ROLE OF PARENTS IN COLLEGE STUDENT REGULAR ALCOHOL USE IN THE CONTEXT OF ABSTINENT RELIGIOSITY

By

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ABSTRACT

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Heavy alcohol use is a problem on many college campuses with short-term and long-term consequences for students. Little is known about the role parents play in alcohol use prevention among college students in the context of alcohol abstinent religiosity. This study, based on the human ecology framework, hypothesized parental involvement and conflict and open communication have an effect on regular alcohol use, but will not have as strong an influence as religious faith and participation. Secondary analysis of a health-risk behaviors survey collected March 2012 on a conservative Christian college campus was conducted for this manuscript style dissertation that included two separate studies. For study one, the multiple linear regression model included parental involvement and conflict, age, gender, ethnicity, religious belief and participation as part of the predictor model to explain the variance of regular alcohol use among those who self-identified as Seventh-day Adventist, single, age 18-25, and not living at home. Results found mother not knowing what is done in the child’s spare time had a relationship with using alcohol regularly, especially for those under age 21. Believing “God wants me to take care of my body by avoiding drugs and alcohol” had the strongest relationship with not using alcohol. Participation in Sabbath school and younger age also were protective factors.

Study two was an explanatory mixed method approach using step-wise logistic regression analysis of the same survey and secondary analysis of follow up focus groups. The step-wise logistic regression was used to assess the effect of parental communication, age, gender,
ethnicity, and religious belief and participation on regular alcohol use among the same population. Results showed that open communication with mother on the topic of drugs, sex, and alcohol decreased the chance of regular alcohol use by about 30% in the first set of models, age increased the odds of alcohol use by 50%, religious participation decreased the probability of alcohol use by 26%, and religious belief decreased the chance of regular alcohol use by about 60% in the last set of models. Six follow-up focus groups were conducted, and themes identified were: abstinent environment vs. secular culture, authoritative parenting, and drinking for recreation and coping that helped to explain the role parents and religiosity play in alcohol use among college students. These narrative themes helped to explain the complex interplay between the micro-, meso-, and macro-levels that influence college student alcohol use. In conclusion, there are multiple influences on alcohol use among a population of abstinent oriented Christian college students. Parents play many roles in college student alcohol use, but as young adults mature, religiosity can play a stronger role. Individual and cultural factors influence alcohol use as well. There are implications for parents, family life educators, faith communities, and college administrators/counselors.
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CHAPTER I
INTRODUCTION

Purpose of the Study and Research Questions

The purpose of this study was to examine the role parents have in college student regular alcohol use in the context of a religious subculture that expects abstinence. In what ways do the parent/child relationship and religiosity predict regular alcohol use in a population of Christian college students attending an alcohol-abstinent university? Much of the research conducted on the role of parents in youth health risk-taking behavior is conducted among adolescents (Schwartz, et al., 2009). This study aims to build on the limited studies that have been conducted on the role of parents in college student alcohol use behavior. In order to better understand the context in which the participants and their families live, this study also examined different elements of religiosity to measure the strongest religiosity elements that may influence alcohol use in an abstinence-oriented faith and whether religious variables influence parental effects. There could be risk factors for this population to use alcohol that may not be understood. Many studies have examined gender and ethnic/racial effects on alcohol use during the college years. There is a gap in the literature examining abstinent religiosity’s influence on gender and ethnic/racial differences in alcohol use among college students.

There are two separate studies as part of this dissertation. The first study examined a survey conducted winter of 2012 that looked at health risk behaviors (alcohol, substance abuse, and sexual behaviors) along with potential risk and protective factors that may affect those health risk behaviors. The author was the project director for the survey being used and was involved in all aspects of the design, data collection, analysis, and report writing for the survey. This study examined college student involvement and conflict with parents and its relationship with
regular use of alcohol using multiple linear regressions with a model that included: parental involvement, parental conflict, gender, ethnicity, age, religious belief and involvement. For study one, it was hypothesized that involvement with parents (stronger for younger college students) will decrease regular alcohol use. In addition, it was hypothesized that conflict with parents (stronger for younger college students) will increase regular alcohol use by college students.

The second study used explanatory mixed method looking at the same survey results with the goal of finding the strongest parental protective factors in the context of religiosity and demographic variables and their relationship with regular alcohol use using step-wise logistical regression models. It was hypothesized that college students who have open communication with parents would be less likely to consume alcohol regularly. A second hypothesis for both studies was religious faith and participation will have a stronger effect on regular alcohol use than any parental variable. Both studies used the selection criteria of those who self-identify as Seventh-day Adventist (an alcohol-abstinence religion), single, not living at home, and age 18-25. A follow-up qualitative study, conducted winter of 2013, explored perception of alcohol use, and the role of parents and religiosity was analyzed. The author was the project director for this undertaking as well. The qualitative questions were developed with guidance from Dr. Dennis Martell and Dr. Desiree Qin from Michigan State University, and Dr. Curt VanderWaal from Andrews University. Content analysis was conducted to find the most common themes identified by participants. The outcome of that analysis helped to explain the results of the survey. Implications and recommendations on ways to increase collaboration between parents and college administrators and counselors in protecting youth from at-risk alcohol use are given.
Policy and program recommendations are given to college administrators, the faith community, parents, and family life educators.

**Rationale**

**Emerging Adults**

As a result of economic and social changes, young adults are delaying the typical route to adulthood through marriage with later average age for first marriage (Schwartz, et al., 2009). Arnett (2014) found in his research with individuals 18-25 years old that there is a transition period to what is conceptualized by society as adulthood where individuals finish schooling, get jobs, join in marriage, have children, buy a house, become involved in their community, and so on. Arnett (2000) termed this period “emerging adulthood.” This period is characterized by identity exploration, instability, self-focus, feeling in-between, and optimism about the future (Arnett, 2014). Since adulthood is being delayed, there also can be longer periods of experimentation and risk-taking similar to the adolescent years (Arnett, 2005). College students participate in numerous health risk behaviors that may negatively alter their plans for the future and put them at risk for developing addictions, or even possible early death (American College Health Association [ACHA], 2011).

Young adults in this age period may have a different relationship with their parents than in generations past. The term “boomerang children” is part of the vernacular, where children leave the parental nest, but for various reasons (typically economic), many return home (Goldfarb, 2014). Because of this and other societal changes, parents may be involved in their children’s lives for longer periods than in any time in history. With many college students still maintaining strong emotional and financial ties to their parents, it is important to study the
influence these parents could have on their emerging adult college-attending children (Schwartz et al., 2009).

For the past few decades, there has been increased attention on underage and binge drinking among college students and the consequences related to those behaviors (Turrisi, Wiersma, & Hughes, 2000; Schwartz, et al., 2009). The Substance Abuse and Mental Health Services Administration (SAMHSA), which conducts the annual National Survey on Drug Use and Health (NSDUH), defines binge drinking as consuming five or more drinks in one setting on at least one day in the last 30 days (SAMHSA, 2014). National Institute on Alcohol abuse and Alcoholism (NIAA) differs in its definition of binge drinking, defining it as a pattern of drinking that brings blood alcohol concentration levels to 0.08 g/dL. For women that blood concentration level is reached with about four drinks, and for men it is five drinks consumed in about two hours (NIAA, 2004). This research study defines binge drinking using the SAMHSA definition.

Alcohol abuse is considered the single biggest public health hazard on college and university campuses today by some authors (Misch, 2010). Research has found attending college is a risk factor for heavy alcohol use. Those evaluated at 18 who planned on attending college were more likely to be heavy drinkers by the age 22 (Merline, Jager, & Schulenberg, 2008). A vast majority of a college age research sample were drinkers (73-81%) with about 1/3 meeting the criteria for binge drinking in the previous month (Braitman et al., 2009; Randolph, Torres, Gore-Felton, Lloyd, & McGarvey, 2009; Roberts, Glod, Kim, & Hounchell, 2010). Consuming alcohol also is a risk factor for using illicit drugs. College students who reported being non-drinkers only had a rate of 4.2 percent for using illicit drugs in the past month, compared to current alcohol users (non-binge drinkers) at 7.1 percent and binge drinkers at 18.5 percent (SAMHSA, 2013).
Parental Roles

Some alcohol use patterns seen in college students began in the high school years when parents have more influence, but some use is initiated in college where there is more peer interaction and less parental monitoring (Arria et al., 2008). Research has found parents can still play a role in the alcohol use patterns of their college age children. Schwartz, et al. (2009) saw the importance of looking at mother and father relationships with their college age children separately to gauge the distinct and important contributions each parent makes in the likelihood of using alcohol and substances.

When thinking of college age students’ involvement with their parents, many think of the term “helicopter parent,” which usually has a negative connotation. This phenomenon is more problematic if the child is technically an adult (over the age of 18) and away at college. Parent-child bonding has been defined as having a feeling of closeness and intimacy with one’s parents that is reflected in communication, involvement with one another, and joint activities within the family (Kuendig & Kuntsche, 2006). Research has found that parental involvement can be a protective factor in adolescent alcohol and substance use (Baltazar, Hopkins, McBride, VanderWaal, Pepper, & Mackey, 2013 & Johnson, McBride, Hopkins, & Pepper, 2014).

Conflict with a parent is defined as a pattern of hostile, negative interactions between parent and child. Parental negative attitudes and relationships with children have been correlated with high levels of substance use in a population of teens (Hayes, Smart, Toumbourou, & Sanson, 2004). Fischer, Forthun, Pidcock, and Dowd (2007) found that psychological control and lack of connection with parents predicted college student alcohol problems. This may be due to higher levels of stress and perceived emotional harm due to these negative interactions (Drapela & Mosher, 2007). The question remains whether parental involvement and conflict still
have an influence on college student alcohol use when the young adult can move away from the home environment.

Parent-child communication on the topic of alcohol is defined as general openness of parent-child communication or frequency of communication about alcohol (Jackson, Bijstra, Oostra, & Bosma, 1998). Miller-Day and Kam (2010) have conducted extensive research on the role of parent-child communication in relation to alcohol use. Miller-Day and Kam (2010) recommend a more multifaceted understanding of communication between parent and child in order to determine which approaches to communication yield the best outcomes for alcohol use in youth.

Studies have been conducted on the role of parents in affecting their college student’s alcohol using patterns. Schwartz, et al., (2009) investigated the association of perceived parenting with health-risk behaviors. Abar and Turrisi (2008) reported that perceived parental disapproval of alcohol use during the adolescent years was strongly associated with lower rates of alcohol use in college. Since parents play a powerful role in socializing their children even through the emerging adult years, research suggests that relationships with mothers and fathers may explain some of the alcohol use variance during college (Schwartz, et al., 2009).

Parents’ religious beliefs also may have an influence on children’s alcohol abuse. Cubbins and Klepinger (2007) found that childhood religious affiliation was associated with less past year drug use when they were young adults. In a sample of adolescents, parent religiosity had a robust association with girls’ health risk behaviors (Caputo, 2005). In a qualitative study of youth aged 15-25 living in New Zealand, one of the themes identified was that belonging to a church community made them concerned about how their behavior may affect their parent’s standing in the community (Zuaalii-Sauni, Samu, Dunbar, Pulford, & Wheeler, 2012).
Seventh-day Adventist Church

The college campus that was studied and a vast majority (87%) of the participants in this study were self-identified as Seventh-day Adventist. The Seventh-day Adventist Church is considered a conservative evangelical church group that teaches the abstinence of alcohol and other harmful substances (Dudley, McBride, & Hernandez, 1997). There are 17,994,120 Seventh-day Adventists worldwide, with most of them residing outside of the United States (Seventh-day Adventist Church, 2013). The church was founded in 1863 (Schwartz, 1979). The early church took on the cause of health reform, founding centers of healing that encouraged natural remedies, vegetarian diet, fresh air and sunlight, exercise, and trust in divine power for healing (Schwartz, 1979). The church refers to this as the “health message.” Seventh-day Adventists not only teach substance use abstinence, but also are known for eating a healthier diet with higher rates of vegetarianism and veganism (not consuming any animal products including milk and eggs) than the average American, which has been shown in a recent issue of the Journal of the American Medical Association to be related to a decreased mortality rates, especially from heart disease in that population (Orlich, et al., 2013). The Seventh-day Adventist church encourages certain health behaviors in its members that include lacto-ovo vegetarian diet (milk and eggs, but no meat) and abstinence from smoking, unnecessary drugs, alcohol, and caffeinated drinks (Taylor & Carr, 2009).

Seventh-day Adventists’ “health message” is based on the belief that the Bible teaches individuals to take care of their bodies because the body is the “temple of the living God,” so should be cared for intelligently (General Conference of Seventh-day Adventists, 2010). The church’s official statement regarding substance use is as follows: “Along with adequate exercise and rest we are to adopt the most healthful diet possible. …Since alcohol beverages, tobacco, and
irresponsible use of drugs and narcotics are harmful to our bodies, we are to abstain from them. Instead, we are to engage in whatever brings our thoughts and bodies into the discipline of Christ, who desire our wholesomeness, joy, and goodness” (General Conference of Seventh-day Adventists, 2010). The 2014-2015 university bulletin of the Seventh-day Adventist campus studied states that the institution has a distinctive Christian perspective, guided by their understanding of Scripture, which informs faith as well as practice. This becomes evident as students encounter the Seventh-day Sabbath day of rest and worship, wholesome recreational and entertainment choices, an emphasis on healthful living (that includes eating a healthy diet, abstinence from all substances, and sex reserved for marriage), concern for others through local and global service, the care of dedicated staff and professors, and a hopeful view of the present and future as found in Jesus Christ (Andrews University, 2014). The literature on college student substance use is vast, but there are some populations where there is limited information regarding risk and protective factors of their alcohol use.

Religiosity

Recent policy changes at some alcohol abstinent colleges appear to reflect a cultural shift that is more accepting of alcohol use on Christian college campuses with a long history of alcohol abstinence. Moody Bible Institute and Wheaton College have recently lifted the alcohol ban for faculty and staff in order to aid in recruitment and retention; some wonder if there may be changes for the student body in the future (Oppenheimer, 2013). It is important to explore whether there is a cultural shift in attitudes towards alcohol on alcohol-abstinent colleges.

In addition, there may be elements of religiosity that are more helpful in protecting college students from the potentially dangerous aspects of alcohol use. This information will be helpful to family life educators, parents, and college administrators. It has been well
documented that religious and spiritual beliefs and practices are associated with positive well-being in youth (Urry & Poey, 2008). Researchers have found that internalization of religious beliefs and values can guide and modify behavior in youth (Ellison & Levin, 1998). These behaviors may be due to religious doctrine or a general belief that the body is the temple of the Holy Spirit (George, Larson, Koenig, & McCullough, 2000). Though religiosity can have a positive influence on youth development, most college students are not secure in their beliefs (Astin, Astin, & Lindholm, 2011). Religiosity/spirituality needs to be understood in the context of people’s ever-changing lives where its influence may wax or wane (Nasir, 2008).

Research has found that not all aspects of religion are helpful for an individual’s mental and physical health. In a national sample of African Americans (N=2,370) who were an average age of 53, researchers found a complex relationship between religious involvement and beliefs (Holt, Clark, & Roth, 2014). Participants with strong religious beliefs were less likely to believe that illness is punishment for sin, which was linked with decreased binge drinking. However, individuals who were religiously involved were more likely to believe that illness is punishment for sin, which translated into more binge drinking (Holt, Clark, & Roth, 2014). This may be linked to a certain amount of fatalism in individuals’ perceptions of their life choices in relation to God’s care of their body. Religion can turn toxic when it is turned into a form of abuse called spiritual abuse. Spiritual abuse negatively affects the bio/psycho/social and spiritual domains of the victim (Ward, 2010). There is a need to explore this topic further to aid in clarifying what elements of religiosity are helpful and which ones are potentially harmful.

**Theoretical Framework**

The ecological perspective on the family developed in the late 19th century during a period of major societal change in industrializing countries (Bubolz & Sontag, 1993). There was
a concern about the effect of industrialization and urban migration on the health and welfare of individuals and families (White & Klein, 2008). Ernst Haeckel, a German biologist, coined the term ecology from the Greek root *oik*, which means “place of residence” (Clark, 1973). In addition, in the 1890’s, Ellen Swallow Richards, a chemist, saw how knowledge from science could be applied to people’s everyday lives in order for them to have more perceived control over their lives and the technology in their environment (Bubolz & Sontag, 1993). This then led to the development of home economics. The term ecology is strongly linked to the early development of the field of home economics, and the family was very much a part of home economics as a field (Bubolz & Sontag, 1993). During the cultural changes of the 1960’s, with the increased emphasis on a holistic approach to understanding human behavior, the theory reemerged (Ray, 1988). Buboz & Sontag reported that “ecology was defined as the study of the interrelationships between organisms or life and the environment, both organic and inorganic” (p. 419).

**Family Ecology Framework**

Bubolz and Sontag (1993) built upon early conceptualization by Hook and Paolucci (1970) that family was a major source of support to the individual, but the family depended on the environment to provide for physical needs and social interaction. There was a special emphasis on the family ecosystem. Family ecology is founded on the belief that the well-being of the family is essential to the well-being of an individual (Ray, 1988). Family members were seen as interdependent biophysical and social individuals, and the family is its own system that interacts with its natural, social-cultural, and human-built environments (Sontag & Bubolz, 2003). Deacon and Firebaugh (1988) proposed that the family is a system interacting with its environment, and this influenced family decision-making. The family system is made up of
individual subsystems within the family, and there are family managerial subsystems (Ray, 1988). These subsystems interact with all aspects of family decision-making (Bubolz & Sontag, 1993). Families do not merely react to environmental changes. They are a complex system that has links between parts and wholes with input between each other throughout the system (Bubolz & Sontag, 1993). Wright and Herrin (1988) proposed that family ecology emphasizes:

1. A philosophical approach that follows the changing relations among psycho-social-bio aspects of holistic entities.
2. Integrating a curriculum on the phenomenon of the family that is based on knowledge gathered by complementary disciplines.
3. Investigating the family with both quantitative and qualitative methods that capture the dynamic of interactions between the family and their environment.
4. Promoting policy and intervention programs that apply the knowledge gained from the processes named above.

Family science theories continue to evolve over the years. Lerner, Johnson, & Buckingham (2015) support the current evolution of human development theories into a relational developmental systems (RDS) metamodel. This metamodel emphasizes mutually influential relations between individuals and their context. Boss (2015) suggests that the goal of RDS should be to generate evidence based approaches that are applicable to individuals and families in order to optimize human development among diverse youth, families, and communities around the world.

Bioecological Theory of Human Development

Bronfenbrenner (1979) built on an earlier work by Lewin (1935) for his book entitled the *The Ecology of Human Development*. Bronfenbrenner (1979) asserted that starting from
conception, the individual is not only growing ontogenetically, but that the individual is always relating to somebody. Human development takes place in a set of nested and changing environments that have complex relations to one another (Bronfenbrenner, 1979). This central argument does not originate with Bronfenbrenner, but he is one of the more detailed and systematic in his exploration of this framework (White & Klein, 2008). Bronfenbrenner’s approach focuses on individual development within different system levels and the interactions that occur (Ray, 1988). Family ecology focuses more on the family as a system interacting with other systems (Ray, 1988). The individual is viewed as interacting with Microsystems (role within the system and family and peer relations), mesosystems (interactions between two or more micro systems), exosystems (outside systems that the individual does not belong to, but that affect the individual’s development), and macrosystems (culture and policies) (Bronfenbrenner, 1979). The chronosystem is overarching all of the systems and reflects the passage of time.
Figure 1. Bronfenbrenner’s ecological conceptual model.

