. Multiple linear regression uses more than one independent variable to determine the variability of one dependent variable. According to the linear relationship between a set of independent variables and a single dependent variable, the goal is to evaluate the independent variables' prediction power of the dependent variable's variance (Hair, Black, Anderson, & Tatham, 2006). The independent variables are weighted to establish their individual influence on the linear relationship. The weighted independent variables or standardized regression coefficients help determine the range of influence of each independent variable and explains the variation of the dependent variable at significant or non-significant levels. The explained variance, R^2, is the proportion of the dependent variables variance that is explained by the predictor or independent variables. The higher the R^2, the more explanatory power attributed to the regression predictive model (Hair et al., 2006; Tabachnick & Fidell, 2007).

Using a single data set, multiple regression allows researchers to answer the following five questions:

1. What is the explained variance of the dependent variable based on a set of independent variables? The explained variance of the dependent variable is represented by R^2.
2. What is the statistically significant relationship between the independent variables and dependent variable? The F statistic tests the explained variance of the dependent variable against the overall variation of the average.
3. What independent variable has the most influence on the dependent variable? The beta coefficients, or standardized predictive variables, compare the independent variables based on a standardized measurement.
4. What is the relationship of a single independent variable and the dependent variable? A t test assesses the regression coefficients and determines what variables are appropriate for the model.
5. When all other relationships are held constant, what is the relationship between each independent variables and dependent variable? The regression coefficients give the numerical values to account for the units of analysis of each independent variable and for the relationships between variables. (Hair et al., 2006; Tabachnick & Fidell, 2007).

The purpose of using multiple regression is to maximize the set of independent variables' prediction on the observed dependent variable (Hair et al., 2006). In order to obtain maximum prediction, the researcher strives to get the best possible model with the smallest number of independent variables to account for the majority of variability within the dependent variable(s). The current study used 11 total dependent variables to measure

the alcohol consumption construct (drink frequency, number of drinks, binge drinking, inability to stop drinking, normal expectations, morning drink, guilt, memory loss, injury, recommendations by others, and total AUDIT score). The five independent variables to measure the wellness construct included Essential Self, Social Self, Creative Self, Physical self, and Coping Self. Therefore, a regression analysis was run for each alcohol consumption variable.

Because all dependent variables are metric and the research question focused on prediction, multiple regression was the most appropriate analysis. The multiple regression models entered each independent variable into the regression equations separately to best predict the alcohol consumption among college students. The regression equations were repeated to predict drinking frequency, number of drinks, binge drinking, inability to stop drinking, normal expectations, morning drink, guilt, memory loss, injury, and recommendations by others. In other words, simple methods of estimating the regression equation or OLS regression models were used to evaluate each independent variable and its interactions (Allison, 1999).

The multiple regression analyses were conducted using the Statistical Package for Social Sciences or IBM SPSS (version 19). Before observing the variance between independent and dependent variables, the generalization of data was confirmed by satisfying several assumptions (Field, 2009). First, the assumption of linearity assures a straight-line relationship between the dependent variable and the predictor variable, which was evaluated by visual inspection of partial regression plots.

Second, the assumption of no multicollinerarity must be met because multicollinearity occurs when independent variables are highly correlated with one

another, which can decrease the independent variables prediction power. When mulicollinearity exists, the independent variables' regression coefficient error increases and, therefore, decreases the likelihood of statistical significance. The inclusion and exclusion of independent variables was based on previous literature of theory and research and was decided prior to the analysis of data (Hair et al., 2006; Tabachnick & Fidell, 2007).

In order to check for multicollinearity, the Tolerance and the Variance Inflation Factor (VIF) helped assess if one independent variable was being explained by the other independent variables. Hair and his colleagues (2006) reported a tolerance cutoff score of .10 with a reciprocal VIF score of 10, and Allison (1999) reported caution with tolerance scores below .40 and a reciprocal VIF score of 2.50. This study used Allison's criteria in checking for mulicollinearity.

Third, the assumption of homoscedasticity makes certain standard deviations of error are equal across predicted dependent variables. The assumption of homoscedasticity and independence of prediction variable was evaluated by visual inspection of residual plots. The residuals or standard deviations of error were plotted by the predicted value. If the residuals were evenly scattered around the predicted value, the assumption of homoscedasticity was not met.

Fourth, the independence of prediction errors assumption evaluates the assurance that the predictive value was not associated with any other variable and assures that variability was not influenced by the order of the survey responses (Tabachnick & Fidell, 2007). This assumption was met using the Durbin Watson test statistic, which was

contingent on the number of cases and how many predictor variables or independent variables are in the model (Field, 2009).

Fifth, the assumption of normality is related to sampling, which suggests that scores were normally distributed around the mean and that the data was sampled from a normally distributed population (Bordens & Abbott, 2008). In the visual inspection of scatterplots, skewness and kurtosis was evaluated. The Lilliefors' and Shapiro-Wilks standardized residuals test indicated any concerns of the normal distribution of data by statistical significance.

After the preliminary analyses were conducted, the research questions addressed the following:

1. What are the levels of the five second-order factors of wellness (e.g. Essential Self, Social Self, Creative Self, Physical Self, and Coping Self), alcohol consumption, and alcohol-related behaviors for the college student population? Descriptive statistics explained the data set's means, standard deviations, minimum values, and maximum values of all variables.
2. To what extent can the variance of alcohol consumption be accounted for by the second-order factors of wellness (e.g. Essential Self, Social Self, Creative Self, Physical Self, and Coping Self)? The R^2 calculation referred to the alcohol consumptions variable's shared variance among the predictor or wellness variables. T-tests calculated the regression coefficient (b value) indicating the relationship or variance of alcohol consumption explained by each second order factor of wellness (Allison, 1999; Hair et al., 2006; Pedhazur, 1997).

The significance statistic of R^2 was evaluated using the F value within the ANOVA table. The F value or F-ratio determines the probability value that explains whether the regression model is better at prediction of the dependent variable than by chance. This study used an alpha level of .05 to determine if the overall models are statistically significant in the prediction of the dependent variables.

CHAPTER IV

RESULTS

The purpose of this study was to evaluate the five second-order factors of wellness as predictive variables of alcohol consumption and alcohol related behaviors among college students. The following research questions were explored:

1. What are the levels of the five second-order factors of wellness (e.g. Essential Self, Social Self, Creative Self, Physical Self, and Coping Self), alcohol consumption, and alcohol-related behaviors for the college student population?
2. To what extent can the variance of alcohol consumption be accounted for by the second-order factors of wellness (e.g. Essential Self, Social Self, Creative Self, Physical Self, and Coping Self)?