Bronfenbrenner continued to work on his theory of development throughout his life (Tudge, Mokrova, Hatfield, & Karnik, 2009). The final theory included more biology and was entitled, the bioecological model of human development (Bronfenbrenner & Morris, 2006). There was a re-emphasis on the interaction between the biology of an individual and the ontological aspect of development along with the social influence on an individual’s
Bronfenbrenner put more focus on the proximal process as the center of a Process-Person-Context-Time model (Tudge, et al., 2009). This later form of Bronfenbrenner’s theory specifies that researchers should study multiple factors that influence an individual’s development. These influential factors include:

1. The settings within which the developing individuals spend their time and relationships with others,
2. The individual’s personal characteristics that develop over time,
3. The historical context in which an individual lives, and
4. The biological mechanisms that drive an individual’s development (Rosa & Tudge, 2013).

Human Ecology in Youth Health Risk Assessment

Our environment has an influence on whether the biological tendencies with which we are born are activated. For example, individuals may have been born with the tendency to develop an addiction to alcohol, but if they do not use alcohol, they will not develop an alcohol addiction. Of course, there may be other things in their environment to which they could be addicted, such as other substances or pornography. Individuals are not blank slates that develop within a vacuum; they have interactions with others and their environment. Those interactions influence their in-born behavioral traits.

In referencing back to Bronfenbrenner’s (1979) ecological systems model, youth have interactions at the micro-, meso-, exo-, and macrosystem levels. At the micro level, the dyadic relationship is usually between a parent and child (Garbarino & Sherman, 1980). Parents provide a support system for the child (Bubolz & Sontag, 1993). With families living and interacting together, human relationships are characterized by “symbiotic” relationships.
The child’s interaction with his/her parents has an effect on his/her parents which then, in turn, reciprocates and influences the child. These dyad interactions will change throughout the life course, with parents having less influence over the youth as they age into adulthood (Bronfenbrenner, 1989).

Families are only one microsystem influence on the developing individual. Peers have an effect, depending on characteristics of the individual and his/her peers and the strength of the parent/child bond (if there is a weak parent/child bond, peer relationships become more important) (Brown & Larson, 2009). Significant others become more important as the child ages. Peer relationships are unstable at first, but become more stable with development (Brown & Larson, 2009). The influence of peer interactions on the developing individual depend on the individual’s biological characteristics, the context in which those interactions occur, the amount of time he/she spends together, and the time in which he/she lives (Bronfenbrenner & Morris, 1998).

School as a system has a major influence on an adolescent’s development. The quality of the education received and the child’s attachment to the school can have a direct influence on the child’s ability to further his/her education that then leads to the possibility of getting employment and living at a certain socioeconomic level (Eccles & Roeser, 1999). Schools have policies on school attendance, behavior, and what is required for academic achievement that are often set by larger macro systems (e.g. state and federal government) that, when enforced, will have an effect on a child’s development. School has an exosystem influence on how a child’s parents relate to the school and his/her teachers (White & Klein, 2008). The interaction between the neighborhood and the school increases the chance that the neighborhood will be a support for the school (Eccles & Roeser, 1999).
At the macrosystem level, policies and culture have multiple influences on the developing youth. Youth live within a culture that is prominent in their country, but also may be part of an ethnic and/or religious subculture that may have different values from the majority culture. Culture influences morality, language and its symbolism, parenting styles, and allowable levels of autonomy (Maschinot, 2008). Policies are a part of every ecosystem. Starting from birth, there are policies that influence parenting, access to healthcare, education, confidentiality, criminality, employment, transportation, substance use, food, religion, economics, entertainment, marriage, and even death.

Though human ecology as a theory can be applied to many disciplines that study individuals and the environment, it can sometimes be difficult to use in actual research. There has not been an agreement among the disciplines of a single set of theoretical propositions (White & Klein, 2008). Though many have tried to apply the human ecology theory to the study of individuals interacting with their environment, they often focus on certain frameworks and elements of the theory as it applies to the topic being studied (White & Klein, 2008). This is especially true in the area of youth health risk assessment.

In the area of youth health risk assessment, specifically youth alcohol use, Urie Bronfenbrenner’s earlier writings in human ecology of human development have been used more often in research (Ennett, et al., 2008). Ennett et al. (2008) put forth the idea that, based on the ecology of human development, there are four social contexts that may influence adolescent alcohol and substance use. On the microsystem level, the contexts are family, peers, and school, then neighborhood on the exosystem level, and the interrelations between all these contexts is the mesosystem. The macrosystem level contexts are culture and policies.

In regard to how the human ecology theoretical framework will be used in this study,
there will be a focus on the microsystem family influence on youth decision-making regarding the use of alcohol, while keeping in mind the macrosystem policies of attending an abstinent school. In this context, religion also has a microsystem influence at the individual level in regard to the personal relationship an individual has with God and what he/she believes God expects of his/her behavior based on what the religion teaches. There is a need in the youth health risk assessment literature to apply Bronfenbrenner’s more fully developed bioecological theoretical framework that includes a specific focus on a Process-Person-Context-Time model, which this study will attempt to apply (Tudge, et al., 2009). This study will examine the Process-Person-Context-Time model regarding the consumption of alcohol as it relates to:

1. The proximal process between parent and child, participant and religiosity, with some attention to peer process;
2. The context of an abstinent conservative Christian religious school,
3. The person oriented predictor variables of gender, age, and ethnicity;
4. An acknowledgement of the historical time in which the participants are currently living that normalizes alcohol consumption.

Positive Youth Development

The positive youth development perspective is a rejection of a deficit orientation towards youth and is a strength-based conception (Lerner, Abo-Zena, Bebiroglu, Brittian, Lynch, & Issac, 2009). According to Lerner, et al. (2009), positive youth development recognizes the importance of relationships between individuals and their ecological settings. These interactions then lead to the variations in human development, similar to the human ecology theory. Families, schools, and communities can support youth in the promotion of positive youth development (Lerner, et
Research has found that there are certain factors that lead to better youth outcomes, and these include:

1. Parents who give large quantities of quality time to their children,
2. High-quality, engaged teachers,
3. Access to community mentors,
4. Ease in accessing institutions that provides safe and high quality after-school activities,
5. Opportunities for group projects with adult mentors, and
6. Safe communities to live in where youth have better outcomes (Lerner, et al., 2009).

Lerner, et al., (2009) have proposed the Five Cs as a way to conceptualize positive youth development. These Five Cs are competence, confidence, connection, character, and caring. This study will focus on connection with parents and religion that leads to developing character, which then fosters positive outcomes for youth.

Parents should be considered the first and perhaps most essential part of positive youth development (Ward & Zabiskie, 2011). Parental involvement is one of the strongest predictors of a young person’s reaching his or her potential (Witt & Caldwell, 2005). Aspy, Tolma, Oman, & Vesely (2014) found that parental assets of family communication, relationship with mother and father, and parental monitoring led to lower rates of drug use in adolescents. Parents are listed as one of the main sources of health information for college students (Vader, Walters, Roudsari, Nguyen, 2011). However, very little attention has been given to parenting that facilitates positive youth development, and even less focus on college age youth (Chand, Farruggia, Dittman, Sanders, & Ting Wai Chu, 2013).
CHAPTER II
LITERATURE REVIEW

The concept of emerging adulthood and how this life stage affects substance use is introduced. This literature review will look at research that has studied the alcohol use among college students as a youth health risk behavior. Risk and protective factors included in this review are family dynamics, religiosity, and mental health; and college policies will be examined. By identifying risk and protective factors, parents and colleges can better focus their energies, to help prevent or limit possible short-term and long-term negative consequences of alcohol use. Next, this literature review will include a critical analysis of the literature followed by a summary of recommendations that address the problem of alcohol use by college students, based on research and theory.

Emerging Adults

Arnett (2000) proposed a new developmental period between adolescence and young adulthood that spans the ages between 18 and 25. In Arnett’s (2014) personal experience and in the qualitative interviews he conducted with individuals from that age group, he saw that they did not seem to have reached a period in their life that offered an amount of stability that would last until midlife. It used to be thought that adolescents go directly into a more settled young adulthood that would last until the next stage called middle adulthood (Arnett, 2014). Around the mid-late 1990s, it appeared that there was a new cohort who went through a new life stage that had unique characteristics, and the idea was readily accepted by the research community (Arnett, 2014). Arnett (2014) proposed five features unique to emerging adults which he found were supported from his quantitative and qualitative research: identity exploration, instability,
self-focus, feeling in between, and possibilities/optimism.

There are researchers who challenge the universality of these five features, suggesting that this concept mainly applies to young adults in higher education, who were largely recruited from the middle class (Hendry & Kloep, 2010 & Cote, 2014). Specifically, researchers have recently stated that emerging adulthood is dependent on cultural (e.g. Cheah & Nelson, 2004, Bynner 2005, Mitchell, 2006) and social institutions (Heinz & Marshall, 2003), and it is not a universal stage for all youth aged 18-29 around the world. Since the population being studied is college students in the U.S., the participants are assumed to have some of the characteristics of emerging adulthood as characterized by Arnett (2014).

Erickson’s (1950) theory had originally proposed that identity exploration was unique to adolescence, but today’s emerging adults continue practicing identity exploration into their 20s (Arnett, 2014). It is a time when they actually have more freedom to try out different identities through love, work, and various ideologies (Arnett, 2004). This age group is now getting married on average at later ages than any time in recorded US history (US Census Bureau, 2014). Men are getting married at the age of 29, and women around the age of 27 (US Census Bureau, 2014). Arnett (2004) also found that individuals in this life stage were often not settled into their career of choice. Many had a job for practical reasons, but had hopes to move to another career (Arnett, 2004).

Since there are many different identity explorations, this also leads to higher rates of change and instability. Part of this identity searching is exploring different romantic relationships. A significant proportion of women cohabitate with their first union (48%) (US Department of Health and Human Services, 2013). These first unions were typically short-lasting, ranging from 19-33 months on average (with white women having the shortest average
and Hispanic women having the longest average) (US Department of Health and Human Services, 2013). One of the changes that often occurs during this life stage is being in and out of higher education. There is an end to compulsory education, so education becomes optional, based on life circumstances and goals. According to the National Center for Education Statistics (NCES), only 59% of those who start at a four-year college will finish six years later (NCES, 2013). There also is job instability, with the average American holding 8 different jobs during the years from 18 to 29 (US Department of Labor, 2012).

The emerging adult years are a time when there are typically fewer responsibilities. Children and adolescents have to respond to the demands of parents, siblings, and school authorities. Older adults typically have demands of spouses, children, and work. Single emerging adults and those without children still have demands of work and/or school, but they often have more options in their response to those demands than those who are younger and older (Arnett, 2014). This allows them to focus more on their own needs.

Twenge (2013) proposed that Millennials (those born after 1980) are more Generation Me than Generation We, based on a review of studies of college and child samples that show an increase in self-esteem and narcissism over the generations. This perception has led to a negative view by general society. In an internet sample of individuals aged 18-87, there were more positive views towards adults and older adults than adolescents and emerging adults. The sample of 641 tended to think emerging adults were more immoral, narcissistic, over confident, and less agreeable and emotionally stable than adults (Trzesniewski & Donnellan, 2014).

Arnett (2013) challenged this notion, stating that narcissism scales conducted on college students are unreliable, and higher self-esteem is a helpful coping tool to deal with difficulties that emerging adults face. In an annual survey of college freshmen, over 80% reported being
involved in volunteer work sometime in the past year, the highest rate in the history of the survey (Higher Education Research Institute, 2013). The volunteer work done by young adults may be compulsory or as a way to build the resume, thus it may not necessarily be altruistic. There may be religious influences affecting volunteer participation. Mormon emerging adults were more likely to volunteer than Catholics or non-Catholics (Johnson, Okun, & Cohen, 2013). The authors believe that Mormon culture that puts a strong emphasis on caring for family, and fellow Mormons may have influenced the frequency and type of volunteering in which young adult Mormons engaged (Johnson, et al., 2013).

Becoming an adult is a gradual process through the age period of 18-29 (Arnett, 2014). In Arnett’s (2014) work, 61% of those who were age 18-21 years old, chose the answer “yes and no” to the question “Do you feel that you have reached adulthood?” while only 39% of 26-29 year olds responded that way. Thus, this age period can be characterized as being in-between adolescence and adulthood. Emerging adults sometimes need to rely on their parents financially, for example, as they sometimes have to move back with them (Goldfarb, 2014).

Nevertheless, emerging adults are optimistic about their future. Some researchers challenge this notion, saying it is those who have access to education, support, and financial resources who are more optimistic (Hendry & Kloep, 2010). Arnett (2004) believes they want to do better than their parents and honestly believe that they can, especially those from lower socioeconomic groups. One way they feel confident in their optimism is their increased focus on the importance of higher education to achieve success in adulthood (Pew Research Center, 2014). Arnett (2014), reports that they believe with more education they can have more occupational accomplishments and be happier than their parents.

Alcohol use also may be part of the identity exploration that occurs during this life stage
Arnett (2005) believes emerging adults want to try a variety of identities before they settle down into a stable adult life. Alcohol can be used to cope with the stress of having to choose an identity (Arnett, 2005). In addition, alcohol also may help the emerging adult deal with the certain amount of instability that is typical for that age (Arnett, 2005). Arnett (2005) reports that since they do not feel they have reached an age of responsibility, and emerging adulthood is seen as extended adolescence, there is an extended period of alcohol use. Though there is optimism and a certain amount of denial regarding the problem of using substances, a majority of lifetime substance abuse disorders will occur by the end of the third decade of life (Kessler, et al., 2005). The age span of 18-25 year olds includes the average college age student (Arnett, 2000). A majority (66%) of high school graduates enroll immediately in colleges, so a viable place to study emerging adults is among the college student population (US Department of Education, 2014).

**Alcohol Use**

The college years involve a lot of alcohol experimentation that usually starts in the adolescent years and expands during college; it is influenced by less parental supervision and a greater number and variety of peers (Arria, Kuhn, Caldeira, O’Grady, Vincent, & Wish, 2008), but also may be a result of mental health issues related to past sexual abuse and depression (Klanecky, McChargue, & Bruggeman, 2012, Lamis & Lester, 2012), poor academic achievement (Ansari, Stock, & Mills, 2013), and easy access to alcohol (Wechsler, Lee, Nelson, & Kuo, 2002). Many college students believe heavy drinking is part of the college experience (Luquis, Garcia, & Ashford, 2003). Full-time college students between the ages of 18 and 22 were more likely than their peers who do not attend college full-time to report current and binge drinking (SAMHSA, 2013). The National Survey on Drug Use and Health (NSDUH) defines...
current alcohol use as consuming alcohol at least once in the past 30 days and binge drinking as consuming five or more alcoholic drinks at one sitting at least one day in the last 30 prior to taking the survey (SAMHSA, 2013). However, the National Institute on Alcohol abuse and Alcoholism (NIAA) differs in its definition of binge drinking, defining it as a pattern of drinking that brings blood alcohol concentration levels to 0.08 g/dL. For women, the blood concentration level is reached with about four drinks, and for men it is five drinks consumed in about two hours (NIAA, 2004). A 2012 NSDUH noted that 60.3% of college students said they were current drinkers, and 40.1% were binge drinkers. This compares to 51.9 and 35.0% for non-college students. The rates have decreased slightly since 2002—from 44.4 to 40.1%. Young adults who are under the age to consume alcohol legally, between the ages of 18 to 20 (this includes college and non-college students), had a rate of 45.8 of alcohol use in the past 30 days. That rate has gone down from 51% in 2002.

There are gender, ethnic, and age differences in alcohol consumption. Being an older male has been associated with binge drinking (usually defined by researchers as five or more drinks in one sitting) and its associated problems (Oliver, Reed, & Smith, 2001; Randolph, et al, 2009). Men report more days of binge drinking and more binge drinking than women (Wells, Kelly, Golub, Grov, & Parsons, 2010). The NSDUH reported that all underage males were more likely than females to report binge drinking (16.5 vs. 14.0%) (SAMHSA, 2013). Males who were full-time college students were more likely to binge drink (in the last 30 days) than their female counterparts (45.5 vs. 35.3%). However, a review of college-student alcohol use trends comparing binge drinking gender differences has found that the gender gap is narrowing from 80% of males and 49% of females who reported in 1953 to getting drunk in their lifetime to 68%
of males and 68% of females who reported almost sixty years later in 2011 to getting drunk in their lifetime (White & Hingson, 2013).

The NSDUH survey did not report ethnic/racial differences in alcohol use between college students, but did report on ethnic differences for those aged 12 and older and aged 12-17, see Table 1. The survey found that generally whites and those who were multi-racial had higher rates of alcohol consumption, and Asians had the lowest rates.

Table 1

National Ethnic Differences in Alcohol Use for Those Aged 12 and Older

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Current Drinkers 12+</th>
<th>Binge Drinkers 12+</th>
<th>Current 12-17 yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whites</td>
<td>57.4%</td>
<td>23.9%</td>
<td>14.6%</td>
</tr>
<tr>
<td>Multi-racial</td>
<td>51.9%</td>
<td>25.1%</td>
<td>11.7%</td>
</tr>
<tr>
<td>Blacks</td>
<td>43.2%</td>
<td>20.6%</td>
<td>9.3%</td>
</tr>
<tr>
<td>Latinos</td>
<td>41.8%</td>
<td>23.2%</td>
<td>12.8%</td>
</tr>
<tr>
<td>Native American/Alaskan</td>
<td>41.7%</td>
<td>30.2%</td>
<td>10%</td>
</tr>
<tr>
<td>Asian</td>
<td>36.9%</td>
<td>12.7%</td>
<td>8%</td>
</tr>
</tbody>
</table>

Note. This table is adapted from statistics reported by National Survey on Drug Use and Health (NSDUH) (SAMHSA, 2013).

One study found some gender/racial differences. African-American females were found used alcohol less often than white women (Randolph, et al., 2009). In summary, those who self-identify as white or being two or more races had the highest rate of current alcohol consumption, and Asians had the lowest for those aged 12 or older and youths aged 12 to 17. The only exception was for binge drinking where those who are American Indian or Alaskan Native had a higher rate than White or multi-racial, but Asians were still the lowest.
Age had an influence alcohol consumption as well. As college students get closer to 21, it was found that their drinking increased. Instances of drinking and driving also increased by 72% during the two weeks after young adults turned 21 (SAMHSA, 2014). Even though drinking increased as college students turned 21, research has found that drinking decreased between the ages of 21-23 (Fromme, Wetherill, & Neal, 2010).

There are other variables that have been studied recently such as parental alcohol use and lifestyle issues. Those who are adult children of alcoholics started drinking earlier (Braitman, et al., 2009). High levels of energy drink consumption was associated with a higher risk for alcohol dependence compared with those who did not consume or who used energy drinks infrequently (Arria, Caldeira, Kasperski, Vincent, Griffiths, & O’Grady, 2011). Sometimes there are lifestyle issues related to alcohol consumption. A study found that lack of sleep also was related to alcohol use among college students (Vail-Smith, Felts, & Becker, 2009).

There are times that alcohol is more likely to be consumed. Weekends and celebratory drinking around events like tailgates for games showed higher alcohol consumption (Woodyard & Hallam, 2010; Tremblay, Graham, Wells, Harris, Pulford, & Roberts, 2010). Alcohol had higher use rates at the beginning and end of the school year (Dierker, et al., 2008). Tremblay, et al.’s (2010) survey indicated that college students also drink more heavily at the beginning of each semester and less during exams. They also found that the highest rates of drinking during the academic year occurred: Halloween, New Year’s Eve, and St. Patrick’s Day.

Alcohol consumption is associated with lowering inhibition and increasing risk taking (Browne, Clubb, Wang, & Wagner, 2009; Phillips & Ogeil, 2010). Those who are socially anxious often feel drinking at a party can help them relax and enjoy the party more (Ham, 2009). Thus, they are less inhibited in social situations where there are more chances of participating in
other health risk behaviors. Some even drink before the party to facilitate their perceived enjoyment of the party and therefore end up with higher alcohol levels (Pedersen, LaBrie, & Kilmer, 2009).

Alcohol use is associated with many other health risk behaviors. Those who drink alcohol regularly in college (14%) reported alcohol related injuries (Turner, Keller, & Bauerle, 2010). Merline, et al. (2008) evaluated predictor variables with alcohol use over time from age 18 through age 35. Their evaluation showed that cigarette and marijuana smoking, high school theft, property damage, and risk taking predicted heavy alcohol use in adulthood. Male college students who drank were less likely to use condoms (Certain, Harahan, Saewyc, & Fleming, 2009). Internet addictions were associated with harmful alcohol use among a population of college students (Ju-Yu, Chih-Hung, Cheng-Fang, Cheng-Sheng, & Cheng-Chung, 2009). It is hard to know which of these behaviors came first, but it appears they do influence each other in a problematic way.

**Alcohol Consequences**

Since a majority of college students drink alcohol in any given month (65%), research has found many consequences associated with this pattern of behavior (White & Hingson, 2013). Though it is considered alarming when college students consume excessively large amounts of alcohol that have been linked to alcohol poisoning, in a study of 9,000 college-student drinkers across 14 college campuses in California, more than one-half of alcohol-related consequences occurred after college students consumed only two to four alcoholic beverages at a sitting (Gruenewald, Johnson, Ponicki, & LaScala, 2010). Though heavy alcohol use is lower than in the past, there are still problematic consequences to the heavy drinking that are occurring on college campuses. Hingson, Zha, and Weitzman (2009) summarized data from the National
Highway Traffic Safety Administration Fatality Analysis Reporting System, Centers for Disease Control and Prevention Injury Mortality Data, National Coroner Studies, census and college enrollment data, the National Household Survey on Drug Use and Health, and the College Alcohol Study that estimates the number of college students effected by multiple consequences of alcohol use per year. The following is a list of alcohol-related consequences, with some being projections based on small amounts of data:

• Death – up to 1,800 college students aged 18 to 24 die in alcohol-related unintentional injuries, including motor-vehicle crashes per year

• Injury – around 599,000 are unintentionally injured while under the influence of alcohol

• Physical assault – an estimated 646,000 college students were assaulted by another student who had been drinking

• Sexual assault – 97,000 of students reported being victims of alcohol-related sexual assault or date rape

• Drunk driving – around 3,360,000 drive while under the influence of alcohol (Hingson, et al., 2009)

• Alcohol-use disorder – 20% of college students diagnosed in one study (8% alcohol abuse, 13% alcohol dependence) (Blanco, et al., 2008)

**Risk Factors**

Literature points to mental health, problematic family issues, and trauma history as risk factors that may be present themselves during the college years. This study will examine the following independent variables as potential risk factors in relation to alcohol use: problematic family relations, trauma, and problems with coping.
Problematic Family Relations

There are multiple types of parent/child interactions that put an emerging adult child at risk of using substances in college. Conflict with parent has been studied in the context of emerging adulthood adjustment and alcohol use. Castellani, et al., (2014) found that aggressive conflict with mother was a stressor that compromised the youth’s adjustment to young adulthood, especially when exposed to day-to-day difficulties and angry interactions with others. Volatile behavior of family members contributes to the development of adolescent alcohol consumption (Polen, Scholte, Willemsen, Boomsma, & Engels, 2007). Research has found correlations between family volatility and increased alcohol use in adolescents (Johnson, et al., 2014). Parent-child conflict has been suggested as a pathway to alcohol use and risk for abuse. Chaplin, et al., (2012) examined fifty-eight 10-16 year olds and their parents discussing a mutually highly-rated conflict topic. Findings suggest that heightened emotional and physiological responses due to parent-child conflict may lead an adolescent to turn to alcohol to cope with these responses (Chaplin, et al., 2012). There were no studies found that examined parent-child conflict and college student alcohol use.

College age children of alcoholics were found to be current drug users and initiated alcohol earlier by comparison with college age children not reared in alcoholic families (Braitman, et al. 2009). When underage college students think their parents approve of them drinking, it has been linked to drinking behavior problems (Boyle & Boekeloo, 2006). There is also a certain level of denial that parents seem to have. Parents tend to think their college age children are doing better than they are by underestimating their frequency of alcohol, smoking, marijuana, and sex risk behaviors and overestimating their child’s self-reports of general health (Bylund, Imes, & Baxter, 2005).
Certain types of parenting styles and parent/child relationships have been associated with health risk behaviors and mental health. It is important for college students to feel close to their parents, but also to have a certain level of independence. This is called individuation, and it has been associated with higher levels of well-being (Yelle, Kenyon, & Koerner, 2009). Maternal overprotection and a cold parenting style has been linked to social anxiety, especially in the first semester (Spokas & Heimberg, 2009). Parental mental health issues have been associated with their children’s mental health issues. College students’ levels of anxiety and self-esteem and automatic thought patterns are associated with parents’ levels (Donnelly, Renk, Sims, & McGuire, 2011).

Mental Health

Depression has been linked to a number of health risk behaviors. In a study of more than 1,800 students at four universities, 24% of college students had seriously considered attempting suicide, with 5% actually attempting while they were in college (Westefelt, et al., 2005). According to Hirsch & Barton (2011), suicide attempts are more common among college age students compared to their non-collegiate peers, though college students are less likely to die from suicide than the general population (Cerel, Colin, & Moore, 2013). Another characteristic that is associated with suicide is access to a firearm. Almost all (97%) schools have a policy of prohibiting firearms on campus, but one study found that there is not much awareness of the policy (Thompson, Price, Mrdjenovich, & Khubchandani, 2009). Lack of social support and social conflict puts college students at risk of attempting suicide (Hirsch & Barton, 2011). Sometimes it is a simple lifestyle issue, as those who do not get enough sleep are at greater risk for suicide ideation (Vail-Smith, et al., 2009). Depression is not only linked to suicide. Roberts, Glod, Kim, & Houchell (2010) found in a study of 428 college students that moderate
depression was also related to cigarette smoking, physical, and verbal aggression. General feelings of well-being can help decrease participation in health risk behaviors. Well-being had the strongest negative association with casual sex, sex while drunk, drunk driving, and being a passenger of a drunk driver (Schwartz, et al., 2011).

Trauma

Trauma can come in many different forms and can come from different places and have long-term negative consequences. Two-thirds of college students from two different universities reported at least one form of trauma in their lifetime (Read, Ouimette, White, Colder, & Farrow, 2011). The most common type of trauma experienced was the sudden death of a loved one (30%); about 25% experienced a physical assault and/or an accident, natural disaster, or a fire, and 7% experienced a sexual assault (Read, et al., 2011). There are about 10% of college students who meet the criteria of Post-Traumatic Stress Disorder (PTSD) (Read, et al., 2011). There are gender differences, with women experiencing more traumatic life events than men (Read, et al., 2011). Many who experience trauma turn to drugs and alcohol to numb the emotional pain, and this leads to poorer health outcomes (Flood, McDevitt-Murphy, Weathers, Eakin, & Benson, 2009; McDevitt-Murphy, Murphy, Monahan, Flood, & Weathers, 2010).

There are various studies that looked at trauma among college students. In a study of college students who lived through Hurricanes Katrina and Rita, 47% were at the clinical level for depression, 6% had PTSD-like symptoms, and 16.9% reported substance use (Lemieux, Plummer, Richardson, Simon, & Ai, 2010). It has been theorized that early childhood traumatic events can lead to depression, anxiety, and poor coping through health risk behaviors (Ellis & Trumpower, 2008). Men who experienced early high psychosocial stress (such as verbal, physical, sexual abuse, witnessing violence in the home, mental illness or substance abuse in the
home, experienced death of a close family member, or divorce in the first seven years of life) had more terminated short-term relationships and a higher amount of lifetime sex partners. Women who had similar childhood experiences had shorter current relationships, but not more lifetime sex partners or terminated short-term relationships (Koehler & Chisholm, 2009). When studying those who had experienced a single incident of trauma as a child and those who experienced repeated or prolonged trauma, it was found that they had more tension, nervousness, insecurity, emotionality, and irritability compared to those who had not experienced trauma (Allen & Lauterbach, 2007). In a study of first-semester college students, those who had experienced past trauma and adverse events, more eating disorders at college entry were reported, and the disorder worsened over the course of the semester (Smyth, Heron, Wonderlich, Crosby, & Thompson, 2008).

**Protective Factors**

This study will examine the following independent variables that are considered protective factors in relation to reduced alcohol use: involvement with parents (parental bonding), parental communication regarding alcohol use, and religiosity (beliefs, participation, and abstinence).

**Parent-Child Bonding and Communication**

Much of the research done on parental influence on youth risk-taking behavior is conducted on adolescents (Schwartz, et al., 2009). Some alcohol-use patterns seen in college students began in the high school years when parents have greater influence, but some use is initiated in college when there is more peer interaction along with more access to alcohol and less parental monitoring (Arria, et al., 2008). Parents can no longer monitor their college age
children who do not live at home, but parental monitoring can help decrease alcohol consumption in college indirectly. Parental monitoring of high school students has been associated with less alcohol and drug use. This actually has an indirect effect on high-risk drinking among older adolescents because they were drinking less to begin with (Arria, et al., 2008).

The bond between parents and their emerging adult children also has been studied in relation to alcohol. Schwartz, et al. (2009) saw the importance of looking at mother and father relationships with their college-age children separately to assess the distinct and important contributions each parent makes in the likelihood of substance use. A longitudinal study that measured parental involvement and alcohol-related risks across the first year of college found that greater attachment to mother was associated with less alcohol risk (Labrie & Sessoms, 2012). Weaker attachment to mother was associated with greater alcohol risk-taking and more consequences by the end of the year. The young men with weaker attachments to parents had more alcohol-related consequences than males or females with stronger attachments (Labrie & Sessoms, 2012). Schwartz, et al. (2009) found that perceived acceptance by both parents, but especially father figures, was a protective factor against a number of health-risk behaviors, including alcohol consumption and binge drinking. Fischer, Forthun, Pidcock, and Dowd (2007) found that psychological control and lack of connection with parents predicted college student alcohol problems. In addition, having family dinners, even with college age children, can play a positive role. Among college students aged 18 and 19, those who ate with their family five or more times per week were 40% less likely to have used alcohol in the past year (McBride, Hopkins, Baltazar, VanderWaal, & Conopio, 2013). Frequent family dinners were not protective for older children (20+) in college, however (McBride, et al., 2013).
Parents also can engage in ineffective strategies to reduce substance use. In a study of parent communication strategies regarding substance use among first year college students, the majority reported that their parents told them just to use their own judgment, but it was found to be generally ineffective (Miller-Day, 2008). Miller-Day (2008) suggested implementing clear communication strategies as to what parents desire their children do in relation to alcohol. Abar and Turrisi (2008) reported that perceived parental disapproval of alcohol use during the adolescent years was strongly associated with lower rates of alcohol use in college. In summary, research has found that parents have a role in their college students’ alcohol use by having a close bond with their child, sharing clear communication strategies regarding alcohol use, and frequent family dinners where bonding can be reinforced and communication takes place, while giving them a certain amount of freedom to make their own decisions.

Religiosity

Studies have generally found religion to be a protective factor in relation to alcohol use. Ellison, Bradshaw, Rote, Storch, and Trevino’s (2008) study showed results confirming the importance of religion-shaping alcohol choices. When comparing college students at a religious college versus a state university, students at the religious college were found to have higher rates of religiosity while the state university students were 27 times more likely to be heavy alcohol users and 9 times more likely to use alcohol moderately (Wells, 2010). Religious well-being has been found to be inversely associated with alcohol use, the likelihood of going to an event where alcohol is likely to be present, and the beliefs of the social benefits of alcohol (VonDras, Schmitt, & Marx, 2007). Those who had negative religious experiences (e.g., disagreement with friends or family about religious issues, feeling lonely or different because of one’s religious beliefs) reported more consequences related to their drinking (Brechtting & Carlson, 2015).
Studies show that college students who are religious have lower rates of depression than those who are non-religious (Phillips & Henderson, 2006). In a longitudinal survey of college students, religiosity and/or spirituality had a direct and protective effect over time on depression (Berry & York, 2011). There are three main reasons for this: 1) religion offers people a variety of social interactions through various church activities, 2) religion helps people make sense of the many types of tragedies that can happen in their lives, and 3) religion promotes healthy lifestyles that protect people from depression (avoiding alcohol and drugs) (Phillips & Henderson, 2006). College students who report religious influence and religiosity had less depression, but not anxiety, and religious service attendance was negatively correlated with depression and anxiety (Jansen, Motley, & Hovey, 2010). Religiosity has been found to have a significant link to positive college adjustment (Kneipp, Kelly, & Cyphers, 2009).

Those who attend a Christian university are more likely to have protection against health risk behaviors. The norms and values of a subculture of a Christian university may influence their students to behave differently than the majority of the culture (Shuster & Mongetta, 2009). When comparing alcohol consumption among college students at a religious college compared to a secular university, the secular university students were four times more likely to be heavy or binge drinkers (Wells, 2010).

Alcohol Abstinence

There are groups of people who choose to abstain from alcohol consumption. The United States had a higher rate of abstainers (31%) in 2010 than many other Western countries (Germany, United Kingdom, and Canada) (World Health Organization, 2011). There are many reasons individuals choose to not consume alcohol. For some, it is health or medical reasons, for others it is the fear of loss of control, cultural or family tradition, or dislike of the taste.
Religious beliefs was the most common reason cited in an unpublished survey conducted by the International Center for Alcohol Policies (ICAP) (ICAP, 2000). In a qualitative study of Pacific youth aged 15-25 living in New Zealand, key cultural factors that contributed to alcohol abstinence or responsible drinking were: positive and negative role models, how their alcohol consumption may affect their parent’s reputation, cultural value of respect, cultural taboos, peer pressure to not drink, personal awareness that excessive drinking may seriously affect health or impede career aspirations, and the no-alcohol teachings of their church or religious faith (Suualii-Sauni, Samu, Dunbar, Pulford, & Wheeler, 2012).

According to ICAP (2000), among Christians the groups that are more likely to be abstainers are Mormon, Pentecostal, Baptist, and Seventh-day Adventist. Christian groups are not the only religious group that teaches alcohol abstinence. The largest religion to forbid alcohol use is Islam. The Quran forbids the consumption of alcohol. The Buddhist sutras texts speak of the disadvantages of alcohol consumption. For Hindus, alcohol is forbidden for Brahmans (highest priestly caste) and members of the other upper-caste groups.

**Analysis of the Literature**

There are gaps in the literature when looking at risk and protective factors in regard to alcohol use. There was little research on the role of parents in alcohol use among college students. Since most college students do not live at home, it may be assumed that parents may play a minimum role, but they still may help protect their children from problematic alcohol consumption.

**Need for Human Ecological Approach**

In the area of youth health risk assessment, specifically youth substance use, Urie
Bronfenbrenner’s earlier writings in the ecology of human development have been used more often in research than his later writings in which he expanded into proximal process as the center of a Process-Person-Context-Time model (Ennett, et al., 2008; Tudge, et al., 2009). Ennett, et al. (2008) put forth that, based on the ecology of human development, there are four social contexts that may influence adolescent substance use. On the microsystem level, the contexts are family, peers, and school; neighborhood is on the ecosystem level, and the interrelation between all these contexts is the mesosystem. The macrosystem level contexts are culture and policies.

This theory has been used to explore adolescent substance use. There is also a need to apply this approach to studying regular alcohol use in college students. College students still are affected by microsystem interactions with family, peers, and the school they are attending. The “neighborhood” in which the typical college student lives is the college campus, so there may be less exosystem level influence for college students. At the mesosystem level, there are direct and indirect interactions between family, peers, and the school that may influence an individual’s behavior. At the macrosystem, there is a broader cultural influence on the acceptance of substance use among college students, but there are governmental laws and school policies that may have an influence as well.

**Addressing At-Risk Alcohol Use Among College Students**

Researchers have made recommendations and put forth evidence-based programs that can help address the high rates of alcohol use among college students. The literature points to alcohol being a problem on campuses that then leads to other problematic behaviors (binge drinking, drug use, sex risk behavior, date rape, dating violence, accidents, and even obesity) because of the lowering of inhibitions and awareness (Misch, 2010). There are some alcohol treatment programs including parents that are evidence-based and recommended to be used on
college campuses. LaBrie, Napper, & Hummer (2014) piloted a program that educated parents on alcohol use among college students that then led to parents being more intentional about talking to their children about alcohol use at college. Donovan, Wood, Frayjo, Black, & Surette (2012) found that a Web-based intervention that encouraged parents to talk to their college bound teens about alcohol led to protective behavioral strategies related to the manner of drinking and stopping/limiting drinking.

Since depression is so common and puts them at risk for risk behaviors, it has been suggested that students be screened regularly (Roberts, et al., 2010). Many college students drink alcohol to cope with social anxiety or stress, so programs need to help students find other ways to cope with these issues (Ham, 2009). Positive, tangible social support has been linked to buffering against suicide risk for college students (Hirsch & Barton, 2011). Colleges should have trained counselors available to address stress from responsibilities, address grief over relationship problems or loss of a loved one, assist in healing from rape and intimate partner violence, address past issues such as trauma and abuse; and manage chronic conditions such as ADHD, depression, anxiety, and bipolar disorder.

According to the research literature, there are other college/university administrative policies and programs that have or may appear to work in reducing health risk behaviors. In addition, it would be helpful for colleges/universities to have adequate on-campus activities on the weekend that are properly supervised to decrease the amount of off-campus partying (Scott-Sheldon, Carey, & Carey, 2008). Schools should be very clear about their policies regarding use of substances and resources available to students. In addition, it may be helpful for colleges and universities to point out that many students are participating less in alcohol use than students
realize to decrease the perception of normalization of alcohol use. This study will add to the research literature with additional recommendations.
CHAPTER III

METHOD

The purpose of this study was to examine the role of parents in regular alcohol use among college students in the context of abstinent religiosity. This dissertation contains two manuscripts. Both studies were secondary analyses from data collected from a health-risk behavior survey conducted March 2012. In addition, both studies included some descriptive statistics to describe the population being studied and regular use of alcohol. The author was the project director and was involved in the survey development, distribution, initial analysis, and writing of the report. For the first study, a multiple linear regression model included parental involvement and conflict, age, gender, ethnicity, religious belief and participation as part of the predictor model to explain the variance of regular alcohol use among those who self-identified as Seventh-day Adventist, single, age 18-25, and not living at home.

Study two was an explanatory mixed method approach that used step-wise logistic regression analysis of the same survey and secondary analysis of follow up focus groups. The step-wise logistic regression was used to assess the effect of parental communication, age, gender, ethnicity, and religious belief and participation on regular alcohol use among the same population. The author reflected on the role of being a graduate of and employed by the university under study and membership in the religion being studied, and its effect on the analysis was explored in the discussion section. The goal was to better understand how college students perceived the role of parents and religiosity in drinking.