The following research hypotheses were tested:

1. The stepwise regression model will result in all of the five second-order factors of wellness being significant predictors of alcohol consumption and alcohol consumption behaviors at a .05 significance level.
2. In terms of individual relationships, a significant relationship at the .05 level of significance will exists separately between the five second-order variables of wellness and alcohol consumption and alcohol consumption behaviors.

Descriptive Data

Demographics and Frequencies

There were 195 volunteer students that chose to participate in the research study. Because of missing data from either the AUDIT or the 5F-Wel-A, 35 surveys were excluded from the analysis resulting in a final sample of 160 students being used. Of the 160 participants, 56 (35%) were male, 101 (63%) were female, and 3 (2%) did not report their gender. Several participants failed to report their age. From those who did report their birth date, the participants' ages ranged from 18 to 47 with a mean age of 22.44 and a standard deviation of 7.78. Fourteen percent of participants who self-reported their age were between 18 to 20 years of age (n = 14), 75% between 21 to 23 years of age (n = 76), 8% between 24 to 30 years of age (n = 9), and 3% between 31 to 47 years of age (n = 3). Forty-five (n = 71) percent of participants were Caucasian, 50% (n = 79) were African American, 3% (n = 4) were Asian or Pacific Islander, and 2% (n = 3) were Native American. There were three participants that did not report the primary cultural background that they most closely identified. The majority of participants were working on their first Bachelor's Degree (66%; n = 105) while 29% (n = 47) had completed an Associates Degree and 5% (n = 7) had already completed a Bachelor's Degree.

Descriptives and Predictor Variables

Wellness was measured by using five second-order factors from the 5F-Wel-A instrument. In order to have a common metric scale, the authors of the 5F-Wel-A converted all factor scores to a scale with values ranging from 25 to 100. For this study, scores ranged from 25 to 100 with no cut-off scores. The higher the wellness score, the greater the level of wellness reported by the participant. The mean (M), standard

deviation (SD), minimum range, and maximum range for each predictive variable are reported in Table 4.1. As expected, based on college student wellness research, participants scored the highest on the Social Self second-order factor (M = 89.19, SD = 11.56). Interestingly, the Physical Self (M = 73.69, SD = 8.13) was the lowest scored, and Coping Self (M = 74.99, SD = 8.75) was the second lowest scored second-order factor of wellness. From previous research, college students have reported Coping Self to be the lowest scored second-order factor of wellness. Therefore, this finding will be further discussed in chapter five.

Table 4.1 Descriptive Statistics for Independent Variables

Independent Variable	Range Minimum	Range Maximum	*M*	*SD*
Essential Self	48.44	100.00	83.92	11.18
Social Self	50.00	100.00	89.19	11.56
Creative Self	50.00	100.00	81.05	9.55
Physical Self	37.50	100.00	73.69	14.84
Coping Self	52.78	97.37	74.99	8.75

Note: $N = 160$

Descriptives and Criterion Variables

Alcohol consumption and alcohol consumption behaviors were measured using the AUDIT instrument with each question serving as a dependent variable. The AUDIT has scores ranging from 0 – 4. For this study, scores ranged from 0 to 4 on questions 1 – 2 and 8 – 10 and from 0 to 3 on questions 3 – 7. Higher scores indicated an increase in the likelihood that the participant drank alcohol or participated in risky behaviors related to alcohol. In Table 4.2, the mean (M), standard deviation (SD), minimum range, and maximum range are reported for each criterion variable. When asked how often did they drink alcohol, participants reported a mean of 1.46 (SD = 1.01), which was interpreted as

participants on average reporting drinking on a weekly to monthly basis. Participants reported drinking one to two drinks containing alcohol on a typical day of drinking (M = .80, SD = 1.04), and binge drinking from never to less than monthly (M = .67, SD = .92).

Table 4.2 Descriptive Statistics for Dependent Variables

Dependent Variable	Range Minimum	Range Maximum	*M*	*SD*
Frequency of Alcohol Consumption	0	4	1.46	1.01
Number of Drinks Containing Alcohol	0	4	0.80	1.04
Frequency of Binge Drinking	0	3	0.67	0.92
Perceived Ability to Stop Drinking	0	3	0.14	0.50
Perceived Fulfillment of Expectations	0	3	0.16	0.50
Morning Drink Containing Alcohol	0	3	0.04	0.30
Guilt	0	3	0.27	0.62
Memory Loss	0	4	0.35	0.70
Injury	0	4	0.21	0.76
Recommendations by Others	0	4	0.20	0.82

Note: $N = 160$

Reliability Analyses

Reliability of the 5F-Wel-A instrument was calculated using Cronbach's alpha coefficients (Hair et al., 2006) to examine the internal consistency of each wellness scale. In Table 4.3, the results of the analyses include the reliability coefficients and the original normed alpha coefficients reported by the authors of the 5F-Wel-A (Myers & Sweeney, 2004). Reliability was not conducted on the AUDIT instrument because there were single item variables.

Table 4.3 Cronbach's Alpha Coefficients for Essential Self, Social Self, Creative Self, Physical Self, and Coping Self

Variable	Full Sample Study Alpha (α)	Original Norm Alpha (α)
Essential Self	.83	.77
Social Self	.81	.62
Creative Self	.85	.82
Physical Self	.85	.76
Coping Self	.74	.60

Note: α = Cronbach's alpha coefficients

Testing of Research Hypotheses

Hypothesis 1 indicates that a stepwise regression model will result in all wellness factors being significant predictors of the criterion variable (at an alpha level of .05). Hypothesis 2 suggests a statistically significant relationship at an alpha level of .05 will exists between each of the five second-order factors and the criterion variable. There were 10 criteria or dependent variables: frequency of alcohol consumption, number of drinks, binge drinking, being unable to stop drinking, failure to meet normal expectations, a morning drink, feelings of guilt or remorse, memory loss, injury, and recommendations. The predictive or independent variables were the five second-order factors: Essential Self, Social Self, Creative Self, Physical Self, and Coping Self. Before hypotheses were tested, participants' entries were assessed for missing data. Because of missing data on the 5F-Wel-A or the AUDIT, 32 cases were excluded from the study.