Hypothesis for Study One

The purpose of this study was to examine the role parental involvement and conflict have
in college student regular alcohol use in the context of a religious subculture that expects abstinence. What is the association between the parental involvement and conflict and religiosity with regular alcohol use in a population of Christian college students? It was hypothesized that involvement with parents (stronger for younger college students) will decrease regular alcohol use. In addition, it was hypothesized that conflict with parents (stronger for younger college students) will increase regular alcohol use by college students. A second hypothesis was religious faith and participation will have a stronger effect on regular alcohol use than parental involvement and conflict.

**Sampling and Procedure for Study One**

The health-risk behavior survey was administered during class time in the month of March 2012 (before spring break) to students at a Seventh-day Adventist university in the Mid-West that is self-described as not allowing any alcohol use on campus. The study was approved by the institution’s IRB. Student participation was voluntary. If they chose not to participate in the study, they were asked to remain in the class and read class related material. The classes chosen comprised a purposive sample of general education classes, upper division courses from several departments, and a sample of graduate level courses. The professor of the class was contacted a few weeks before the scheduled time to get permission to give the survey, and the students were not given prior knowledge of the survey.

**Demographic Characteristics**

The ethnicity of the respondents was as follows: White, 37%; African American, 17%; Asian, 12.4%; West Indian/Caribbean, 5.4%; and Latino, 14.3%. The gender breakdown was 57.2% female and 39.6% male. Students ranged in age from 18 to 63, with the majority between
the ages of 18 and 25 (75%) and having an average age of 22. A vast majority identified themselves as Seventh-day Adventist (87%). These demographic characteristics are representative of the general student body of the university being studied.

**Instruments**

The survey instrument consisted of 124 questions that measured various health-risk behaviors and potential risk and protective factors. In order to accommodate research colleagues’ various research interests, version A and B were created, to shorten the length of the survey. Both versions contained questions regarding alcohol use and parental and religiosity variables. The additional independent variables that were added in the two versions were: trauma, depression, social support, and domestic violence scales. The survey was put into Scantron format. Regular alcohol use was defined as use in the last week, determined by the respondents’ self-reported average number of drinks consumed per week on a 6-point ratio scale from none, one, two, 3-5, 6-9, to 10 or more. A drink was defined as a bottle of beer, a glass of wine, a wine cooler, a shot glass of liquor, or a mixed drink. The regular alcohol use variable was turned into a binary variable of yes or no in response to the question regarding consumption of alcohol in the past week. There was a 7% missing response rate to the alcohol use question.

**Parental Environment Questionnaire (PEQ)**

Involvement with parent (12 questions) and conflict with parent (12 questions) questions were from the Parental Environment Questionnaire. This scale was developed by Elkins, McGue, & Iacono (1997). The original scale was developed to be used in the Minnesota Twin Family Studies as an assessment of family environment with parallel forms for parents and children (Elkins, McGue, & Iacono, 1997). The PEQ was reduced from 93 items to 42 using
principal-components analysis. The analysis for the mother and father questions combined yielded 5 factors: conflict with parent (12 items), involvement with parent (12 items), son’s regard for parent (8 items), parent’s regard for son (5 items), and structure (5 items) (Elkins, McGue, & Iacono, 1997).

For this study, only conflict with parent (12 items) and involvement with parent (12 items) items were included. In addition, some of the questions were reversed to make negative statements into positive statements, and the question, “There are few misunderstandings between my parent and myself” was eliminated because it had low reliability. In addition, the scale was changed to have participants reflect on their relationship with both their mother and their father. The Likert-type interval scale gave participants the option of choosing definitely false, probably false, probably true, or definitely true. Participants also could choose “not applicable” if they did not have a mother or father to rate. About 2.5% chose “not applicable” for mother and 7.5% for father. The Cronbach α’s reliability tests results for mother involvement = .88, mother conflict = .89, father involvement = .91, and father conflict = .89.

Missing data rates were fairly high, ranging for the PEQ from 11.3-17.2%. This may be due to survey fatigue since the survey took up to 50 minutes to take, and the PEQ was near the end of the survey. The missing father variable rates were higher than mother (14.5-17.2% vs. 11.3-14.9%). The mother questions were listed on the left, and the father questions were listed on the right. Little’s (1998) Missing Completely at Random test was run using SPSS. The missing data were not random, with a significance of .00. The highest missing variable for mother and father was the same, with 14.9% missing for mother and 17.2% missing for father (regarding “My parent and I often get into arguments”). As a result, more missing cases were eliminated to improve the statistical validity of the scale. After this was done, Little’s (1998)
Missing Completely at Random test showed a significance of .06, thus the revised sample had missing data that was at random.

Religious Belief

The religious belief questions were developed by social science researchers (Dudley, Mutch, & Cruise, 1987; McBride, Mutch, & Chitwood, 1996). Participants were asked, “How much do you believe the following statements are true?, then there was a list of seven questions focusing on religious faith. There was the option of answering definitely “no” to definitely “yes” in a 5-point Likert-type interval scale. The Cronbach α’s reliability test for this scale = .72. The “God wants me to take good care of my body by avoiding alcohol, tobacco, and drugs” question was the only one used in the final analysis because it has shown the greatest statistical significance with alcohol use among the religious belief variables in initial data analysis. There was an 11.3% missing data rate for that question. The MCAR test showed the missing data for the religious belief scale was completely at random with a significance of .81.

Religious Participation

The religious participation questions were developed by the same researchers. Participants were asked, “How often do you participate in the activities listed below?” , then there was a list of eight questions focusing on religious involvement. Participants were instructed to circle their answer on a ratio scale of 1-9 ranging from never to several times a week. The Cronbach α’s reliability test for this scale was .83. The “attend Sabbath school” (similar to Sunday school, but on Saturday) variable was the only religious participation variable included in the final analysis because it was shown to have the greatest statistical significance with alcohol use among the religious participation variables in initial data analysis. There was a
13.9% missing rate for attending Sabbath school. The MCAR test showed the missing data for religious participation scale was completely at random, with a significance level of .33. The religious scale questions may have had fairly high missing rates also due to survey fatigue because these questions were near the end of the survey.

**Demographic Questions**

There were three demographic questions used as covariates: age, gender, and ethnicity. Ethnic origin options were: American Indian/Alaskan Native, African American, Asian/Pacific islander, West Indian, White (non-Hispanic), Latino, and Other.

The health-risk and protective factors survey was developed by social science researchers at the Institute for the Prevention of Addiction at the study site institution over a period of 27 years (Helm, Lien, McBride, & Bell, 2009). The survey was distributed about every five years on campus to measure rates and look for trends of youth health-risk behaviors. The survey instrument is considered reliable and valid because the substance-use rates have stayed relatively stable throughout the five times they have been analyzed. If there were slight increases or decreases in substance use, national trends also showed the same variations (Helm, Lien, McBride, & Bell, 2009). Students gave similar answers to the various questions related to alcohol use including age first used, whether they had ever used, frequency in the last year, frequency in the last 30 days, and rates of binge drinking. All frequencies were in descending order as one would suspect for alcohol use (lifetime use had higher rates compared to binge drinking). The questions on the survey are similar to other health-risk behavior surveys distributed on high school and college campuses around the United States (ACHA, 2011; Johnson, O’Malley, Bachman, & Schulenberg, 2010).
Analysis

Study one used multiple linear regression models. The model only included participants who were aged 18-25, not living at home, single, and self-identify as Seventh-day Adventist in order to examine the “typical” college student and control for other environmental influences. The models included parental involvement and conflict, age, ethnicity, gender, religious participation, and religious faith.

Hypothesis for Study Two

It was hypothesized that college students who have open communication with parents on the topic of drugs, sex, and alcohol would be less likely to consume alcohol regularly. A second hypothesis was religious belief and participation will have a greater effect on decreasing regular alcohol use among a population of abstinent-oriented college students than open communication with parents.

Sampling and Procedure for Study Two

Sampling followed explanatory mixed method, with the survey being conducted first then follow up focus groups were used to help explain the results of the survey. The same survey instrument, sampling, and procedure used in study one was used in study two.

Survey Instrument

The survey instrument consisted of 124 questions that measured various health-risk behaviors and potential risk and protective factors. The survey was put into Scantron format. Regular alcohol use defined as use in the last week was determined by the respondents’ self-reported average number of drinks consumed in a week on a 6-point scale from none, one, two, 3-5, 6-9, to 10 or more. A drink was defined as a bottle of beer, a glass of wine, a wine cooler, a
shot glass of liquor, or a mixed drink. The variable was recoded into a dichotomous variable of 1 for No and 2 for Yes for consuming alcohol in the past week.

Parental Communication

The one parental communication about health risk behavior question was developed by social science researchers at the university studied. Following the Parental Environment Questionnaire, participants were asked whether “I can talk to my parent about sensitive issues like alcohol/drugs/sex.” The Likert-type scale gave participants the option of choosing: definitely false, probably false, probably true, or definitely true for both mother and father. Participants also could choose “not applicable” if they did not have a mother or father to rate. There were 3.3% who chose the “not applicable” option. There was a 13.7% missing rate for the parental communication question.

Religious Belief and Participation

The religious belief and participation variables that were chosen to be included in the step-wise logistic regression model were the same ones used for study one. The “God wants me to take good care of my body by avoiding alcohol, tobacco, and drugs” question was a 5-point Likert-type scale ranging from definitely “no” to definitely “yes.” Frequency of Sabbath school attendance was measured on a 9-point scale ranging from never to once a week.

The step-wise logistic regression model started with the parent communication variable then added the chosen demographic variables, and religious belief and participation variables. All of the logistic regression models included the demographic variables of ethnicity, age, and gender variables. Participants could choose between male and female gender. Age was chosen by filling in bubbles to report their actual age. Those who identified as being below the age of
18 were eliminated in the final analysis because they were under age. Those under the age of 18 were asked not to participate, but a few did. Ethnic origin options were American Indian/Alaskan Native, African American, Asian/Pacific Islander, West Indian, White (non-Hispanic), Latino, and Other. It was hypothesized that college students who have open communication with parents would be less likely to consume alcohol regularly. A second hypothesis was parental communication influence on alcohol consumption will decrease when the religiosity variables are added to the model.

Focus Group Participants

The method for this part of the study was similar to Luquis et. al’s (2003) qualitative method in conducting a study of undergraduate college students. Students were recruited to participate in one of six focus groups. Recruitment was conducted by accessing individuals participating in the behavioral science research pool. As a part of the general education social science experience, any student enrolled in a class housed in the Behavioral Sciences Department at the university was expected to participate in a research project. Students were required to participate in one to two research studies (for a total of two hours) of their choice from a pool of research studies being conducted in a given semester. Students were given a link to choose and sign up for a research study (or two). If they objected to being a study participant, alternative means were provided to meet the educational requirement. This process was approved by the institution’s IRB Board.

All informants in the focus groups were undergraduate students of the university. In order to participate in this study, they had to be between the ages of 18 and 25 and unmarried. The reason for age limitation was to focus on the emerging adult population’s perception of alcohol. Single participants were more likely to perceive themselves as emerging adults who are
still exploring and experimenting, compared to adults with traditional responsibilities such as having a marriage partner (Arnett, 2014). Each group had members of both genders, and they were ethnically diverse. Participants were given pizza and refreshments since the group met from 6:00-7:30 p.m. in a conference room-like classroom on campus. In addition, participants were given $20 each for the time they spent participating in the study.

**Focus Group Demographic Characteristics**

There were a total of 53 participants. The focus groups varied in size from 6-15 in each group, with an average of 9 participants per group. There were 23 males (43%) and 30 females (56%). The ethnic breakdown was very similar to the survey: 23 White (43%), 13 West Indian/African American (25%), 8 Latino/a (15%), 6 Asian (11%), and 3 Asian/White (6%).

**Focus Group Instrument**

Some of the questions used were drawn from Luquis et al.’s (2003) qualitative research on college student health-risk behaviors and are marked with an *. All of the questions were based on suggestions from the research literature and the survey. The specific questions asked were as follows:

**Perception of College Life:**

- What led to your decision to attend this university?
- What one word would you use to describe this university?
- What were your expectations about being a college student?
- Where did these expectations come from?
- Have those expectations been fulfilled or not?
Perception of Alcohol Use:

- What are the assumptions/beliefs about alcohol among your peers? What are the reasons for using/abusing alcohol?*
- What are the reasons for binge drinking or getting drunk?*
- What role might religious faith play in your peers’ decision to participate or not participate in these behaviors?
- What role might a relationship with parents and close family members play in a person’s decision to participate or not participate in these behaviors?

It is important to note that with these types of questions, the respondent can elaborate on various motivations for student health behavior. In addition, the students were encouraged to interact with each other, and the interviewer also asked clarifying follow-up questions.

Analysis

Study one used multiple linear regression with involvement with mother and conflict with mother, and then in a separate model involvement with father and conflict with father as the primary independent variables. Age, ethnicity, gender, and religious belief and participation were included in each of the model sets. Then each of the four item types (involvement with mother, conflict with mother, involvement with father, and conflict with father) were analyzed to measure the strength of each item on regular alcohol consumption using multiple linear regression. Selection criteria narrowed down the participants to those who self-identified as Seventh-day Adventist, single, age 18-25, and not living at home. This was done to measure multiple microsystem influences. To avoid a type 1 error, significance levels were set for each test at .05.
For study two, an explanatory mixed methods design informed the protocol for the secondary data analysis. This methodological design occurs when a quantitative study occurs first; then a qualitative study is conducted to expand upon and explain the results of the quantitative study. There was sequential timing where the quantitative strand and the qualitative strand were conducted in two distinct phases (Creswell & Clark, 2011). The collection and initial analysis of the quantitative data were completed first, then the qualitative data were collected. The mixing occurred during the data interpretation phase after data were collected and analyzed (Creswell & Clark, 2011). This method informed the survey research questions.

The mixed-method design was as follows:

![Diagram of mixed-method design]

*Figure 2. Explanatory sequential design mixed methods framework.*

**Survey Analysis**

All statistical analyses were performed using the Statistical Package for Social Science (SPSS) Version 21. The quantitative analysis for study two used a step-wise logistic regression model. A logistic regression model was chosen instead of a linear regression model because an initial descriptive statistical analysis of the dependent variable showed a vast majority did not participate in regular alcohol consumption (80%). Thus the continuous variable did not have a normal distribution, which is recommended for linear regression (Howell, 2013). The regular alcohol use variable was put into a dichotomy of yes and no. Then the parent communication variable along with gender, ethnicity, and age demographic variables were added one at a time.
Finally religious belief and participation variables were added one at a time. The goal was to report how each independent variable predicted regular alcohol consumption in relation to the other chosen variables (Howell, 2013).

**Missing Data**

The researcher replaced missing values with predicted value expectations by using the expectation-maximization algorithm (Dempster, Laird, & Rubin, 1977).

**Focus Group Analysis**

The interviewer and graduate assistant debriefed after each of six focus groups. The audio recordings were then transcribed. There were one hundred pages of typed transcripts. Once the transcripts were prepared, they were reviewed and themes identified through an open coding process. A codebook was developed; then the transcripts were uploaded onto QDA miner version 4. The codebook was entered by hand into the software. Next, the interviewer and graduate assistant individually signed in with a user name and password and chose which codes described each response from the participants by conducting content analysis of the transcripts as suggested by Stemler (2001). First there was an initial open coding process that led to the development of a codebook, then there was axial coding where the investigators assemble the data in new ways after the initial open coding process (Creswell, 2007). QDA miner calculated frequencies for all codes and measured the code agreement frequency. There was a 75% inter-coder agreement. The results section of this manuscript for study two will show selective coding, where there is a written “story line” that connects the categorical themes that were identified along with the results of the step-wise logistic regression model from the survey (Creswell, 2007). Recommendations used a positive youth development framework.
CHAPTER IV
MANUSCRIPT ONE: ROLE OF PARENTAL INVOLVEMENT AND CONFLICT IN COLLEGE STUDENT REGULAR ALCOHOL USE IN THE CONTEXT OF ABSTINENT RELIGIOSITY

Abstract

College students participate in numerous health-risk behaviors that may put them at risk for developing addictions and/or chronic diseases, or even put them at risk for early death. This study examined the role of parental involvement and conflict in college student regular alcohol use in the context of a religious subculture that expects alcohol abstinence. Secondary analysis was conducted using data from a health-risk behavior survey administered March 2012 on a conservative Christian college campus. The independent variables’ relationships with frequency of alcohol use in the past week were analyzed. This was done using multiple linear regression that included mother/father involvement, mother/father conflict, age, gender, ethnicity, religious belief, and participation as part of the predictor model. Only one parental involvement variable, mother not knowing what is done in the child’s spare time, had a statistically significant relationship with using more alcohol. Believing “God wants me to take care of my body by avoiding drugs and alcohol” had the strongest relationship with not using alcohol. Participation in Sabbath school and younger age also were protective factors. The model predicted 18% of regular alcohol use variance. Based on these results, it is recommended family life educators educate parents on the benefits of certain level of involvement with their children as they transition away to college. In addition, college administrators and faith communities are encouraged to work together to provide a space where college students can practice their faith and find a supportive community.
Introduction

Much of the research conducted on the role of parents in youth health risk-taking behavior has been conducted among adolescents (Schwartz, et al., 2009). This study aims to build on the limited studies that have been conducted on the role of parental involvement and conflict in college student alcohol use behavior in a population of alcohol abstinence-oriented Christian college students. In what ways do the parental involvement and conflict and religiosity predict regular alcohol use in a population of Christian college students attending an alcohol-abstinent university?

It was hypothesized that:

- Involvement with parents (stronger for younger college students) will decrease regular alcohol use.
- Conflict with parents (stronger for younger college students) will increase regular alcohol use by college students.
- Religious faith and participation will have a stronger effect on regular alcohol use than parental involvement and conflict.

Alcohol abuse is considered by some authors to be the single biggest public health hazard on college and university campuses (Misch, 2010). College students are at higher risk of binge drinking compared to non-college attending peers (Johnson, et al., 2014). Research has found that planning on and attending college is a risk factor for binge and heavy drinking (Merline, Jager, & Schulenberg, 2008). Those evaluated at 18 who planned on attending college were more likely to be heavy drinkers at age 22, but then this number went down by midlife (Merline et al., 2008). In studies of undergraduate students at three public universities, a vast majority were drinkers (73-81%), with about 31-58% meeting the criteria for binge drinking in the
previous month (Braitman et al., 2009; Randolph, Torres, Gore-Felton, Lloyd, & McGarvey, 2009; Roberts, Glod, Kim, & Houchell, 2010).

There are consequences associated with college student alcohol consumption, including death, injury, physical assault, sexual assault, and drunk driving (Hingson, Zha, & Weitzman, 2009). Blanco et al. (2008) reported that roughly 20% of college students can be diagnosed with having one alcohol-use disorder per year (8% alcohol abuse, 13% alcohol dependence). There also are higher rates of drug use among alcohol consumers. College students who reported being non-drinkers only had a rate of 4.2% for using illicit drugs in the past month, compared to current alcohol users (non-binge drinkers) at 7.1% and binge drinkers at 18.5% (SAMHSA, 2013).