Before evaluating the relationship between the criterion and predictive variables, several assumptions appropriate for multiple regression analysis were assessed and confirmed. Scatter plots were visually inspected for each multiple regression analysis to confirm the assumption of linearity. Based on the partial regression plots, there was a straight-line relationship between the dependent variable and predictive variables for all

10 multiple regression analyses. Therefore, the assumption of linearity was met. The Tolerance and VIF for each predictive variable (e.g. Essential Self, Social Self, Creative Self, Physical Self, and Coping Self) was evaluated to satisfy the assumption of multicollinearity. Using the criteria cut-off for Tolerance scores below .40 and VIF above 2.50, there was no multicollinerarity among predictive variables (Allison, 1999). The visual inspection of scatter plots was used to inspect homoscadstiticity. There were no violations of homoscastiticity for any of the multiple regression analyses. The Durbin Watson statistic tested the independence of predictive errors and was satisfied for each multiple regression analyses. For normality, scatter plots of residual versus predicted residuals were visually inspected, and there was no skewness or kurtosis of the data. Because the responses were fixed for both instruments used in the study, there were no outliers of concern. In conclusion, all assumptions were met prior to the multiple regression analyses.

Using the Statistical Package for Social Sciences version 19 (SPSS), a multiple regression analysis was used for each criterion or dependent variable. The stepwise method was used to explain the variance of the criterion variable by the predictive variables. This method was chosen to evaluate the best possible model in the prediction of alcohol consumption and alcohol-related behaviors among college students. All analyses used an alpha level of .05 to evaluate whether or not there was a statistically significant relationship between the overall model of the predictive variables and the dependent variable.

First Regression Analysis

The first regression model included the frequency of how often participants drank alcohol as the criterion variable. The stepwise model used two predictive variables, Essential Self and Social Self. The model resulted in an R^2 of .11 indicating that the second-order factors accounted for about 11.2% of the variance for the frequency of college student alcohol consumption. The first regression model was statistically significant, $F(2, 159) = 9.88$, $p < .001$, which demonstrated the two-factor stepwise model to be a significant predictor for the frequency of college student alcohol consumption. Examining factors individually, Essential Self had the strongest influence on the criterion variable ($\beta = -.41$), followed by Social Self ($\beta = .21$). From the negative relationship between the frequency of alcohol consumption and Essential Self, the more a participant reported that they had an essence, purpose, or spirituality the less often the participant consumed alcohol. Regarding the positive relationship between frequency of alcohol consumption and Social Self, the more a participant reported interactions with friends and love ones the more likely they would drink alcohol.

Second Regression Analysis

The second regression used the number of drinks containing alcohol as the criterion variable. The stepwise model included Essential Self and Physical Self as predictors and resulted in a statistically significant relationship, $R^2 = .15$, $F(2, 156) = 13.80$, $p < .001$. The predictive variables were able to account for 15% of the criterion variable's variance. Essential Self had the strongest influence on the criterion variable ($\beta = -.42$) followed by Physical Self ($\beta = .18$). As in the first regression model, the Essential Self had a negative relationship with the criterion variable indicating that the more a

participant reported having purpose or meaning in life tasks the fewer drinks of alcohol they would consume on a day of drinking. Interestingly, the Physical Self had a positive relationship with the number of drinks a participant consumed. Therefore, participants reported that the more they incorporated actions towards exercise and nutrition the number of drinks containing alcohol increased.

Third Regression Analysis

The third regression model included the consumption of six or more drinks on one occasion (e.g. binge drinking) as the criterion variable. The results indicated that the stepwise model with Essential Self and Coping Self was a significant predictor of binge drinking, $F(2, 157) = 17.79$, $p < .001$. The stepwise model accounted for 18.5% of the variance for binge drinking ($R^2 = .19$). The Essential Self second-order factor again had the strongest influence on binge drinking ($\beta = -.48$) with a negative relationship between it and binge drinking. The Coping Self had a statistically significant positive relationship with binge drinking ($\beta = .19$). This relationship between Coping Self and binge drinking will be discussed further later in the following chapter.

Fourth regression model

The fourth regression model used the frequency of not being able to stop drinking once the participant had started as the criterion variable. There was not a statistical relationship between any of the predictive variables and the criterion variable. In general, none of the second-order factors of wellness were able to predict a significant portion of the criterion variable's variance. In terms of individual relationships between the criterion and predictive variables, there were no statistically significant relationships.

Fifth regression model

The fifth stepwise regression model using only the Essential Self significantly predicted the frequency of having failed to meet normal expectations because of drinking, $F(1, 158) = 8.94$, $p = .003$. The stepwise model was able to explain 5.4% of the criterion variable's variance ($R^2 = .05$). In terms of individual relationships, the Essential Self had a negative relationship with the criterion variable ($\beta = -.23$). As mentioned previously, Essential Self deals with having a purpose or meaning in life. Therefore, the negative relationship suggests that the more participants reported having purpose or meaning in life the less likely they will fail to meet expectations because of drinking.

Sixth regression model

The sixth stepwise regression model used the frequency of having to drink an alcoholic beverage in the morning after a heavy drinking session the night before as the criterion variable. The stepwise model using Social Self accounted for about 5.5% of the variance for the morning drink with an R^2 of .06, and was statistically significant, $F(1, 158) = 9.23$, $p = .003$. The Social Self had the strongest influence on the criterion variable with a β of -.24 and had a negative relationship with the criterion variable. The negative relationship suggests that the more participants reported being connected with others and feeling social support the less likely they have needed a morning drink of alcohol after a heavy drinking session.

Seventh regression model

The seventh stepwise regression model used the frequency of feeling guilty or remorseful after drinking as the criterion variable. There was not a statistical relationship

between any of the predictive variables and the criterion variable. In general, the stepwise model was not able to predict a significant portion of the criterion variable's variance. In terms of individual relationships, there were no statistically significant relationships.

Eighth regression model

The eighth stepwise regression model using essential self significantly predicted the frequency of being unable to remember what happened the night before because of drinking, $F(1, 158) = 26.57$, $p < .001$. The stepwise model was able to determine about 14.4% of the memory loss variance with an R^2 of .14. The Essential Self had the strongest influence on memory loss ($\beta = -.38$). The negative relationship between Essential Self and memory loss indicated that the more a participant reported an essence in relationship to life and others the less likely they reported memory loss because of drinking.

Ninth regression model

The ninth stepwise regression model used the frequency of being injured or someone else being injured because of drinking. The stepwise model was not statistically significant in predicting injuries due to drinking alcohol. Among the individual second-order factors of wellness, there were no statistically significant relationships.

Tenth regression model

The tenth regression model used the frequency of a relative, friend, doctor, or other health care worker being concerned about the participant's drinking or recommending them cut down as the criterion variable. The stepwise model using Social Self determined 6.2% of the criterion variable's variance ($R^2 = .06$). The tenth regression was statistically significant, $F(1, 158) = 10.36$, $p = .002$, which demonstrated the stepwise

model to be a significant predictor of the criterion variable. The Social Self had the strongest influence on the criterion variable ($\beta = -.25$) and had a negative relationship with the criterion variable. This relationship implies that the more a participant reported having quality relationships with friends, family, and intimate partners the less likely they have been recommended to cut down or stop drinking.

CHAPTER V

DISCUSSION, IMPLICATIONS, AND RECOMMENDATIONS

In this chapter, study results are summarized, findings from the statistical analysis of the data are reviewed, limitations are acknowledged, future research recommendations are mentioned and suggestions for administrators and counselors are stated.

Summary of the Study

This study was carried out to expand the scientific knowledge concerning how wellness factors relate to alcohol consumption and behaviors associated with alcohol among college students. More specifically, the study was conducted to evaluate if the five wellness factors based on Myers and Sweeney's (2005b) the IS-WEL model of wellness (e.g. Essential Self, Social Self, Creative Self, Physical Self, and Coping Self) could predict alcohol consumption and behaviors associated with alcohol usage among college students. Participants in the study were volunteer college students recruited from classes held at MSU during the 2012 summer session. The participants were asked to complete the 5F-Wel-A (Myers & Sweeney, 2004) and the AUDIT (Saunders et al., 1993). A stepwise multiple regression analysis was conducted for each of the dependent variables included in the study, and the results of these analyses are reported below.

Description of Sample

The final sample consisted of 160 college students attending MSU, a medium-sized university in the southeastern United States with 16,312 undergraduate students. Thirty-five percent (n = 56) of the sample participants were male, 63% (n = 56) were female, and 2% (n = 3) did not report their biological sex. The racial distribution of participants was 45% (n = 71) Caucasian, 50% (n = 79) African American, 3% (n = 4) Asian or Pacific Islander, and 2% (n = 3) Native American. The participants' average age was 22.44 with a standard deviation of 7.78. Sixty-six percent (n = 105) percent of participants were working on their first Bachelor's Degree while 29% (n = 47) had completed an Associates Degree and 5% (n = 7) had already completed a Bachelor's Degree. The final sample consisted of a mix of students from various academic majors.

Description of Study Variables

The independent variables were the five second-order factors of wellness based on the IS-WEL model of wellness. These factors consisted of the Essential Self, Social Self, Creative Self, Physical Self, and Coping Self and were measured by using the 5F-Wel-A instrument (Myers & Sweeney, 2004). For this study, the mean scores for the wellness factors were Essential Self (M = 83.92; SD = 11.18), Social Self (M = 89.19; SD = 11.55), Creative Self (M = 81.05; SD = 9.55), Physical Self (M = 73.69; SD = 14.84), and Coping Self (M = 74.99; SD = 8.75). The mean scores for the norm group were Essential Self M = 78.90; SD = 16.15), Social Self (M = 84.06; SD = 17.82), Creative Self (M = 77.80; SD = 12.99), Physical Self (M = 70.98; SD = 17.00), and Coping Self (M = 73.36; SD = 10.63; Myers & Sweeney, 2004). The mean scores for the study were higher in comparison to the norm group mean scores. The higher scores on the wellness

factors could be due to MSU encouraging a positive culture of wellness or to the volunteer participants perceiving themselves to be more proactive about their wellness.

The dependent variables were 10 questions on the AUDIT, an assessment instrument designed to assess alcohol consumption and behaviors related to alcohol consumption. The mean scores for the dependent variables were frequency of alcohol consumption ($M = 1.46$; $SD = 1.02$), number of drinks containing alcohol ($M = 0.80$; $SD = 1.04$), frequency of consuming 6 or more drinks containing alcohol in one occasion ($M = 0.67$; $SD = 0.92$), perceived inability to stop drinking ($M = 0.14$; $SD = 0.50$), perceived fulfillment of expectations ($M = 0.16$; $SD = 0.50$), morning drink containing alcohol ($M = 0.04$; $SD = 0.30$), guilt ($M = 0.27$; $SD = 0.62$), memory loss ($M = 0.35$; $SD = 0.70$), injury ($M = 0.21$; $SD = 0.76$), and recommendations by others ($M = 0.20$; $SD = 0.82$).

In general, participants reported consuming at least one drink containing alcohol at least once per month but possibly several times a month. On average, participants reported binge drinking less than monthly. The majority of the participants reported that they never felt like they could not stop drinking, fulfill normal expectations, or feel the need to consume an alcoholic beverage in the morning. Even though the mean scores for the guilt, memory loss, injury, and recommendations by other variables were higher than the mean scores for the never feeling like they could not stop drinking and morning drink criterion variables, participants reported that on average they never had guilt, memory loss, injury, or recommendations by others related to alcohol.

Analyses of Research Hypotheses

The aim of the study was to examine the following two hypotheses. Hypothesis one proposed that the stepwise regression model would result in all of the five second-

order factors of wellness being significant predictors of alcohol consumption and alcohol consumption behaviors at a .05 alpha coefficient level. Hypothesis two suggested that a significant relationship at the .05 alpha coefficient level would exists separately between the five second-order variables of wellness and alcohol consumption and alcohol consumption behaviors. In order to test hypothesis one, ten regression analyses were conducted to test the correlation between these variables, and for hypothesis two, *t*-tests were used to determine whether the beta coefficients (*b* value) for each of the predictor variables were significant or not.

Overview of Findings

As a set, all of the second-order factors were not statistically significant for each of the 10 regression analyses, but the findings did suggests several significant relationships between the predictive and criterion variables. Out of the ten multiple regression analyses, seven resulted in statistical significance where at least one second-order factor was a significant predictor. Among the analyses, all of the second-order factors except Creative Self significantly predicted alcohol consumption or behaviors related to alcohol. This seemed to be consistent with previous research (Myers & Mobley, 2004; Myers & Sweeney, 2005a; Sinclair & Myers, 2004; Shurts & Myers, 2008) because Creative Self has not been highly influential on the thoughts, feelings, and behaviors among college students. Essential Self was the most influential variable and was a significant predictor for five of the multiple regression analyses. These findings were surprising because Essential Self is not mentioned in the literature for being highly influential among college students.

The first significant relationship derived was between Essential Self and Social Self with the frequency of alcohol consumption. Specifically, those students who felt a sense of meaning, purpose, and hope were more likely not to drink, and those students who felt connected with friends and family were more likely to drink. Therefore, students could be using their hope for the future to be a detour from drinking alcohol. On the other hand, students may be surrounding themselves with others that behave similar to or even reinforce their frequency of drinking alcohol. Adler said that an individual's social interest or social interactions were a product of "everything that they find valuable" (Ansbacher & Ansbacher, 1979, p. 35). If students value social interactions and interpret drinking to be a social activity, students might participate in drinking activities more often.