Emerging Adults

As a result of economic and social changes, young adults are delaying the typical route to adulthood through marriage by later and later average ages (Schwartz et al., 2009). Arnett (2014) found in his research with individuals 18-25 years old that there is a transition period to what is conceptualized by society as adulthood in which individuals finish schooling, get jobs, join in marriage, have children, buy a house, become involved in their community, and so on. Arnett (2000) termed this period “emerging adulthood.” This period is characterized by identity exploration, instability, self-focus, feeling in-between, and optimism about the future (Arnett, 2014). Since adulthood is being delayed, there also can be longer periods of experimentation and risk-taking similar to the adolescent years (Arnett, 2005). College students participate in numerous health risk behaviors that may negatively alter their plans for the future and put them at risk for developing addictions, or even possible early death (American College Health Association [ACHA], 2011).
Young adults in this age period may have a different relationship with their parents than in generations past. The term “boomerang children” is part of the vernacular, where children leave the parental nest, but for various reasons (typically economic), many return home (Goldfarb, 2014). Because of this and other societal changes, college students may be more involved with their parents for longer periods than at any other time in history. With many college students still maintaining strong emotional and financial ties to their parents, it is important to study the role parents play in their emerging adult college-attending children’s development (Schwartz et al., 2009).

**Parental Involvement**

Parental involvement is related to parent-child bonding, defined as having a feeling of closeness and intimacy with one's parents that is reflected in communication, involvement with one another, and joint activities within the family (Kuendig & Kuntsche, 2006). In a population of rural junior-high students in Idaho, parental involvement was found to be a protective factor in adolescent alcohol and substance use (Baltazar, et al., 2013; Johnson, McBride, Hopkins, & Pepper, 2014). When examining parent/child relationships, Schwartz et al. (2009) saw the importance of separately looking at mothers’ and fathers’ relationships with their college-age children to gauge the distinct and important contributions each parent makes in the likelihood of using alcohol and other substances.

Parental involvement typically leads to positive developmental outcomes, but it may be problematic when it becomes over-involvement with a college age child. Parental involvement research with college students found that over-involvement is related to negative mental health outcomes (Schiffrin, Liss, Miles-McLean, Geary, Erchull, & Tashner, 2014). However, there has not been research that has examined the role of parental involvement in alcohol use among
college students. Parental involvement is a complex phenomenon that deserves further study.

**Parental Conflict**

Conflict with a parent takes place when there is a pattern of hostile, negative interactions between parent and child. Negative parental attitudes towards and relationships with teens have been correlated with high levels of substance use (Hayes, Smart, Toumbourou, & Sanson, 2004). Fischer, Forthun, Pidcock, and Dowd (2007) found that psychological control and lack of connection with parents predicted college student alcohol problems. This may be due to higher levels of stress and perceived emotional harm due to these negative interactions (Drapela & Mosher, 2007). There is a need to know if the relationship between parent/child conflict and alcohol use still has an effect on college students who can physically remove themselves from the conflictual relationship.

Some studies have been conducted on the role of parents in their college student’s alcohol use patterns. Schwartz et al., (2009) investigated the association of perceived parenting with health-risk behaviors. Abar and Turrisi (2008) reported that believing parents disapproved of alcohol use during the adolescent years was strongly associated with lower rates of alcohol use in college. Since parents play a powerful role in socializing their children even through the emerging adult years, research suggests that relationships with mothers and fathers may explain some of the alcohol use variance during college (Schwartz et al., 2009).

Research has found parents’ religious beliefs also play a role in children’s alcohol use. Cubbins and Klepinger (2007) found that childhood religious affiliation was associated with less past-year drug use in young adults. In a sample of adolescents, parent religiosity had a robust association with girls’ health risk behaviors (Caputo, 2005). In a qualitative study of youth aged 15-25 living in New Zealand, one of the themes identified was that belonging to a church
community made the youth concerned how their behavior may affect their parent’s standing in the community (Suaalii-Sauni, Samu, Dunbar, Pulford, & Wheeler, 2012). If the youth did something bad, they thought it would hurt their parent’s reputation.

There are some religious faiths that teach abstinence from alcohol, for example, Islam, Latter Day Saints (LDS), Southern Baptists, and Seventh-day Adventists (Blazer, Hays, & Musick, 2002; Enstrom & Brewlow, 2008; Michalak & Trocki, 2006; Schwartz, 1979). One study done with college students that included LDS participants, those of other religious faiths, and those with no religious preference found that family church attendance and religiosity among parents during the participants’ adolescent years were significantly protective against substance use for LDS participants only (Merrill, Folsom, & Christopherson, 2005). These alcohol-abstinent church communities may play a unique role in how parents’ religious beliefs affect their children’s alcohol use.

Seventh-day Adventist Church

The college campus that was studied and a vast majority (87%) of the participants in this study were self-identified as Seventh-day Adventist. The Seventh-day Adventist Church is considered a conservative evangelical church group that teaches the abstinence of alcohol and other harmful substances (Dudley, McBride, & Hernandez, 1997). The Seventh-day Adventist church was officially founded in 1863 (Schwartz, 1979). The early church took on the cause of health reform by founding centers of healing that encouraged natural remedies, vegetarian diet, not consuming any harmful substances, fresh air and sunlight, exercise, and trust in a divine power for healing (Schwartz, 1979). As part of this healthy living, Seventh-day Adventists believe the Bible teaches individuals to take care of their bodies because the body is the temple of the living God, so it should be cared for (General Conference of Seventh-day Adventists,
Christian alcohol-abstinent-oriented college student populations may have unknown risk factors and protective factors that may be applicable to reducing problematic alcohol use in the general college student populations.

Religiosity

It has been well documented that religious and spiritual beliefs and practices are associated with positive well-being in youth (Urry & Poey, 2008). Researchers have found that internalization of religious beliefs and values can guide and modify behavior in youth (Ellison & Levin, 1998). These behaviors may be due to religious doctrine or a general belief that the body is the temple of the God (George, Larson, Koenig, & McCullough, 2000). Though religiosity can have a positive influence on youth development, most college students are not secure in their beliefs (Astin, Astin, & Lindholm, 2011). Religiosity/spirituality needs to be understood in the context of people’s ever-changing lives where its influence may wax or wane (Nasir, 2008).

Research has found that not all aspects of religion are helpful for an individual’s mental and physical health. In a national sample of African Americans (N=2370) with an average age of 53, researchers found a complex relationship between religious involvement and beliefs (Holt, Clark, & Roth, 2014). Participants with strong religious beliefs were less likely to believe that illness is punishment for sin which was linked with decreased binge drinking. However, using structural models, Holt et al. found that individuals who were religiously involved were more likely to believe that illness is punishment for sin, which translated into more binge drinking (2014). This may be linked to a certain amount of fatalism. Religiosity can become a form of abuse called spiritual abuse. Spiritual abuse happens under the guise of religion. It can take the
form of harassment and humiliation that can negatively affect the bio/psycho/social and spiritual domains of the victim (Ward, 2010; Wright, 2001). There is a need to explore this topic further to aid in clarifying which elements of religiosity are protective and which are potentially harmful.

Theoretical Framework

Bubolz and Sontag (1993) built upon early conceptualization by Hook and Paolucci (1970) that family was a major source of support to the individual, but the family depended on the environment to provide for physical needs and social interaction. There was a special emphasis on the family ecosystem. Family ecology was founded on the belief that the well-being of the family is essential to the well-being of an individual (Ray, 1988). Family members were seen as interdependent biophysical and social individuals, and the family is its own system that interacts with its natural, social-cultural, and human-built environments (Sontag & Bubolz, 2003). Deacon and Firebaugh (1988) proposed that the family is a system interacting with its environment, and this influences family decision-making. The family system is made up of individual subsystems within the family, and there are family managerial subsystems (Ray, 1988). These subsystems interact with all aspects of family decision-making (Bubolz & Sontag, 1993). Families do not merely react to environmental changes. They are a complex system that has links between parts and wholes with input between each other throughout the system (Bubolz & Sontag, 1993).

Family science theories continue to evolve over the years. Lerner, Johnson, & Buckingham (2015) support the current evolution of human development theories into a relational developmental systems (RDS) metamodel. This metamodel emphasizes mutually influential relations between individuals and their contexts. Boss (2015) suggests that the goal of
RDS should be to generate evidence based approaches that are applicable to individuals and families in order to optimize human development among diverse youth, families, and communities around the world. This research will add to that discussion.

**Method**

This study examined the role of parental involvement (conceptualized as parent-child bonding) and conflict and weekly alcohol consumption as the dependent variable in a population of college students attending a conservative, alcohol-abstinent Christian university. This was done using multiple linear regression that included mother involvement, mother conflict, father involvement, father conflict, gender, ethnicity, age, and religious belief and participation as the predictor model. It was hypothesized that:

- Involvement with parents (stronger for younger college students) will decrease regular alcohol use.
- Conflict with parents (stronger for younger college students) will increase regular alcohol use by college students.
- Religious faith and participation will have a stronger effect on regular alcohol use than parental involvement and conflict.

**Sampling and Procedure**

The health-risk behavior survey was administered to students during class time in the March of 2012 (before spring break) at a Seventh-day Adventist university located in the mid-west that is self-described as not allowing any alcohol use on campus. The study was approved by the institution’s IRB. Student participation was voluntary. If they chose not to participate in the study, they were asked to remain in the class and read class-related material. The classes
chosen were a stratified sample of general education classes, upper division courses from several departments, and a sample of graduate level courses. The professor was contacted prior to the scheduled time for permission to administer the survey. Teaching assistants were trained to administer the survey without the class professor or faculty researchers in the room. The students were not given prior knowledge of the survey.

**Instruments**

The survey instrument consisted of 124 questions that measured various health-risk behaviors and potential risk and protective factors. Scantron format was used for recording responses. Regular alcohol use was defined as use in the past week, determined by the respondents’ self-reported average number of drinks consumed per week on a 6-point ratio scale from none, one, two, 3-5, 6-9, to 10 or more. A drink was defined as a bottle of beer, a glass of wine, a wine cooler, a shot glass of liquor, or a mixed drink. There was a 7% missing response rate.

**Parental Environment Questionnaire (PEQ)**

Questions regarding involvement with parent (12 questions) and conflict with parent (12 questions) were from the Parental Environment Questionnaire. This scale was developed by Elkins, McGue, and Iacono (1997). The original scale was developed to be used in the Minnesota Twin Family Studies as an assessment of family environment with parallel forms for parents and children (Elkins, McGue, & Iacono, 1997). The PEQ was reduced from 93 items to 42 using principal-components analysis. The analysis for the mother and father questions combined yielded 5 factors: conflict with parent (12 items), involvement with parent (12 items),
son’s regard for parent (8 items), parent’s regard for son (5 items), and structure (5 items) (Elkins, McGue, & Iacono, 1997).

For this study, only conflict with parent (12 items) and involvement with parent (12 items) items were included. Some adaptations were made to the PEQ scale for this survey. Some of the questions were reversed to make negative statements into positive statements, and the question, “There are few misunderstandings between my parent and myself,” was eliminated because it had low reliability. In addition, the scale was changed to have participants reflect on their relationship with both their mother and their father. The Likert-type interval scale gave participants the option of choosing from the following: “definitely false,” “probably false,” “probably true,” or “definitely true.” Participants also could choose “not applicable” if they did not have a mother or father to rate. About 2.5% chose “not applicable” for mother and 7.5% for father. The Cronbach α’s reliability tests results for mother involvement = .88, mother conflict = .89 and father involvement = .91, father conflict = .89.

Missing data rates were fairly high, ranging for the PEQ from 11.3-17.2%. This may be due to survey fatigue since the survey took up to 50 minutes to take and the PEQ was near the end of the survey. Little’s (1998) Missing Completely at Random test was run using SPSS. The PEQ missing data were not random, with a significance of .00. Because of this, more missing cases were eliminated to improve the statistical validity of the scale. After this was done, Little’s (1998) Missing Completely at Random test showed a significance of .06. Thus the PEQ scale, with cases eliminated that had higher missing data rates, was completely at random.

Religious Belief

The religious belief scale was developed by social science researchers (Dudley, Mutch, & Cruise, 1987; McBride, Mutch, & Chitwood, 1996). Participants were asked, “How much do
you believe the following statements are true?” Then a list of seven questions focusing on religious faith was presented. There was the option of answering definitely “no” to definitely “yes” in a 5-point Likert-type interval scale. The Cronbach α’s reliability test for this scale = .72. The “God wants me to take good care of my body by avoiding alcohol, tobacco, and drugs” question was the only one used in the final analysis because it has shown the greatest statistical significance with alcohol use among the religious belief variables in initial data analysis. There was an 11.3% missing data rate for that question. The MCAR test showed the missing data for the religious belief scale was completely at random with a significance of .81.

Religious Participation

The religious participation scale was developed by the same researchers as the religious belief scale (Dudley, Mutch, & Cruise, 1987; McBride, Mutch, & Chitwood, 1996). Participants were asked, “How often do you participate in the activities listed below?” A list of eight questions focusing on religious involvement was then presented. Participants were instructed to answer on a ratio scale of 1-9 ranging from “never” to “several times a week.” The Cronbach α’s reliability test for this scale = .83. The “attending Sabbath school” was the only religious participation variable included in the final analysis because it has shown the greatest statistical significance with alcohol use among the religious participation variables in initial data analysis. There was a 13.9% missing rate for attending Sabbath school. The MCAR test showed the missing data for the religious participation scale was completely at random with a significance level of 0.33. The religious scale questions may have had fairly high missing rates also due to survey fatigue because these questions were near the end of the survey.
Demographic Questions

There were three demographic questions used as covariates; age, gender, and ethnicity. Ethnic origin options were American Indian/Alaskan Native, African American, Asian/Pacific Islander, West Indian, White (non-Hispanic), Latino, and Other.

The health-risk and protective factors survey was developed by social science researchers at the Institute for the Prevention of Addiction at the study site institution over a period of 27 years. The questions measuring substance use on the survey are similar to other health-risk behavior surveys distributed on high school and college campuses around the United States (ACHA, 2011; Johnson, O’Malley, Bachman, & Schulenberg, 2010). The survey has been distributed about every five years on campus to measure rates and look for trends of youth health-risk behaviors. The survey instrument is considered reliable and valid because the substance-use rates have stayed relatively stable throughout the five analysis points. If there were slight increases or decreases in substance use, national trends also showed the same variations (Helm, Lien, McBride, & Bell, 2009). Students gave similar answers to the various questions related to alcohol use: age first used, whether they had ever used, frequency in the last year, frequency in the last 30 days, and rates of binge drinking. If they had not used alcohol, their questionnaires were not used. All frequencies were in descending order as one would expect for alcohol use (lifetime use had higher rates compared to binge drinking).

Analysis

Multiple linear regression was conducted using SPSS version 21 in order to identify a statistical model to predict the variance of regular alcohol use among conservative Christian college students. To identify the most important protective factors of alcohol use, a linear regression was calculated using predictors that are suggested by results of Pearson Correlations.
with regular alcohol use as the dependent variable and various independent variables as suggested by previous research studies. A full model, then a revised model, was developed, based on initial results. The full model included the following predictor variables: mother involvement, mother conflict, father involvement, father conflict, age, gender, ethnicity, religious belief, and religious participation. The revised model included the two statistically significant questions from the PEQ after running Pearson Correlations in relation to regular alcohol use. The revised model included: father often criticizes, mother “doesn’t know how I spend my spare time”, age, gender, ethnicity, religious belief, and religious participation. The final model was then separated by age group.

**Results**

The ethnicity of the respondents was as follows: White, 35.8%; African American, 24.6%; Asian/Pacific Islander, 14.2%; West Indian/Caribbean, 6.1%; Latino, 13.7%; Other, 5.6%. The gender breakdown was 60.8% female and 39.2% male. Students ranged in age from 17 to 63, with the majority being between the ages of 18 and 25 (75%) and having an average age of 22 (see Table 2). Only those aged 18-25, single, and living away from home were used for the data analysis in order to examine the “typical” college student. A vast majority identified themselves as Seventh-day Adventist (87% of participants), the analysis included only those who self-identified as Seventh-day Adventist.

This study involved determining what predicts regular alcohol use among students attending a conservative Christian college. A linear regression analysis was conducted. The variables chosen for the model were results of the Parental Environment Questionnaire (mother conflict and involvement and father conflict and involvement were run separately), age, ethnicity, gender, believing “God wants me to take care of my body by avoid alcohol and drugs,”
and frequency of attending Sabbath school.

The linear combination of conflict with mother, involvement with mother, conflict with father, involvement with father, age, ethnicity, gender, believing “God wants me to take care of my body by avoiding drugs and alcohol,” and frequency of Sabbath school attendance was $F_{(9, 307)} = 7.33 \ (p \leq 0.0001)$ and explains about 17.7\% (R=0.42) of the variance of the frequency of alcohol in the past week. The model had a low multicollinearity VIF score ranging from 1-2.3.

The linear regression model was revised with only statistically significant variables. The variables from the PEQ that were found to be statistically significant after running Pearson Correlations and the average number of alcohol drinks consumed in a week were added to the revised model. The revised model included “mother does not know how I spend my spare time,” “father often criticizes,” age, believing “God wants me to take care of my body,” and frequency of Sabbath school attendance. The linear combination of the revised model was $F_{(5, 293)} = 13.63 \ (p \leq 0.0001)$ and explains about 18.8\% (R=0.43) of the variance of the frequency of alcohol in the past week (see Table 3). The revised model had an even lower multicollinearity VIF score ranging from 1-1.5.

Of the five predictors in the revised model, believing “God wants me to take care of my body” had the highest effect ($\beta=-.27 \ (p \leq 0.001)$. The other predictors, in order from highest to lowest effect, were age ($\beta=0.18 \ (p \leq 0.001$), frequency of Sabbath school attendance ($\beta=-0.15 \ (p \leq 0.05$), and “mother does not know how I spend my spare time” ($\beta=0.12 \ (p \leq 0.05$). “Father often criticizes” was not statistically significant in this model. The result of the regression analysis is reported in Table 3. The regression analysis result indicates that higher rates of believing “God wants me to take care of my body”, younger age, frequent Sabbath School
attendance, and “mother does not know how I spend my spare time” were associated with lower rates of regular alcohol use.

The final model was then separated by age group. For participants aged 18-20, only “mother does not know how I spend my spare time” (β=.19) (p≤0.01) was statistically significant in relation to regular alcohol use. For participants aged 21-25, the parental variables were not statistically significant, and only age (β=.19) (p≤0.01), “God wants me to take care of my body (β=-.36) (p≤0.0001), and frequency of Sabbath School attendance (β=-.26) (p≤0.01) were statistically significant.

Discussion

The research question was, what is the association between the parental involvement and conflict and religiosity with regular alcohol use in a population of Christian college students attending an alcohol-abstinent university? This study found there is an association between mother involvement, religious belief and participation and regular alcohol use.

The hypotheses were as follows:

- Parental involvement will be a protective factor for regular alcohol use. This was only partially supported. One mother involvement variable was found to be statistically significant in relation to alcohol use. When age was split, it was statistically significant for those aged 18-20 only.
- Parental conflict will be a risk factor for regular alcohol use. This was not supported.
- Religious belief and participation will have a stronger effect on decreasing regular alcohol use than parental involvement and conflict. This was supported with believing “God wants me to take care of my body” and participation in Sabbath
school showing a relationship with decreased alcohol use. These variables had a greater effect than even the strongest parental involvement variable.

It is not surprising that the parental involvement (except one mother involvement variable) and conflict scale was not statistically significant in predicting regular alcohol use, even though parental involvement and conflict is related to alcohol and substance use among adolescents (Baltazar et al., 2013; Johnson et al., 2014). College is typically a time when students develop a level of autonomy which is developmentally appropriate and usually leads to better youth outcomes (Hunt, 2008; Schiffin et al., 2013). However, there is a transition period noted where one parental involvement variable was statistically significant for those aged 18-20. Other research has found this transitional period to be important in studying parental influence and health risk behaviors. Frequency of family meals was a protective variable for substance use in younger college students aged 18-19 only (McBride, Hopkins, Baltazar, VanderWaal, & Conopio, 2013). As youth age, parents play less of a role with alcohol use choices.