Essential Self and Physical Self significantly predicted the number of drinks. Based on the results of this study, Essential Self is repeatedly influential to college students not drinking. Myers and Sweeney describe Essential Self to be the "sense of meaning, purpose, and hopefulness toward life" (2005a, p. 34). There is a Spirituality third-order factor within Essential Self, and Adler described this as the central to the holism of an individual. Therefore, students with an essence of their identity and where they want to go in life might not fall into the misperception that alcohol is part of the college experience. In addition, students who prioritize exercise and nutrition were more likely to consume more alcoholic beverages in one setting. Nelson and his colleagues indicated that students might use exercise and dieting as compensatory behaviors to drinking alcohol (Nelson et al., 2009). Students may feel that because they participated in a drinking activity they must exercise and diet to not gain weight from extra calories in

the alcoholic beverages. Another possible explanation may be that students have a tendency to make poor eating choices while drinking (Nelson et al., 2009) so students feel they must compensate by dieting and exercising. Prioritizing eating healthy and exercising does not indicate the maintenance of a positive lifestyle overall. Some students who emphasize exercise and nutrition are the same students who are overweight or with eating disorders (Nelson et al., 2009).

Essential Self and Coping self were significantly related to of binge drinking. The Essential Self includes the Spirituality, Self-Care, Gender Identity, and Cultural Identity third-order factors (Myers & Sweeney, 2005a). Spirituality is our meaning making process and hope for the future, while Self-Care is the proactive efforts to improve one's life. The two identity third-order factors include how a person sees and responds to others and life events (Myers & Sweeney, 2005a). All of the factors could be highly influential on the alcohol consumption among college students, but Self-Care stands out because it involves proactive decisions about future behaviors. The reasoning behind Essential Self being so influential could be that students want to live longer and live well, which is associated with the Self-Care factor, so they are less likely to participate in careless drinking to avoid the physical, psychological, and emotional withdrawal symptoms of binge drinking. Interestingly, students who felt capable in regulating positive and negative life events were more likely to binge drink. This finding was surprising because the available literature repeatedly stated that college students used alcohol to cope (Goldstein & Flett, 2009; Karawacki & Bradley, 1996; Park et al., 2004; Park & Levenson, 2002). This relationship could be due to the Leisure third-order factor of Coping Self. Myers and Sweeney described Leisure as "learning to become totally

absorbed in an activity in which time stands still helps one both cope with and transcend others of life's requirements" (2005a, p. 34). Students may pursue drinking as a leisure activity in order to deal with the negative effects of life. In addition, college students are known to binge drink more on the weekends, which they may perceive drinking as a leisure activity on their time away from school (Johnston et al., 2007).

Essential Self also was significantly related to the failure to meet normal expectations because of drinking and the frequency of being unable to remember what happened the night before because of drinking. These behaviors could lead to irresponsibility, physical problems, and other risky behaviors. Based on the findings of this study, it is important for students to understand who they are, where they are going in life, and have hope for their future. Those students who acknowledged a positive meaning making process (Myers & Sweeney, 2005a) were less likely to drink alcohol and participate in behaviors related to alcohol. Adler would say that these students are striving for superiority or perfection, which motivates them not to be irresponsible or take careless measures with alcohol (Adler, 1964). If students perceive they have a bright future, they may feel like they have more to lose.

Having an alcoholic beverage in the morning was significantly related to Social Self. Previously, Social Self was positively related to how often a student drank alcohol, meaning that the more connected with others the more often they would drink. This relationship was negatively related. In general, students who felt social support were less likely to need a drink in the morning after a heavy night of drinking. The results may be only generalized to this sample. It also could be due to the behavior of needing a drink in the morning is associated with alcohol dependence. Consuming alcohol and participating

in risky behaviors due to drinking does not necessarily mean that the individual is diagnosed with alcohol dependence. Students with a social support system of friends and family may be less likely to be dependent on alcohol.

Social Self also was significantly related to the frequency of someone being concerned or recommending them to cut down their drinking. The findings were interesting because the more connected students felt the less likely they were shown concern or recommended to cut down on their drinking. This negative relationship between Social Self and the recommendations by others was surprising when considering how Social Self was measured. This factor consists of Friendship and Love third-order factors and involves the social support system created through the connections with others (Myers & Sweeney, 2005a). Considering developmental issues of undergraduate college students, many of their peers might be involved in the same drinking patters and would not discourage one another. Based on Adlerian Theory, these students are developing their external world with socializing as the priority rather than the behaviors involved in socializing (Ansbacher & Ansbacher, 1979). It also could be due to students no longer living at home and being able to disguise their drinking patters around family members. This reiterates the above comments that undergraduate college students are surrounding themselves with peers that are involved in behaviors with similar interest. It may also indicate that students perceive drinking to be a social event.

Limitations and Recommendations

When reviewing the results of the study, readers must consider the limitations due to the data collection procedure and measurement of variables. Limitations of this study

included the use of convenience sampling, the demographics of the sample, and the use of self-report measures.

Sampling

This study used a convenience sample of undergraduate students that volunteered to participate. Even though convenience samples are used frequently in research studies, the generalizability of the results can be uncertain because there is a decrease in external validity. Because the sample consisted of volunteers, the participants in the study could have been characteristically different than the overall population of undergraduates. Undergraduate students who volunteered for the study might be more confident in their perception of wellness and more likely to participate in the study. It could also be that these are students who do not drink or have any problems with alcohol. On the other hand, undergraduate students who felt there was something to hide about their alcohol consumption might have been less likely to volunteer for the study.

Demographics

In addition, the demographic information of the sample was somewhat different from the population and could cause readers to question the results. The majority of the sample participants were females with 50% of students self-identifying as African American, 45% Caucasian, and 5% as Other. Demographic information of participants may not have been exact, but the significant relationships between the predictive and criterion variables indicate the essential variables related to alcohol consumption and behaviors associated with alcohol. Therefore, the results can still be generalized to the MSU population.

Instrumentation

All of the instruments were self-report measures. This type of measure can affect the reliability of the results from potential bias. Because participants were asked to report on personal issues related to alcohol, a tendency to report socially desirable answers may be increased. To mitigate this likelihood, the researcher explained that there was to be no identifying information on either instrument that could link the participant to his or her survey. Additionally, participants did not have to sign a written consent form, so there was no identifying information that could link the participant to the study. The researcher made every effort to protect and hold all research materials confidential.

Recommendations for Future Research

Additional research is needed to explore the relationship between the five second-order factors of wellness and alcohol consumption and behaviors related to alcohol consumption among college students. Because this was the first study to assess these variables, replication studies would increase the reliability of the results found in this study. Further investigation into the relationship between the Essential Self and alcohol consumption would be beneficial in discerning what parts of college students' identity and spirituality are related to alcohol consumption. This type of research could help counselors identify possible gender and cultural variables associated with alcohol consumption and develop appropriate prevention and intervention programs. Knowing how influential Spirituality is in relationship to alcohol consumption would be interesting because previous research (Myers & Sweeney, 2005a; Shurts & Myers, 2008) stated that Spirituality was only influential when serving as a utility to increase Social Self. Participants' identity and spirituality influences could be assessed by evaluating the third-

order factors of the Essential Self in relationship to alcohol consumption and behaviors associated with alcohol. With the Essential Self being the most influential second-order factor, it should be explored to identify what areas of the student's essential meaning-making process help guide their decisions about alcohol. If research could provide information about what areas of the Essential Self predict alcohol consumption, administrators and counselors can use that information to develop a profile of what type of students are more or less likely to consume alcohol or participate in risky behaviors due to drinking. It also can give the basis of where added resources and possible funding need to be distributed to decrease college student drinking. Based on this research, Spirituality, Gender Identity, Cultural Identity, and Self-Care would all be significant predictors of alcohol consumption and behaviors related to alcohol.

More research is needed in exploring the details of the Coping Self and binge drinking. Because the Coping Self includes the participation in leisure activities, researchers should assess how students identify leisure activities and if they perceive drinking alcohol as a leisure activity. When third-order factors were assessed among undergraduates, Leisure was one of the highest scored factors with Realistic Beliefs being one of the lowest (Myers & Mobley, 2004). Both of the third-order factors are among those of Coping Self. If Leisure was controlled, the findings may offer opposite results.

Since the Physical Self was the lowest scored second-order factor, future researchers should analyze how college students assess their level of exercise and nutrition. Research is needed to determine how the emphasis on body image increases the awareness of the Physical Self. For example, are students more aware and critical of their body and eating habits because of the increase in the media involving topics of exercise

and nutrition? Future research could examine the relationships among body image media exposure, students' perceptions about their bodies, and the Physical Self second-order factor. Because Physical Self was negatively correlated with binge drinking, future research could analyze other personality factors associated with those individuals who exercise and value healthy nutrition in relationship to alcohol consumption. Lastly, a correlational study does not provide causation information. In general, this study does not supply information on what wellness variables would cause alcohol consumption or behaviors related to alcohol to increase or decrease. This study offers information on the relationships between variables, the direction of those relationships, and the strength of wellness factors influence on alcohol consumption or related behaviors.

Implications

The goal of this study was to expand the scientific knowledge of the relationship between wellness and alcohol consumption among college students. It is known that administrators and counselors on college campuses are continually faced with the problems related to college student's alcohol consumption and their behaviors associated with alcohol. The statistical findings of this study have increased the information to help guide the development of programs to address alcohol related problems on college campuses and identify students with risky behaviors.

Implications for Counselors

Counselors can use this information to gain insight on the strengths and challenges facing college students. The results of this study helps counselors identify variables of wellness that impact students' decisions about alcohol consumption and

behaviors related to alcohol. It provides information to be used in developing more appropriate interventions for students with issues concerning alcohol. Counselors could incorporate goal setting, encouraging ways to achieve those goals, exploration of spirituality or increasing one's spirituality, and the development of a cognitive process of self-care within their interventions for students who have problems with alcohol.

The results of this study also help counselors not make assumptions about college students. Based on the findings related to the Physical Self second-order factor, students may appear to be healthy by watching what they eat and maintaining a regular exercise regiment but still struggle with alcohol. College students who maintain an exercise regiment or a strict diet may reward themselves with alcoholic beverages (Nelson et al., 2009). This study's results indicated that students who value exercise and nutrition have an increase in the number of alcoholic beverages consumed. Therefore, counselors need to understand just because a student appears to be in good physical condition does not mean that they do not have problems related to alcohol.

Although the results of this study emphasized the college student profile referred to in the literature that students are very focused on their social life, it did not confirm that college students cope with drinking alcohol. Counselors need to be aware that college students may appear to be coping appropriately with the negative effects of life and still binge drink. College students may seem to manage stress well, have a good sense of self-worth, and maintain realistic beliefs about their life, yet binge drink on a monthly basis. Because students are not drinking to cope, there might be other motivations counselors need to assess for such as a reward for achieving a goal or accomplishing an objective. In light of the Physical Self and Coping Self relationships in

this study, counselors should not always assume that students who appear healthy do not have problems with alcohol or students are drinking to cope with life events.

Based on the IS-WEL model of wellness, undergraduate college students consistently report that they prioritize friendships and having quality relationships with others. Being social is a large part of how students spend their time and allocate their resources. Counselors can use this information to enhance good quality relationships among college students, especially for those students struggling with alcohol. These relationships should include activities that do not involve alcohol.

Implications for Student Affairs

Based on Adler's theory, he felt that individuals are social beings and can be best understood through their interactions with one another (Sweeney, 1989). From previous research, college students have emphasized relationships and their influence on alcohol consumption. This study confirmed those findings by indicating that college students reported the Social Self being the highest scored wellness factor. Socials, groups, workshops, and union entertainment could increase relationships among college students. It is common for student organizations to promote social activities but more needs to be endorsed to recruit those individuals not associated with a special interest group or organization. Administrators can develop wellness programs that promote social activities without the availability of alcohol and encourage relationships, which do not revolve around activities involving alcohol. Incentives such as food or t-shirts could be offered at events to increase attendance. As mentioned before, regular social activities or entertainment could be one way of incorporating events without the availability of alcohol. The promotion of socials without alcohol will contradict the misperception that

drinking alcohol is part of the college experience and battle against the peer pressure of drinking alcohol.

In order to emphasize the findings of Essential Self in this study, administrators should consider how a student perceives their identity, spirituality, and takes care of themselves. These factors that make up the Essential Self of wellness impact alcohol consumption and behaviors related to alcohol more than any other factor. If college students can increase their focus on finding meaning and purpose in their life, they will be less likely to risk their future in participating in alcohol consumption or risky behaviors associated with alcohol. Online or in-class assessments could be administered to help students increase their awareness of their strengths in order to develop life goals. Students also may participate in more health-promoting behaviors because they have goals for the future. Adler would say this is the human nature of individuals to be directed toward a goal or goals (Sweeney, 1989), and these goals do not have to be limited to just academics or career oriented aspirations. They could also include financial stability, marriage, and family.