It is important to note that parental involvement also was not a predictor of regular alcohol use. This differs somewhat from the research that has been conducted lately on the damaging effects of parental involvement, which is really measuring over-involvement, on college student developmental outcomes (Schiffin, et al., 2013). This may be due to the type of parental involvement the PEQ measured. This study conceptualized parental involvement as parent-child bonding, an overall benefit to youth development (Kuendig & Kuntsche, 2006). Research has found that psychological control, which is part of over-involvement, has been found to be particularly damaging to youth outcomes (Aunola & Nurmi, 2005). The PEQ does not specifically measure psychological control.

The one parental involvement variable that was statistically significant was a mother
involvement variable. Research studies that examine parental involvement typically show high rates of mother involvement, which has been linked to positive outcomes for youth (Finley, Mira, & Schwartz, 2008; Schwartz et al., 2009). The nature of the parental involvement variable is notable. Children’s perception that “mother does not know what I do in my spare time,” predicted greater alcohol use. In addition to the assumption that this question is measuring the strength of the mother-child relationship, this type of variable is reminiscent of parental monitoring that has been studied extensively as a protective factor in adolescent alcohol use (Tomay, Michaud, Gmel, Wilson, Berchtold, & Sunis, 2013; Tomcikova, Veselska, Madarasova, Geckova, van Dijk, & Reijnevelt, 2013; Ewing, Osilla, Pedersen, Huter, Miles, & D’Amico, 2015). Though parents cannot physically monitor their children when they are away at college, if a younger college student (aged 18-20) perceives his/her mother knows what he/she is doing in his/her leisure time, it may decrease alcohol consumption.

Research studies that have examined parental monitoring and its relationship with alcohol use in college students have found that mother-daughter contact could moderate the norm of college alcohol consumption held among peers and mother-son monitoring had an indirect relationship with decreasing impulsiveness that was related to less alcohol-related problems (LaBrie & Cal, 2011; Patock-Peckham, King, Morgan-Lopez, Ulloa, & Moses, 2011). LaBrie & Cal (2011) defined contact as daily or frequent contact with parents, and Patock-Peckham et al., (2011) defined monitoring as an understanding of the child’s social plans and whereabouts. With today’s communication and social media technology, it is easier for parents to monitor their college student’s activities more than in previous generations. A common way for college students and their parents to communicate is through face-to-face contact, phone calls, emails (declining), texting (increasing), and social media (increasing) (Ramsey, Gentzler, Morey,
Oberhauser, & Westerman, 2013). Ramsey et al. (2013) found that phone use was consistently associated with higher quality parent-college student relationship.

As college students entered the age where alcohol use is legal, religiosity became a stronger protective factor. This would be developmentally appropriate considering the physical detachment of children from parents when away at college. The stronger relationship between religious belief and alcohol use may be due to the teachings of the Seventh-day Adventist church, that the body is the temple of the Lord and should be cared for (Schwartz, 1979).

Another religious variable predictor was attending Sabbath school. Sabbath school occurs the hour before church and involves more active discussion about faith, thus an individual attending may show a commitment to the religion and its abstinence teachings. This study did not measure the relationship between parents and the children’s acceptance of religious beliefs and participation; other studies have found parental religious beliefs play a role in decreasing their children’s alcohol use (Cubbins & Klepinger, 2007; Caputo, 2005; Suaalii-Sauni, Samu, Cunar, Pulford, & Wheeler, 2012). Parents can reinforce their church’s teachings as it relates to caring for one’s body and encourage church participation while their children are younger. These beliefs and behaviors may continue into college.

Age was another statistically significant predictor variable. Since the legal age to drink is 21, right in the middle of the age range for the participants studied, it is not surprising that alcohol use increased with age. In fact, among the participants, from age 20 (4% use rate) to age 21 (13% use rate), regular alcohol use more than tripled, with regular alcohol use peaking at age 23 (20%), then decreasing, but never returning to pre-legal age levels. Of course, this is not longitudinal data, so this cross-sectional data may not be predictive. It is possible that students attending an alcohol-abstinent college would not want to admit to illegal alcohol consumption,
but other studies have found alcohol use increases after the age of 21 on college campuses (Wagenaar & Toomey, 2005).

Unlike other studies, gender and ethnicity were not found to be statistically significant predictors in regular alcohol use. Males typically binge drink more than women, though this age gap is decreasing (SAMSHA, 2013). This study supports that trend. National data have found those who identify as being White have the highest alcohol consumption for those age 12 and older (57.4%), then 43.2% for Blacks, 41.8% for Latinos, 41.7% for American Indians or Alaska Natives, and 36.9% for Asians (SAMSHA, 2013). The participants in this study were ethnically diverse, and it may be suggested that the religious culture of abstinence may be stronger than the participants’ ethnic cultural differences.

According to this study, as children move away from home to attend college, there is less family interdependence in which parent-child relationships affect alcohol use than when youth are in their adolescent years. The relationship developmental systems model may support the parent/child relationship playing a role during this transitional period (Lerner, et al., 2015). The family is its own system that interacts with its natural, social-cultural, and human-built environments (Sontag & Bubolz, 2003). Individual family members are seen as interdependent biophysical and social individuals with children eventually leaving their family of origin to interact with different environments. If children are close to their parent it could lead to children internalizing the alcohol abstinence belief taught by their parents and increasing the chance they would want to attend a college that does not allow alcohol use. An alcohol-abstinent college environment and believing one should take care of his/her body may, in turn, affect alcohol use even in college where alcohol use is the norm (Luquia, et al., 2003; Johnson et al., 2014).
Limitations and Future Directions

This cross-sectional study among conservative Christian college students limits application to the general college student population. Since alcohol is not allowed on the campus studied, it is possible that participants were not entirely truthful about their alcohol use, knowing that admitting to it could lead to disciplinary action, including expulsion. The connection parents play with religiosity was not directly studied. It is recommended that this connection be explored further. This type of study would ideally be longitudinal, allowing causal relationships to be examined. In addition, a qualitative study would help to explain the nature of the parent-child relationship and its connection to religiosity as it relates to alcohol use.

Conclusion

To the author’s knowledge, this study was the first to examine the role parental involvement and conflict play in the use of alcohol by Christian college students who attended an alcohol-abstinent university. Findings from this study suggest that conservative Christian college students who believe their mother knows what they do with their spare time, are younger, believe God wants them to take care of their body, and attend Sabbath school regularly are less likely to consume alcohol on a weekly basis. It is suggested that parents be aware of their young adult children’s activities to indirectly monitor them and possibly decrease regular alcohol use. Parents also can teach their children the value of taking care of their bodies as a way to express their religious faith and to encourage religious participation as another way to possibly decrease alcohol use.

This study has implications for research, policy, and family life education regarding parental involvement. In the research literature a distinction needs to be made between positive parental involvement that is conceptualized as parent-child bonding and negative over-
involvement that includes psychological control of children. Not all parental involvement has negative outcomes with college age children. College policy makers will want to consider encouraging positive parental involvement by giving parents the opportunity to know more about the lives of their college children, as allowed by FERPA. Family life educators can suggest to parents the importance of being aware of how their children spend their spare time, as a potential protective factor against alcohol use when children are attending college, especially in the early college transition years.

There also are implications regarding religiosity. This research supported religious belief and involvement as a protective factor in alcohol use. Believing “God wants me to take care of my body” was the strongest protective factor in alcohol use. Faith traditions that teach alcohol abstinence may find these results helpful in their work with youth and suggest implications for the faith community. It is recommended that faith communities reach out to college students to help provide a sense of community and an opportunity to practice their faith as a way to prevent at-risk alcohol use. The faith community not only can aid in prevention, but research has found it can help with substance abuse treatment. According to VanderWaal, Hernandez, and Sandman (2012), churches are an underutilized resource for identifying substance use problems. Individuals who struggle with substance abuse often feel more comfortable talking to a clergy member than a professional (VanderWaal, et al., 2012). For family life educators, it is important for parents to know that the faith environment in which they raise their children and encourage participation, may play a role in lower alcohol use rates when they attend college.

As children age and move away, they start to move beyond the reach of their parent’s influence. A variation of parental monitoring can protect them from some problematic alcohol consumption during the early college years, but when alcohol becomes legal at the age of 21,
religious belief and participation becomes more important. Parents, family life educators, college policies, and the faith community can all play an important role in decreasing problematic alcohol consumption.

Table 2

Demographics and Frequencies

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Table 3

*Linear Multiple Regression Revised Model (n=294)*

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<td>.08</td>
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<td>Father criticizes</td>
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</table>

*p≤0.001, **p≤0.05,*
CHAPTER V
MANUSCRIPT TWO: ROLE OF PARENTS AND RELIGIOSITY IN REGULAR ALCOHOL USE AMONG CHRISTIAN COLLEGE STUDENTS: A MIXED METHOD APPROACH

Abstract

College students participate in numerous health-risk behaviors that may put them at risk for developing addictions and/or chronic diseases, or even put them at risk for early death. This study focused on regular alcohol use, considered by some researchers to be the number one public health issue on college campuses today. Responses from a health risk behavior survey given on an alcohol-abstinent Christian campus were analyzed. Step-wise logistic regression analysis was used to develop models that explain the frequency of regular alcohol use. Results show open communication with mother on the topic of drugs, sex, and alcohol decreased the chance of regular alcohol use by about 30% in the first set of models, age increased the odds of alcohol use by 50%, religious participation decreased the probability of alcohol use by 26%, and religious belief decreased the chance of regular alcohol use by about 60% in the last set of models. Ethnicity, gender, and communication with father were not statistically significant. Follow-up focus groups supported these results, but individual reasons for consuming alcohol also were related to recreation and coping. Content analysis of the focus group transcripts built upon Bronfenbrenner’s human ecology theory and showed that individuals were influenced by micro-system relationships (parents, peers, school, spirituality), meso-system interactions (peers-school and parents-religion), and macro-system cultural standards (broader culture and religiosity). It is recommended that parents communicate openly about drugs, sex, and alcohol, model the behavior they expect from their children, follow authoritative parenting style, and have a close bond with their college bound children. College administrators are encouraged to
have programs that screen for problematic alcohol use and programs to address those problems, counselors available to help with coping, and opportunities for on-campus recreation.

**Introduction**

College students participate in numerous health risk behaviors that may negatively alter their future plans, put them at risk for developing addictions, and increase morbidity and mortality from a wide variety of conditions (American College Health Association [ACHA], 2011). Excessive alcohol consumption by college students is considered by some researchers to be the number one public health problem on college campuses in the US (Misch, 2010). The purpose of this study is to examine the role of parents and religion in reducing regular alcohol use among college students in a religious environment that advocates alcohol abstinence. A mixed explanatory method using focus groups to understand and expand upon survey results was used. Content analysis of the transcripts helped to develop themes that explored the perception of alcohol in this population and the role parents and religion play in alcohol use. These results are then explored from the framework of human ecology theory at micro-system, meso-system, and macro-system levels, keeping in mind proximal processes.

**Literature Review**

**Emerging Adults**

As a result of economic and social changes, young adults are delaying the typical route to adulthood through marriage (Schwartz et al., 2009). Arnett (2014) found in his research with individuals 18-25 years old that there is a transition period to what is conceptualized by society as adulthood. During this period individuals traditionally finish schooling, get jobs, marry, have children, buy a house, become involved in their community, and so on. Arnett (2014) termed
this period “emerging adulthood,” and it is characterized by identity exploration, instability, self-focus, feeling in-between, and optimism about the future (Arnett, 2014). Since adulthood is being delayed, there also can be longer periods of experimentation and risk-taking similar to the adolescent years (Arnett, 2005).

Young adults in this age period also may have a different relationship with their parents than generations past. The term “boomerang children” is part of the vernacular, where children leave the parental nest, but for various reasons (typically economic), many return home (Goldfarb, 2014). Because of this and other societal changes, parents may be involved in their children’s lives for longer periods than previously. With many college students still maintaining strong emotional and financial ties to their parents, it is important to study the influence these parents have on their emerging adult college-attending children (Schwartz et al., 2009).

Role of Parents in Alcohol Use

Much of the research done on parental influence on youth risk-taking behavior is conducted with adolescents (Schwartz et al., 2009). Some substance use patterns seen in college students began in the high school years where parents have greater influence, but some use is initiated in college where there is more peer interaction and less parental monitoring (Arria et al., 2008). Parental monitoring is not the only type of influence parents can have on their emerging adult children who are away at college.

Schwartz et al. (2009) saw the importance of looking at mother and father relationships with their college-age children separately in order to assess the distinct and important contributions each parent makes in the likelihood of substance use. A longitudinal study that measured parental involvement and alcohol-related risks across the first year of college found that greater attachment to mother was associated with less alcohol risk (Labrie & Sessoms,
Weaker attachment to mother was associated with greater alcohol risk-taking and more consequences by the end of the year. The young men with weaker attachments to parents had more alcohol-related consequences than males or females with stronger attachments (Labrie & Sessoms, 2012). Schwartz et al. (2009) found that perceived acceptance by both parents, but especially father figures, was a protective factor against a number of health-risk behaviors, including alcohol consumption and binge drinking. Fischer, Forthun, Pidcock, and Dowd (2007) found that psychological control and lack of connection with parents predicted college student alcohol problems.

Parents also can engage in ineffective strategies to reduce substance use. In a study of parent communication strategies regarding substance use among first year college students, the majority reported that their parents told them just to use their own judgment, but it was found to be generally ineffective (Miller-Day, 2008). Miller-Day suggested implementing clear communication strategies as to what parents desire their children to do in relation to alcohol. Abar and Turrisi (2008) reported that perceived parental disapproval of alcohol use during the adolescent years was strongly associated with lower rates of alcohol use in college. In summary, research has found that parents influence their college students’ alcohol use by having a healthy attachment with their child, frequent family dinners, and sharing clear communication strategies regarding substance use, while giving a certain amount of freedom to make their own decisions.

Alcohol Use

The college years often involve experimentation with alcohol, with heavy drinking being the norm (Luquis, et al., 2003). A majority of a college age research sample was drinking alcohol (73-81%), with about one-third meeting the criteria for binge drinking in the previous month (Braitman, Kelley, Ladage, Gumieny, Morrow, & Klostermann, 2009; Randolph, Torres,
Gore-Felton, Lloyd, & McGarvey, 2009; Roberts, Glod, Kim, & Hounchell, 2010). Not only is alcohol consumption considered normal, but there is often an increase of heavy drinking that occurs during the college years (Amato & Kane, 2011). This leads to college being a peak time for experimentation and substance use (Miller-Day, 2008).

There are some demographic variables that have been associated with alcohol consumption in youth, including gender, ethnicity, and age. Since there are greater physiological effects of large amounts of alcohol consumption on females, it is not surprising that men consume larger amounts of alcohol (Johnston, O’Malley, Bachman, & Schulenberg, 2010). Being an older male college student has been associated with binge drinking (usually defined by researchers as five or more drinks in one sitting) and its associated problems (Oliver, Reed, & Smith, 2001; Randolph, Torres, Gore-Felton, Lloyd, & McGarvey, 2009). Monitoring the Future (an ongoing study of the behaviors and attitudes related to substance use by American secondary school students, college students, and young adults) reports a gender difference among college students, with those who admit to being drunk in the prior 30 days, 23% for females vs. 29% for males (Johnson, et al., 2010). There is a gender difference for daily drinking as well, 5.6% for males vs. 2.3% for females. There has been a change in the trend of gender differences over the years. A review of college-student alcohol use trends comparing binge drinking gender differences has found that the gap is narrowing from 80% of males and 49% of females who reported in 1953 to getting drunk in their lifetime to 68% of males and 68% of females who reported almost sixty years later in 2011 to getting drunk in their lifetime (White & Hingson, 2013). There are some gender associated ethnic differences noted by researchers. African-American female college students used alcohol less often than white female college students (Randolph, et al., 2009). There also are some ethnic differences in the youth population. Among
12th graders, African-American students (13%) were less likely to report occasions of heavy drinking than White (26%) or Latino students (22%) (Johnson, et al., 2010). Increasing age has been found to have an influence on alcohol consumption. As college students got closer to 21, it was found that their drinking increased, then decreased between 21-23 (Fromme, Wetherill, & Neal, 2010).

**Role of Religiosity in Alcohol Use**

In addition to parents as a protective factor, religiosity also has been studied as a protective variable against alcohol consumption during the college years. Religiosity has been found to shape choices around alcohol use (Ellison, Bradshaw, Rote, Storch, & Trevino, 2008). Horton, Ellison, Loukas, Downey, and Barrett (2010) found an inverse relationship between religious attendance and health risk behaviors, but no relationship between a secure attachment to God and health risk behavior. Jankowski et al., (2015) conducted a study with a sample of 7412 college students at several state and private universities that found persons with high levels of quest and intrinsic religiousness scored significantly lower on hazardous alcohol use. According to Whitley and Kite (2010), persons with intrinsic religious orientation sincerely believes in their religion and all its teachings and attempt to live their lives as their religion dictates. Quest religious orientation refers to individuals who treat their religion not as a means or an end, but a search for truth (Batson, 1982).

There has been very little research done on Christian college campuses in relation to health risk behaviors. One study that compared state university and religious college alcohol use rates found that state university students were four times more likely to be moderate to heavy drinkers (Wells, 2010). In addition, the study looked at religiosity and alcohol use of students in the state school and the religious school. The study found that students with the lowest rates of
religiosity were 27 times more likely to be heavy alcohol users and 9 times more likely to be moderate alcohol users (Wells, 2010). Frye, Allen, and Drinnon (2010) compared athletes with non-athletes on four Christian college campuses. They found that athletes participated in heavier episodic drinking than non-athletes. In addition, the athletes on Christian college campuses drank almost as frequently as athletes on secular college campuses. Thus, the context of a Christian campus did not have a significant effect on athletes’ alcohol use.

The college campus that was studied and a vast majority (87%) of the participants in this study were self-identified as Seventh-day Adventist. The Seventh-day Adventist Church is considered a conservative evangelical church group that teaches the abstinence of alcohol and other harmful substances (Dudley, McBride, & Hernandez, 1997). The reasoning behind this is a desire to care for the body that was created by God (Seventh-day Adventist Church, 2015). Seventh-day Adventists also are known for eating a healthier diet with higher rates of vegetarianism than the average American (Orlich, et al., 2013). In a recently published research article in the Journal of the American Medical Association, Seventh-day Adventists have been shown to have decreased mortality rates, especially from heart disease (Orlich, et al., 2013).

There are no known studies examining the effect of the role of parents and religion on college student consumption of alcohol among a population of students attending an alcohol-abstinent college. Jankowski, et al., (2015) suggest future research should examine college environment and family dynamics in relation to college student alcohol consumption and religiosity. This study attempts to do that.

**Human Ecology Theory**

In the area of youth health risk assessment, specifically youth substance use, Urie Bronfenbrenner’s earlier writings in ecology of human development have been used more often
in research than his later writings when he focused more on human biology and proximal process (Ennett et al., 2008). Ennett et al. (2008) identified four social contexts that may influence adolescent substance use. On the microsystem level, the contexts are family, peers, and school; neighborhood is on the exosystem level, and the interrelation between all these contexts is the mesosystem. The macrosystem level contexts are culture and policies. This study built upon the microsystem family influence on youth decision-making regarding the use of alcohol, while keeping in mind the macrosystem policies of attending an alcohol abstinent school that adheres to a religion that teaches abstinence from all substances. In this context, religion has a microsystem influence on the individual level in regard to the personal relationship an individual has with God and what he/she believes God expects of his/her behavior based on what the religion teaches.