Some students may have their goals in mind but do not know how to implement those goals. College students need access to individuals to answer questions about their future goals such as student advising. Even though student advising is suppose to help guide the student in their academic and professional development, there needs to be more direct face time between students and advisors or other staff advisors. Many students are unaware of the resources available to them. Some advisors are unaware of resources to recommend or do not have the additional time to be accessible to students. Even at Mississippi State University, there are several free resources available to students, yet

very few students access those resources. Having more direct face time with students could help students reach those goals. Universities also could increase the awareness of student resources to advisors and increase staff that could help connect students with available resources. In turn, students who have goals and purpose in mind will be less likely to drink alcohol and participate in risky behaviors related to alcohol.

The results of this study will help in emphasizing a holistic approach to wellness. Administrators and counselors should work towards developing programs that encourage students in having a purpose in life, increase the quality of their relationships, and assess their coping skills. These wellness programs involve the internal and external processes of the college students' life tasks.

Conclusions

This study helps fill the gap in literature on the relationship between wellness and alcohol consumption and behaviors related to alcohol among college students. The results indicate that the Essential Self second-order factor is the most influential factor of wellness in predicting alcohol consumption and behaviors related to alcohol. Even though the Social Self influences students to not drink as often or have a morning drink of alcohol, it decreases the likelihood that recommendations are made to students to decrease his or her drinking. There were two interestingly positive relationships: one, as the Coping Self increases so does the likelihood of college student binge drinking and second, as the Physical Self increases so does the number of alcoholic beverages consumed. These findings help administrators and counselors guide and development wellness programs with a holistic approach in dealing with the alcohol consumption and related behaviors among college students.

This was the first known research study to evaluate the relationship between wellness factors based on the Indivisible Self model and alcohol consumption and behaviors related to alcohol among college students. Even though there were limitations to the study, the results supported that wellness factors based on the Indivisible Self model of wellness can predict alcohol consumption and behaviors related to alcohol. Those factors were the Essential Self, Social Self, Coping Self, and Physical Self. The results conclude that several wellness factors need to be incorporated in the development of college programs addressing alcohol consumption. College administrators have a responsibility to develop wellness programs addressing issues with alcohol facing college students. Also, counselors need to be aware of the influential wellness factors to help students with problems related to alcohol and provide interventions accordingly. Counselors can use the 5F-Wel-A to assess individuals further for strengths and weaknesses that should be addressed in relationship to alcohol use. The results of this study stress the importance of assessing and providing college students with wellness programs based on the mind, body, and spirit perspective. Treating only selective parts of the individual's life tasks does not envision how the individual moves in their development in a purposeful manner.

Alcohol consumption on college campuses has been a problem for administrators and counselor that has increased overtime. Despite their efforts to educate, motivate, and promote positive lifestyle changes, college students continue to drink alcohol and participate in risky behaviors due to drinking. These behaviors result in physical, legal, and academic consequences. The results reinforce the importance of addressing college student drinking from a holistic approach. College administrators know more information

about where and how to guide resources for the development of programs, and counselors are better able to understand the strengths and challenges college students face. These findings point out that the incorporation of the mind, body, and spirit moving in a purposeful manner can decrease the likelihood of alcohol consumption and behaviors related to alcohol among college students (Myers et al., 2000a).

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APPENDIX A

SAMPLE STATEMENT TO READ PRIOR TO ADMINISTRATION OF

CLASSROOM DATA COLLECTION

My name is Angel Golson, and I am a doctoral student in the Department of Counseling and Educational Psychology. I have chosen to study the relationships between alcohol consumption and wellness decisions of college students. I am collecting information here today for my dissertation on this topic. Individuals under the age of 18 will not be included in the study. I am here to ask for your voluntary participation in my study, which will ask you questions about your alcohol consumption and wellness. If you do not want to participate, you are not required to do so, and you will not be negatively affected in anyway if you choose not to participate. At any point during your participation of the study you would like to discontinue, there will be no penalty for not participating. At any point during your participation of the study you feel uncomfortable and wish to further discuss your feelings, the counseling student services contact information is available on the informed consent. Those of you who wish not to participate or are under the age of 18 may have a 30 minute break or may turn in an unused packet at the end of the time period.

I am going to hand you a packet of information. The first sheet explains further details of the study, including your participation and is yours to keep. Do not put your name or any other identifying information on any of the papers. When you are finished with the surveys, please separate the informed consent from the surveys and place the surveys in the plastic collection bin in the classroom. Please keep the informed consent for your personal records. The results of the research study may be published, but your participation will be confidential.

APPENDIX B

INFORMED CONSENT

INFORMED CONSENT FORM

Title of Study: The Impact of Wellness on Alcohol Consumption Among College Students

Study Site: Mississippi State University

Name of researcher(s) & University affiliation: Angel Golson, a doctoral student in the Department of Counselor Education, and an instructor in the Department of Psychology at Mississippi State University

What is the purpose of this research project? The purpose of this study is to evaluate the relationship of wellness and alcohol consumption of college students.

How will the research be conducted? Your voluntary participation is being requested to complete the attached inventory. You may withdrawal from the survey at any time you choose to with no penalty or loss. You also may skip any question(s) you do not wish to answer. Please keep a copy of this document for your records. The process will take approximately 30 minutes.

Are there any risks or discomforts to you during your participation? There are no anticipated risks or discomforts to you during your participation of this study. If for any reason you feel any discomfort or emotional stress, you may contact the student counseling services at 662-325-2091, located in 115C Hathorn Hall on the MSU campus.

Does your participation in this research provide any benefits to you or others? You might experience an increase in knowledge of yourself, wellness, and alcohol consumption. College campuses might benefit by having information to help guide their wellness programs, recognize the strengths and challenges facing college students, and provide interventions to detour at-risk students and encourage positive lifestyle behaviors. Therefore, you might reap indirect benefits from more successful non-academic programs to increase your success in college.

Will this information be kept confidential? Your voluntary participation will be kept confidential. In any report we might publish, we will not include any subject's identifying information. The research materials will be stored securely, and no one else will have access to the research materials other than the researchers.

Who do you contact with research questions? If you have any questions about this research project, please feel free to contact Mrs. Angel Golson at 662-549-9111 or email arc5@msstate.edu, and Dr. Joshua Watson at 601-484-0188 or email jwatson@meridian.msstate.edu. For additional information about human participation in research regarding your rights as a research subject, please contact the MSU Regulatory Compliance Office at 662-325-3994.

What if I do not want to participate? Please remember that your participation is entirely voluntary, your refusal to participate will not result in any penalty or loss of benefits, and you may withdraw from the study at any point without any penalty or loss.

Statement of Consent: You may take as much time needed to read through this document and decide whether you would like to participate in this research study. If you decide to participate, your completion of the research procedures indicates your consent. Please keep this informed consent for your personal records.

APPENDIX C

FIVE FACTOR WELLNESS INVENTORY ADULT VERSION

Permission to Use the 5F-Wel

The authors of the 5F-Wel will give our permission for your use of the instrument in your dissertation or other research. We will provide information and scoring services, per the following procedures:

1. The Specimen Set for the 5F-Wel includes the Manual, One Instrument, an NCS response sheet if you plan to use paper-and-pencil administration, and a Brief Interpretive Report. The cost for this is $30. The cost is $25 if you will accept pdf files and plan electronic scoring (in which case we will not mail any documents or provide bubble sheets). You can copy the 5F-Wel as needed for your population; the cost of scoring is $1 per person, prepaid. Alternately, you may have your participants complete the inventory on-line. The scoring cost is the same.

2. You will need to specify the nature of your population. We will then assign you a three digit key code which must be written and bubbled in on all of your forms or included in your electronic data set. This code will comprise the first three numbers for each id, so your cases will be numbered, assuming your code is 799, as 799001, 799002, 799003, etc.

3. As a pilot, please complete one 5F-Wel bubble sheet and mail it to me, or complete an SPSS or Excel file in an agreed-upon format for testing. This is to verify that all instructions are followed and all data requested are provided. We will provide the initial file. You will need to assure that all of your participants provide all of the requested data. (If using the on-line version, filling out the form once is also necessary, with a code to be provided based on the nature of the population).

4. When you have collected all of your data, if you are using bubble sheets, review your bubble sheets/data form and edit them as necessary for demographic items and missing data. Then, put them all in the same order (one edge of the page is cut so they can be matched, all right side up and facing forward). *If you are using on-line administration, you must add "age" as a variable.*

5. We will have the data scanned, which takes anywhere from one day to two weeks, depending on when it arrives. We are on a semester system and scanning of midterms and finals takes priority. No scanning services are available during university breaks and holidays. Electronic files may be scored more quickly.

6. The data will be scored using SPSS for windows. Our preference is to e-mail the data file to you. It can also be sent on a disk, but you will have to provide the disk and pay postage. The data file will contain all of the demographic information, item responses, and subscale scores for your participants. It will include raw scores and J-scores for the 5F-Wel factors.

7. We will provide a syntax file to assist you in interpreting the variables in the data set. We will not provide you with the scoring protocol - that is, we will not tell you which items score on which subscales.

8. The manual for the 5F-Wel includes all of the psychometric data you will need for your research proposal.

9. Your data will be included in our data set for development of the 5F-Wel. Individual data will not be used in any form, and we will not conduct research solely on your data set. We expect you to maintain informed consent forms for all participants.

10. Under no circumstances do these permissions include the right to include item and scale information in published documents resulting from your study. The 5F-Wel is proprietary and any such publication of information is a violation of U.S. copyright laws and professional ethical codes of conduct.

Please let me know if there is anything else we can do to assist you in your research.

Jane Myers

APPENDIX D

ALCOHOL USE DISORDERS IDENTIFICATION TEST

Box 10

The Alcohol Use Disorders Identification Test: Self-Report Version

PATIENT: Because alcohol use can affect your health and can interfere with certain medications and treatments, it is important that we ask some questions about your use of alcohol. Your answers will remain confidential so please be honest.
Place an X in one box that best describes your answer to each question.

Questions	0	1	2	3	4	
1. How often do you have a drink containing alcohol?	Never	Monthly or less	2-4 times a month	2-3 times a week	4 or more times a week	
2. How many drinks containing alcohol do you have on a typical day when you are drinking?	1 or 2	3 or 4	5 or 6	7 to 9	10 or more	
3. How often do you have six or more drinks on one occasion?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
4. How often during the last year have you found that you were not able to stop drinking once you had started?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
5. How often during the last year have you failed to do what was normally expected of you because of drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
7. How often during the last year have you had a feeling of guilt or remorse after drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
8. How often during the last year have you been unable to remember what happened the night before because of your drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
9. Have you or someone else been injured because of your drinking?	No		Yes, but not in the last year		Yes, during the last year	
10. Has a relative, friend, doctor, or other health care worker been concerned about your drinking or suggested you cut down?	No		Yes, but not in the last year		Yes, during the last year	
					Total	

APPENDIX E

IRB APPROVAL LETTER

June 1, 2012

Angel Golson
3407 Military Road
Columbus, MS 39705

RE: IRB Study #12-165: The Impact of Wellness on Alcohol Consumption Among College Students

Dear Ms. Golson:

This email serves as official documentation that the above referenced project was reviewed and approved via expedited review for a period of 6/1/2012 through 5/15/2013 in accordance with 45 CFR 46.110 #7. Please note the expiration date for approval of this project is 5/15/2013. If additional time is needed to complete the project, you will need to submit a Continuing Review Request form 30 days prior to the date of expiration. Any modifications made to this project must be submitted for approval prior to implementation. Forms for both Continuing Review and Modifications are located on our website at http://www.orc.msstate.edu.

Any failure to adhere to the approved protocol could result in suspension or termination of your project. Please note th! at the IRB reserves the right, at anytime, to observe you and any associated researchers as they conduct the project and audit research records associated with this project.

Please note that the MSU IRB is in the process of seeking accreditation for our human subjects protection program. As a result of these efforts, you will likely notice many changes in the IRB's policies and procedures in the coming months. These changes will be posted online at http://www.orc.msstate.edu/human/aahrpp.php. The first of these changes is the implementation of an approval stamp for consent forms. The approval stamp will assist in ensuring the IRB approved version of the consent form is used in the actual conduct of research. Your stamped consent form will be attached in a separate email. You must use copies of the stamped consent form for obtaining consent from participants.

Please refer to your docket number (#12-165) when contacting our office regarding! this project.

We wish you the very best of luck in your research and look forward to working with you again. If you have questions or concerns, please contact Nicole Morse at nmorse@research.msstate.edu or call 662-325-3994. In addition, we would greatly appreciate your feedback on the IRB approval process. Please take a few minutes to complete our survey at http://www.surveymonkey.com/s/YZC7QQD.

Sincerely,

Nicole Morse
Assistant Compliance Administrator

cc: Joshua Watson (Advisor)