Bronfenbrenner continued to work on his theory of development throughout his life (Tudge, Mokrova, Hatfield, & Karnik, 2009). The final theory included more biology and was entitled the bioecological model of human development (Bronfenbrenner & Morris, 2006). There was a re-emphasis on the interaction between the biology of an individual and the ontological aspect of development, along with the social influence on an individual’s development (Bronfenbrenner & Morris, 1998). In addition, Bronfenbrenner put more focus on the proximal process as the center of a Process-Person-Context-time model (Tudge, et al., 2009). This later form of Bronfenbrenner’s theory specifies that researchers should study multiple influences on development. This study will examine the Process-Person-Context-Time model regarding the consumption of alcohol as it relates to

1. The proximal process between parent and child, participant and religiosity, with some attention to peer process;
2. The context of an abstinent conservative Christian religious school;

3. The person oriented predictor variables of gender, age, marital status, living arrangements, religion, and ethnicity;

4. An acknowledgement of the historical time in which the participants are currently living that normalizes alcohol consumption.

**Aims of the Current Study**

This study aimed to examine the role parents play in alcohol use in a college student population within the context of abstinent religiosity. The goal was to determine what, if any, direct or indirect parental behaviors may affect alcohol use in college students. This was done using explanatory mixed methods with approval from Michigan State University’s IRB for the secondary analysis.

**Method**

**Survey Participants**

The survey was administered during class time in the month of March 2012 to students at a university in the mid-West. The study was approved by the institution’s IRB. The students were not required to participate. The classes chosen were a representative sample of general education classes, upper division courses from several departments, and graduate level courses.

**Focus Group Participants**

The method for this study was similar to Luquis et. al’s (2003) qualitative method in conducting a similar study of undergraduate college students. Students were recruited to participate in one of six focus groups. Recruitment was conducted by accessing individuals participating in the behavioral science research pool. As a part of the general education social
science experience, any student enrolled in a class housed in the Behavioral Sciences Department at the university was expected to participate in a research project. Students were required to participate in one to two research studies (for a total of two hours) from a pool of those conducted in a given semester. If they objected to being a study participant, alternative means were provided to meet the educational requirement. This process was approved by the institution’s IRB.

All informants in the focus groups were undergraduate students enrolled in the university. In order to participate in this study, they had to be between the ages of 18 and 25 and unmarried. The reason for the age limitation was to focus on the emerging adult population perception of alcohol. Single participants were more likely to perceive themselves as emerging adults who are still exploring and experimenting, compared to adults with traditional responsibilities such as having a marriage partner (Arnett, 2004). Each group had members of both genders, and were ethnically diverse.

**Survey Instrument**

The survey instrument consisted of 124 questions that measured various health risk behaviors and potential risk and protective factors. The survey was put into Scantron format for easy analysis. Regular alcohol use was defined as use in the last week, and it was determined by the respondents’ self-reported average number of drinks consumed in a week on a 6-point scale from none, one, two, 3-5, 6-9, to 10 or more. A drink was defined as a bottle of beer, a glass of wine, a wine cooler, a shot glass of liquor, or a mixed drink.

There was one parenting variable chosen to be added to the step-wise logistical regression analysis. Using a four-point scale, participants rated parental interaction, choosing from definitely false to definitely true. The variable chosen was “I can talk to my parent about
sensitive issues such as alcohol/drugs/sex.” The participants answered the question regarding their mother and father separately. They could choose “not applicable” if they had no contact with a particular parent.

There were two religious variables chosen for the step-wise logistic regression analysis religious participation and belief. Frequency of Sabbath school (similar to Sunday school, but on Saturday) attendance was measured on a 9-point scale ranging from never to once per week and is a measure of religious participation. The “God wants me to take good care of my body by avoiding alcohol, tobacco, and drugs” question was a 5-point Likert-type scale ranging from definitely “no” to definitely “yes” and is a measure of religious belief.

In addition, the step-wise logistic regression analysis included measures for ethnic origin, age, and gender. Ethnic origin options were: American Indian/Alaskan Native, African American, Asian/Pacific islander, West Indian, White (non-Hispanic), Latino, and Other. Exact age was reported, and gender was a choice of male or female.

The survey was developed by social science researchers at the Institute for the Prevention of Addiction at the study site institution over a period of 27 years. The survey was distributed about every five years on campus to measure rates and look for trends of youth health risk behaviors. The survey instrument is considered reliable and valid because the substance-use rates have stayed relatively the same throughout the five times they have been analyzed (Helm, Lien, McBride, & Bell, 2009). If there were slight increases or decreases in substance use, national trends also showed the same variations (Helm, et al., 2009). Students gave similar answers to the various questions related to alcohol use: age first used, whether they had ever used, frequency in the last year, frequency in the last 30 days, and rates of binge drinking. All frequencies were in descending order as one would suspect for alcohol use (lifetime use had
higher rates compared to binge drinking). The questions on the survey are similar to other health risk behavior surveys distributed on high school and college campuses around the United States (ACHA, 2011; Johnston, O’Malley, Bachman, & Schulenberg, 2010).

**Qualitative Instrument**

Some of the questions used were drawn from Luquis et al.’s (2003) qualitative research on college student health-risk behaviors. All of the questions were based on suggestions from the research literature and the survey. The specific questions asked were as follows:

**Perception of College Life:**

- What led to your decision to attend this university?
- What one word would you use to describe this university?
- What were your expectations about being a college student?
- Where did these expectations come from?
- Have those expectations been fulfilled or not?

**Perception of Alcohol Use**

- What are the assumptions/beliefs about alcohol among your peers? What are the reasons for using/abusing alcohol?
- What are the assumptions/beliefs about alcohol use among students? What are the reasons for binge drinking (5+ drinks) or getting drunk?
- What role might religious faith play in your peers’ decision to participate or not participate in these behaviors?
- What role might a relationship with parents and close family members play in a person’s decision to participate or not participate in these behaviors?
It is important to note that the respondents were encouraged to elaborate on various motivations for their health behaviors and to interact with one another. The interviewer also asked clarifying follow-up questions as needed.

**Survey Analysis**

All statistical analyses were performed using the Statistical Package for Social Science (SPSS) Version 21 with a goal of identifying parental protective factors, in the context of the participants’ environment, in relation to regular alcohol consumption. The model only included participants who were aged 18-25, not living at home, self-identified as Seventh-day Adventist, and single in order to study the typical college student and control for environmental factors. Regular alcohol use was recoded to be a dichotomous variable of no or yes. A logistic regression model was developed based on the research question, research, and results of Pearson Correlations (regular alcohol use was the dependent variable). The model included the following predictor variables: open communication with mother and father, age, gender, ethnicity, religious participation, and religious belief. A step-wise logistic regression analysis was run one variable at a time in order to identify a statistical model to measure the strength of the role of parents, demographic variables, and religiosity on regular alcohol use behavior.

**Qualitative Analysis**

The original qualitative analysis was conducted with the primary investigator and an assistant. This team debriefed after each of six focus groups, and notes were taken. The audio recordings were then transcribed. There were one hundred pages of typed transcripts. Once the transcripts were prepared, they were reviewed and themes identified through an open coding process. A codebook was developed, and then the transcripts were uploaded onto QDA miner
version 4. The codebook was entered by hand into the software. Next, the primary investigator and the assistant individually signed in with a user name and password and chose which codes described each response from the participants. This is a process called axial coding in which the investigators assemble the data in new ways after the initial open coding process (Creswell, 2007). QDA miner calculated frequencies for all codes and measured the code agreement frequency. There was a 75% inter-coder agreement. The results section of this report will show there is a written “story line” that connects the categorical themes that were identified (Creswell, 2007). The secondary analysis identified three themes based on frequency of responses to individual codes as determined by QDA Miner software. The type of secondary analysis of qualitative data used for this study is a supplementary analysis, which is the most common qualitative secondary analysis (Heaton, 1998). This study did a more in-depth analysis of alcohol use among this population than the original study by identifying themes as they relate to the role parents and religion play in alcohol use in order to have a narrative to help explain the survey results.

Results

Survey Demographics

A total of 750 surveys were distributed, with 737 sufficiently complete and eligible for inclusion in analyses. The participants’ micro-system relationships were homogenized by choosing only students who self-identified as Seventh-day Adventist (87% of the participants), aged 18-25 (75% of the participants), single, and not living at home (in order to focus on the emerging adult population); this decreased the number of participants to N=414. The demographics are included in Table 4. The ethnicity of the respondents was as follows: White 35.8%, African American, 24.5%, Asian 14.2%, Latino 13.7%, West Indian/Caribbean 6.1%,

and Other, 5.6%. The gender breakdown was 60.8% female and 39.2% male.

**Alcohol Use Frequencies**

There were 10.5% of the participants reported having had at least one alcoholic beverage on average per week, with 89.5% reporting they do not consume alcohol on a weekly basis. Descriptive statistics for the dependent variable of regular alcohol use is presented at the bottom of Table 4.

**Focus Group Demographics**

There were a total of 53 participants, with groups varying in size from 6-15, averaging 9 participants. There were 23 males (43%) and 30 females (56%). Ethnic breakdown was very similar to the survey: 23 White (43%), 13 West Indian/African American (25%), 8 Latino/a (15%), 6 Asian (11%), and 3 Asian/White (6%).

**Alcohol Step-wise Logistic Regression Models**

This study involved determining what influences the reduction of regular alcohol use behavior. A step-wise logistical regression analysis was conducted using regular alcohol use as the dichotomous dependent variable; results are in Table 5. The model had low multicollinearity VIF scores ranging from 1-1.15. The first step in the step-wise Model 1 used open communication with mother as the independent variable, then gender, ethnicity, attending Sabbath School, and “believing God wants me to take good care of my body by avoiding alcohol, tobacco, and drugs.” Next, the same process was followed to develop Model 2, except that step one began with open communication with father.

The results for Model 1 step by step:
1. *Open communication with mother* showed statistical significance and decreased the likelihood of regularly consuming alcohol by 26% (OR=0.74; \( p \leq 0.05 \)).

2. Ethnicity was not statistically significant, but increased *open communication with mother* slightly to 29% less likely to drink (OR=0.71; \( p \leq 0.05 \)).

3. Age increased the chance of consuming alcohol by 35% (OR=1.35; \( p \leq 0.005 \)) and increased *open communication with mother* slightly to 30% less likely to drink (OR=0.70; \( p \leq 0.05 \)).

4. Gender was added, showing that is was not statistically significant with no change in the *open communication with mother* or age variable.

5. The religious participation variable of attending Sabbath school was statistically significant with 32% lower odds of consuming alcohol (OR=0.68; \( p \leq 0.001 \)), which made *open communication with mother* not statistically significant, but age increased slightly to 41% higher odds of consuming alcohol (OR=1.41; \( p \leq 0.005 \)).

6. The religious belief variable of believing “God wants me to take good care of my body by avoiding alcohol, tobacco, and drugs” decreased the likelihood of consuming alcohol by 60% (OR=0.40; \( p \leq 0.001 \)), decreased the strength of the age variable to 40% more likely (OR=1.40; \( p \leq 0.005 \)), Sabbath school attendance to 25% less likely to consume alcohol (OR=0.75; \( p \leq 0.005 \)), and *open communication with mother* stayed not statistically significant.

The results for Model 2 step one step by step:

1. *Open communication with father* was not statistically significant in affecting the odds of consuming alcohol regularly.

2. Ethnicity was not statistically significant.

3. Age increased the chance of consuming alcohol by 39% (OR=1.39; \( p \leq 0.001 \)).
4. Gender was not statistically significant with no change in the age variable.

5. The religious participation variable of attending Sabbath school was statistically significant with 33% lower odds of consuming alcohol (OR=0.67; \( p \leq 0.001 \)), with the age variable increasing slightly to 51% higher odds of consuming alcohol (OR=1.51; \( p \leq 0.001 \)).

6. The religious belief variable of believing “God wants me to take good care of my body by avoiding alcohol, tobacco, and drugs” decreased the likelihood of consuming alcohol by 59% (OR=0.41; \( p \leq 0.001 \)), decreased strength of the age variable with 51% more likely (OR=1.49; \( p \leq 0.005 \)), and Sabbath school attendance to 27% less likely to consume alcohol (OR=0.73; \( p \leq 0.005 \)).

**Focus Group Results**

There were no ethnicity or gender differences noted by the researchers in the focus groups on the topic of alcohol consumption. No participant mentioned his or her gender or ethnicity as an influence on use or non-use of alcohol. In addition, researchers did not notice gender or ethnic differences among the participants in their responses through the coding and memoing process. This supports the results of the survey regarding gender or ethnicity. The religious culture which provides a unifying effect appears to have the greatest influence on this group. The most common identified themes are listed below:

**Abstinent Environment Vs. Secular Culture**

The participants verbalized an awareness of a normalization of alcohol consumption in college in the broader culture. They see a certain amount of that culture even at an abstinence-oriented university. A Hispanic female acknowledged,

“Like every night, I have friends who do it and they say it’s okay. Like, they know – I mean most of them have been raised as SDA (Seventh-day Adventist), and they know that it’s
wrong but most of them say, ‘You know, I’m still going to do it because I’m in college’ and after that they’ll just grow out of it. But obviously I have friends who think that it’s wrong, and I know it’s wrong and it’s not the lifestyle that I’m supposed to live. Right now, I’m not going towards – but I feel like, that’s where I feel it’s hard to find people who are in the middle.”

The campus being studied does not allow alcohol consumption, for religious reasons. This influenced the students’ perception of what was acceptable on campus. A participant declared, “I think religion does play a role in that it tempers most religious people from going into drinking or binge drinking.” A Hispanic female expressed, “...then there are restrictions that other schools don’t have like curfew, chapel credits – which I don’t mind. It’s not the first thing that comes to your head about college.” A Caucasian male stated, “Thought that there would be a lot more freedom. It’s a lot more like high school.”

Many of the students chose to attend a Christian school in which the majority of the students are the same religion. A Hispanic female said, “I went to an Adventist academy, and I definitely was looking for that same close knit community, like, network of friends.” Some of the participants had attended public high schools or colleges before and said they wanted to attend a school with other Seventh-day Adventists who had similar beliefs. An Asian female declared, “It’s because I wanted to be in an Adventist university ‘cause there’s a lot of Adventists there. I was also getting tired of not being around any Adventists.” In addition, the students reported wanting a more spiritual environment than they would get at a public university. A Caucasian male expressed, “I went to a public high school, so I was just looking for something more spiritually guarding and I wanted to go somewhere more spiritual, so I came here.” An African American female stated, “I decided to come here because my friends that were from my other school were doing things that I didn’t want to get into, so I chose this school.”
Parents and friends played the biggest role in choosing to attend an Adventist college. An African American female said, “Both my parents went to this college before and that is kindda like one of my options. I didn’t really have good choices back home and my parents won’t pay for anything other than coming here so here I am.” If they had friends who had previously or currently attended here, it also influenced the decision to attend. Friends also could be an example of what they did not want to become.

Authoritative Parenting Style

Participants reported a belief that it was important for parents not to be too strict or too lenient. When parents are too strict, the participants thought it would make children rebel against their parents. However, if parents are too lenient and permissive, they are not monitoring their adolescent children who may start drinking in their teen years and continue their alcohol consumption during their time away at college. A Hispanic female declared, “. . . if parents are too strict, then your child is going to rebel. If you’re too lenient, then obviously they’re going to be used to doing what they want. So again, it is the choice that parents make.”

A close relationship between parent and child was said to play an important role in alcohol consumption. The participants felt that if the children are close to their parents and know that their parents do not want them to consume alcohol, then the children are less likely to want to disappoint their parents. A Hispanic female acknowledged, “I have a close relationship with my parents, but that influences many of the decisions that I make.” A Hispanic female stated, “Home is your longest environment that has the biggest impact on your life. So if your parents from adolescence have been telling you, educating you – that shows that they care enough about you.” The following statement best summarizes the role parents play in their child’s alcohol consumption, according to the participants. A participant said,
“I think it comes down to, when parents give good reasons why they shouldn’t be doing it, not just enforcing a bunch of rules that don’t have any substance or background to them, so, actually having a rationale for the rules, or the thing that parents try to implement to their kids.”

Drinking for Recreation and Coping

Upon reflecting on how they perceived alcohol use, the most common response was that it was done at parties or social occasions. Many thought it was part of the normal college experience. An African-American male expressed, “Less work, more fun.” Another participant declared, “They know that it tastes good and they wanted to treat me because it was my birthday, and they think it’s something nice to do.”

In addition, participants said that alcohol use varies tremendously from those who drink every day to those who have never consumed alcohol. They did not feel there was peer pressure to drink. It was reported that it is easy to find a group of friends who party all the time and those who never plan to consume alcohol. “…that doesn’t happen to me here. I work here on campus, but they don’t hassle you over once you say no.” - Caucasian male. Some mentioned that they felt alcohol use was wrong, in the context of abstinent religiosity. A Hispanic male stated, “I think because around here, it’s taboo.”

Individual reasons were given regarding what influences those perceptions of alcohol. It was reported that alcohol is a form of coping with stress, helps with sleep, and can be a way to escape problems. An Asian/White female expressed, “Some people . . . in college, they’re really stressed and they just want to take out the stress.” They did admit that being with alcohol-consuming peers at a social occasion will influence them to consume alcohol. An Asian/White females acknowledged, “I think it turns into a social thing. There’s people who go out and have a drink or two and call it a night because it’s a social gathering one night.” Another common
statement was that they felt alcohol was a form of experimentation and recreation for college students. A participant expressed, “So, like, you know, you just – you’re tired of being calm or whatever and doing things people tell you, and you want to be a bit different and do something bad.”

Binge drinking had a different set of responses. The informants believed that binge drinking may be accidental or part of an underlying problem. After a few drinks, they felt it is hard to keep track of consumption because of lowered inhibition and awareness. When one gets drunk, it may also be a way of escaping from one’s problems. An Asian/White female acknowledged, “You want to get nice and drunk and try to forget all about your stress and stuff.” Though alcohol use was not uncommon, there was a perception that getting drunk was not normalized on campus. A participant said, “So I saw this person and they were like, definitely, like, wasted. It’s basically someone who you wouldn’t expect to be in this environment.”

**Discussion of Focus Group Results**

The participants mainly focused on individual reasons for using or not using alcohol (coping, recreation, addiction, and/or escape). Through the memoing process, it became apparent that multiple factors play a role in their alcohol use behavior. These findings were revealed through the process of open, axial, and selective coding of the data, as proposed by Strauss and Corbin (1990). The multiple factors that played a role came from different layers in the participants’ environments. These layers reflected Bronfenbrenner’s (1989) Ecological Model, in which the individual is viewed as interacting with micro-systems (role within the system, and family and peer relations), meso-systems (interactions between two or more micro systems), exo- systems (outside systems to which the individual does not belong, but affect the
individual’s development), and macro-systems (culture and policies). This study did not find exo-system influence.

On the micro-system level, the relationships that played a role were parents, spirituality, school, and peers. Parents played a role in their child’s alcohol use through democratic parenting techniques that improved the parent/child relationship and increased the effect of modeling alcohol abstinence and choosing an abstinence-oriented college to attend. Spirituality created a feeling that, “God does not want me to harm my body.” Students also desired a more spiritual environment found on a Christian campus. School rules and standards that do not allow alcohol consumption increase the consequences of alcohol use because they could be expelled from the school if those rules are violated.

On the meso-system level, peers interacting in the school environment that does not allow alcohol and parents and school reinforcing religious standards were the system interactions. Peers may reinforce the abstinence rules or encourage each other to break those rules. The religion sets the abstinence standards, and the school with its rules and parents with their modeling reinforce the standards that alcohol consumption is not acceptable.

On the macro system level, the broader culture and the abstinence religious culture are at odds. These two macro system level influences have opposing sway on the decision to consume alcohol. The broader culture normalizes alcohol consumption as a part of the college experience. The religious culture on the campus studied says you are to take care of your body by not consuming alcohol because that is what God would want. Being in an environment where there is less peer pressure to drink alcohol can aid in abstinence. These results are summarized and displayed in Figure 3.

The primary author/P.I. for this study has lived in the community being studied since the
age of fourteen, is a graduate of and current faculty at the university where the study was originally conducted, and is a member of the Seventh-day Adventist church. At the time the focus groups were conducted, the P.I. was a part-time adjunct professor and not well known to the study participants. The author practices alcohol abstinence based on religious values and personal family history of alcoholism. In order to decrease the influence of this personal belief on the participants, the questions were read consistently with few follow up questions which were asked in an open-ended format in all of the focus groups. In addition, two graduate students, who were students of the same university the participants attended, assisted in the coding process to decrease the author’s value influence on the results.

A P.I. in this position has some advantages and disadvantages because there was personal experience attending and working at the university. The primary author was exposed to alcohol consumption on campus as an undergraduate, in the context of standards set by the Seventh-day Adventist church regarding alcohol consumption, but was living at home at the time. This can aid in understanding the context experienced by focus group participants. Of course, this personal experience occurred over twenty years ago, so there may be a lack of awareness of cultural changes that have occurred over the decades. Being a current faculty member at the university and member of the church may encourage this researcher towards support of the university’s alcohol abstinence stance. The fact that the P.I. worked at the university could have influenced the focus group participants to say what they thought the P.I. wanted to hear.

**Discussion**

The focus of this study was to examine the role of parents in reducing alcohol consumption among a population of students attending an abstinence-oriented Christian university. This mixed-method study found that parents play a role in alcohol consumption, but
this role is not as prominent as religiosity and individual factors (coping and recreation). The logistic models found desiring to take care of one’s body to please God played the greatest role in decreasing regular alcohol consumption. The focus group participants mentioned individual factors more often than any role played by parents or religiosity. An individual focus is typical of the age cohort being studied, called by some, “generation me” (Twenge, 2014). Parents may still play an indirect role by reinforcing religious teachings that could affect their children’s internalization of self-care. Thus, if the parents raise their children in a broader contextual environment (like a faith community) that supports what they are teaching their children about alcohol consumption, the parents’ teaching may increase the role parents play in alcohol consumption by their child. This is supported by research in a longitudinal study of childhood family characteristics and childhood religious affiliation and past year drug use (Cubbins & Klepinger, 2007). If the parents and the children attend an abstinence-oriented church, those standards also may encourage the parents to set that standard for their child. Parents can help in explaining what those standards are in such a way that their child feels comfortable talking about drugs, sex, and alcohol. The children are then more likely to want to maintain a connection to their abstinence-oriented church by staying in that environment even through the college years.

According to the model, open communication with mother (not father) statistically reduced the odds of consuming alcohol. This supports LaBrie and Sessoms (2012) results in which they found attachment to mother reduced alcohol consumption more than attachment to father. The focus groups did not identify a difference between the mother’s and father’s role in alcohol consumption or binge drinking.

Certain areas of religiosity had a strong protective value. Since these students chose to attend a Seventh-day Adventist educational institution, they are more likely to believe in
Adventist teaching. With 87% of the participants claiming Seventh-day Adventist affiliation, there are high rates of students who have an abstinence-oriented religiosity focus that has an overall message of living a healthy lifestyle. Many of the focus group participants stated that they wanted to attend an Adventist college for the spiritual atmosphere and to be around those who have similar beliefs. Only attending Sabbath school and believing “God wants me to take care of my body” were statistically significant religiosity variables that predicted regular alcohol use and binge drinking. Participants in this study, while very ethnically diverse, are a fairly homogeneous religious group, so it may be difficult to predict certain taboo behaviors among Adventists. The participants’ regular alcohol consumption rates were fairly low at 10.5%. On average, 56.4% of college students report consuming alcohol in the past month compared to the participants in this study who had a rate of 15.5% (Substance Abuse and Mental Health Services Administration, 2013). Since regular alcohol use N is low, it may be difficult to find other predictive variables. Attending Sabbath school regularly may be a protective factor because it takes a certain level of commitment. A person would need to plan to attend Sabbath school, and thus may be more likely to internalize the Adventist beliefs that include caring for the body and choosing to abstain from alcohol use. This variable was not a theme mentioned in the focus groups, but it may aid in internalization of religious values that was mentioned as being important. The strongest protective variable found in the quantitative portion and reinforced in the qualitative study was “God wants me to take care of my body.” Adventists are taught that God calls individuals to care for their bodies by avoiding all substances (General Conference of Seventh-day Adventists, 2010).

The greatest risk factor found in the logistic regression models was age. It stands to reason that in a strong religious environment, students under the legal drinking age of 21 would
be less likely to report consuming alcohol. With the focus group participants reporting alcohol consumption as somewhat normalized for college students, especially in the context of coping and recreation, it makes sense that when a substance use is legal, one would be more likely to report consuming it on a regular basis. Odds ratios run to examine this variable more closely showed regular alcohol consumption went from 4% at age 20 to 13% at age 21, more than tripling in just one year. Regular alcohol consumption peaked by age 23 at 21% then decreased to 13% by the age of 25. This supports research by Substance Abuse and Mental Health Services Administration (2006) that showed binge drinking peaking between the ages of 21-23.

**Limitations**

There are limitations regarding this study being conducted on a conservative Christian campus. Though participants were guaranteed anonymity with the survey and confidentiality in the focus groups, they still may not have been completely honest in regard to their use of alcohol. The participants were not required to participate in the survey, but they could not leave the classroom during the in-class distributed survey if they chose not to participate. The study is thought to be reliable, given the alcohol use trends from past health risk studies done on campus, how the trends compare to national trends, and questions that were used to test for honesty. The participants in this study were from one university with a majority population of self-identified Seventh-day Adventists, and cannot be generalized to the general college population. However, the data may be useful for understanding how the religious context of other Christian colleges affects regular alcohol use, and the role parents and religiosity play.

**Implications and Recommendations**

High levels of alcohol use by college students can be a mystery for parents and college
administrators. This study found that parents do have a role to play in their college student alcohol consumptions. While this study was conducted at a church affiliated university, religiosity is a variable that is included in national studies and consistently relates to lower rates of use. Religiosity is a complex concept, and this study suggests the importance of understanding what aspects of religiosity may be more beneficial to emerging adults. It was found that religiosity can have a lifestyle influence if it is reinforced by religious standards in a macro religious environment. Parents, on a micro- and meso-level, have a role in reinforcing those messages by modeling and communicating the same message in an open manner that fosters close parent/child relationships. Those who work with college students and their parents can apply what has been learned in this study by targeting particular parenting behaviors and factors in religiosity that have a greater effect on decreasing alcohol use among college students. In this study the strongest roles parents play in alcohol use were 1) a college age child feeling comfortable talking to his or her mother about drugs, sex, and alcohol, 2) parental modeling, 3) an authoritative parenting style, and 4) a close parent-child relationship. For this population, religious teachings on the topic of maintaining a healthy lifestyle were the most beneficial.

College administrators also can benefit from the results of this study in designing programs and setting policy. Though regular alcohol use and binge drinking rates are low, there is still a significant minority of students who participate in possibly dangerous alcohol consumption. The literature points to alcohol being the biggest public health problem on campuses that then leads to other problematic behaviors (binge drinking, drug use, sex risk behavior, date rape, dating violence, accidents, and even obesity) because of the lowering of inhibitions and awareness (Misch, 2010). As this study found, parents play a part in alcohol prevention. LaBrie, Napper, and Hummer (2014) piloted a program that educated parents on
alcohol use among college students that then led to parents being more intentional about talking
to their children about alcohol use at college. Donovan, Wood, Frayjo, Black, and Surette (2012)
found that a Web-based intervention that encouraged parents to talk to their college bound teens
about alcohol led to protective behavioral strategies related to the manner of drinking and
stopping/limiting drinking.

Many college students drink alcohol to cope with social anxiety or stress, so programs
need to help students find other ways to cope with these issues (Ham, 2009). This was
mentioned in the focus groups. Research has found that parents play a role in adolescent
adjustment by having a healthy bond with their child that leads to secure attachment (Scott,
Briskman, Woolgar, Humayun, & O’Connor, 2011). The focus group participants reported that
alcohol is a taboo subject. It would be good for Adventist and other conservative religious
campuses to talk openly about dangerous alcohol use, the risks of accidental overconsumption,
and alternative ways to cope with problems. Since peers have such a great influence over
alcohol, the social norms theory suggests that social norms interventions can be used to target
high-risk groups (Martens, Page, Mowry, Danann, Taylor, & Cimini, 2006). University-wide
programs do not work as well at targeting specific at-risk groups, except when setting the culture
of the university (Thompson, McLerran, Livaudais, & Coronado, 2010). The Adventist campus
that was studied has set a health-oriented culture, which appears to play a role in alcohol
consumption.

Since depression is so common and puts college students at risk, it is suggested that
students be screened regularly (Roberts et al., 2010). The focus group participants believed
some binge drinking behavior was associated with escaping emotional pain. Positive, tangible
social support has been linked to buffering suicide risk for college students (Hirsch & Barton,
Parents walk a fine line in providing emotional support to their college age children. Research has found that parental involvement in children’s lives facilitates healthy development in children, more prosocial behaviors and hope in adolescents, but higher rates of depression when parents are over-involved with their college age children (Joussemet, Landry, & Koestner, 2008; Day & Padilla-Walker, 2009; Schiffrin, Liss, Miles-McLean, Geary, Erchull, & Tashner, 2014). College campuses should have trained counselors available to address stress from responsibilities and grief over relationship problems or loss of a loved one, to assist in healing from rape and intimate partner violence, to address past issues such as trauma and abuse, and to manage chronic conditions such as ADHD, depression, anxiety, and bipolar disorders.

In summary, there are college based programs and policies that operate at the micro, meso, and macro levels that have worked or may work in reducing alcohol use, according to research and the results of this study.

1. Implement programs that educate parents on college drinking, provide guidance without being too strict or permissive, and encourage them to talk to their college-bound teen about alcohol use.

2. Use available alcohol screening tools, as necessary.

3. Provide evidence-based alcohol treatment programs by trained health care providers.

4. Provide mental health resources to aid with managing social anxiety, stress management, depression, trauma, and grief.

5. Educate on the dangers of overconsumption of alcohol.

6. Have clearly stated policies regarding use of substances. This will help with setting a safer campus culture.
7. Have on-campus activities during high alcohol use times that are properly supervised to decrease the amount of off-campus partying.

Alcohol consumption does not have to be an automatic part of the college experience, like the focus participants reported, “Might as well have fun now while we’re young. That’s the attitude.” The participants believed the perception of alcohol, “has to do with the environment” where parents and religion can play a role as mentioned by a participant,

“Before my brother and I was off to college, my dad sat down and talked to us. He’s like, ‘don’t get other girls pregnant; don’t get drunk’. So of course we were raised Seventh-day Adventist too so we weren’t going to there anyway, but honestly, it doesn’t make it so much easier to say no to those things, cause you don’t want to disappoint your parents.”

The most successful efforts to combat problematic drinking are a healthy mixture of prevention and intervention that targets individuals, the student body as a whole, and the larger community.
Table 4

Demographics and Frequencies

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### Table 5

*Step-wise Logistic Regression Models (n=363)*

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1. Open communication with mother  
2. Open communication with father

\*\*p≤0.001  \*p≤0.05
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<th></th>
<th>Model 2</th>
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1. Open communication with mother  
2. Open communication with father  

**p≤0.001  *p≤0.05
Table 5 (cont’d)

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1. Open communication with mother  2. Open communication with father

**p≤0.001  *p≤0.05
Figure 3. Conceptual map of focus group results. Environmental Influence on Alcohol Use in College Students Attending an Abstinent University
CHAPTER VI

CONCLUSIONS

Integration and Uniqueness

The goal of this research was to determine the role parents play in alcohol use among conservative Christian university students who are attending an abstinence-oriented university. Strategies were suggested for parents, family life educators, college administrators, and the faith community in addressing problematic alcohol consumption among college students. This was initially done using the Parental Environment Questionnaire that measured parent-child involvement and parent-child conflict. The initial results showed a weak to insignificant relationship between parental involvement and conflict and alcohol use. As a result, the author wanted to know what, if any, parental variable had a stronger relationship. After running Pearson Correlations with all of the parenting variables in the survey, the variable that showed statistical significance was “feeling comfortable talking to parents about alcohol/drugs/sex.” This variable was then put into a logistic regression model that was used for the second study. When both study one and two showed the strongest predictor variable to be the religious belief of “God wants me to take good care of my body by avoiding alcohol, tobacco, and drugs,” it was decided to re-analyze the follow-up focus groups to further explore whether parents had an influence on internalizing that value.

The focus group inquiries were a combination of questions used in a similar study from Luquis, et al. (2003), and questions developed in consultation with other researchers who have expertise in this area. The questions were open-ended to allow participants to define their own reality of alcohol use on an abstinence-oriented university campus. Initially, the participants focused on personal reasons for using alcohol as a way to cope with the stresses of college life,
and acknowledged that it is commonly a recreation that is part of the normal college experience. They also recognized that binge drinking can be an expression of a possible addiction, driven by a desire to escape emotional distress. Students mentioned the school not allowing the use of alcohol, and they believed school officials felt that it led to unacceptable behavior in the student body, especially binge drinking. Because alcohol use was not permitted on campus, students felt this led to alcohol being a taboo subject.

According to the focus group participants, their spirituality played a role in alcohol use. First, it influenced their choice to attend an abstinent-oriented university because they had a desire to be in a spiritual learning environment and to be with students of similar religious values. Second, choosing not to use alcohol was linked to their personal relationship with God. Third, students abstained from alcohol use because of the standards set by the religion (connected to the belief that God wants individuals to care for their body by avoiding alcohol, tobacco, and drugs).

Students’ relationships with their parents and their own spirituality were discussed in the focus group in relation to alcohol use. Parents influenced their child’s choice to attend an abstinent-oriented university through authoritarian insistence, role modeling (parents had attended the same university), or encouragement through a close parent-child relationship. The participants felt parents who had a more authoritative parenting style fostered a closer relationship, and there was more open communication about the topic of alcohol use. In addition, when parents modeled the practice of alcohol abstinence, the child was less likely to use alcohol. Some participants reported that their parents’ or other family members’ problematic use of alcohol and other substances actually motivated them not to use such substances due to seeing firsthand the consequences and effects of alcohol use. This also helps to explain why
family members’ alcohol and other drug problems were not statistically significant in relationship with alcohol use among university students in the survey. When a parent had an alcohol problem he/she was a model of what not to do, which could influence the child not to use alcohol.

**Relationship to Existing Research**

This research is unique due to the population studied. There are many research studies examining college student alcohol use, but few were found that specifically address this study population (Helm, et al., 2008). Though this population is not known to be at risk of developing alcohol-related problems, college students in general are at-risk, so any research that expands this knowledge base is a benefit to society (Randolph, et al., 2009). Elements were suggested that could help prevent future problems for students who would be considered at-risk for alcohol-related abuse. In addition, risk and protective factors were discovered that could be of benefit to the general college student population in the United States.

Another distinctive aspect of this research is the examination of the role parents play in alcohol use among college students. There has been some research studying the role of parents in college student alcohol use, but none was found that examined parent/child conflict and parenting style as a possible risk factor (Abar & Turrisi, 2008; Fischer, et al., 2007; Labrie & Sessoms, 2012; McBride, et al., 2013; Miller-Day, 2008; Schwartz, et al., 2009). One study examined parental involvement, but only studied alcohol-related risks across the first year of college (Labrie & Sessoms, 2012). Fischer, et al., (2007) reported that parental involvement in the form of psychological control was actually a risk factor for student alcohol problems. This study found parental involvement in the form of parent/child bonding was not a risk factor for regular alcohol use. It is important for the research literature to differentiate between types of
parental involvement (controlling vs. bonding) in studies of the emerging adult/college student population.

There have been studies that examined parent/child communication in relation to alcohol and reported on how perceived parental disapproval of alcohol use in the adolescent years was a protective factor. However, parents allowing their college-attending children to use their own judgement did not work to discourage alcohol use (Abar & Turrisi, 2008; Miller-Day, 2008). Consistent with other research, this study shows the importance of open communication about alcohol and drug use. Paradoxically, this may be a difficult conversation for some parents of college bound children, especially those from a conservative Christian background.

In addition to communication, monitoring alcohol use may be another form of parental involvement. Though the parental involvement and conflict variables were not statistically significant, one variable was statistically significant in relation to regular alcohol use: the variable of “mother not knowing what I do with my spare time.” This variable is actually a type of parental monitoring. Parental monitoring is a commonly found protective factor in adolescent substance use, but has not been studied in college students (Ewing, et al., 2015; Tomay, et al., 2013; Tomcikova, et al., 2013).

This study also examined the different roles played by mother and father. Other research has found both mothers and fathers can be involved in preventing alcohol-related problems in their college-attending children, but in different ways (Labrie & Sessom, 2012; Schwartz, et al., 2009). In this population of conservative Christian participants, only a mother involvement variable was statistically significant in relation to regular alcohol consumption. Research studies that examine parental involvement typically show high rates of mother involvement, which has been linked to positive outcomes for youth (Finley, et al., 2008; Schwartz et al., 2009).
The goal of this study was to examine the role that parents play in regular alcohol use of college students. However believing “God wants me to take care of my body by avoiding drugs and alcohol” decreased alcohol use more significantly than even the strongest parenting variable (60% vs. 30%). Abstinent-oriented religions credit the need for followers to take care of the body God gave them as a reason to avoid alcohol use, but this particular variable had never been studied in an abstinent-oriented college student population. The follow-up focus group helped to explain the role parents can have in influencing the internalization of this religious belief in their children by modeling alcohol abstinence themselves.

A distinctive feature to study two is the use of mixed methods to examine alcohol use in college students. A study completed in 2003 used qualitative research methods to examine this topic, but the vast majority of studies are quantitative surveys, with none found using mixed methods research (Luquis, et al., 2003). With an increasing interest in mixed methods research as a way to maximize the benefits of and minimize the problems associated with quantitative and qualitative research, it is good to expand the mixed methods research field (Creswell & Tashakkori, 2007; Johnson & Onwuegbuzie, 2004). Another benefit to mixed methods research is the ability to report findings in an easier-to-use format for practitioners (Johnson & Onwuegbuzie, 2004).

**Implications for Practice**

Parental involvement and conflict did not play a statistically significant role in college student alcohol use. Parents should not feel pressured to have a continued involvement in their college student’s life as a way to protect them from problematic alcohol use. This research study found that mothers knowing how their children spend their spare time and having open communication with their children on the topics of drugs, alcohol, and sex was important. It is
not recommended that mothers physically monitor their children, but they can be encouraged to have an awareness of their child’s interests and develop a close bond so the child is open and willing to share his or her daily activities.

Open communication is related to the parent-child bond. Open communication may be difficult for some parents, especially those who belong to an alcohol-abstinent religion, but it appears to be a protective factor. Other research has reported that the best time to have open communication regarding alcohol use is the summer before the child attends college. Parents should clarify what behavior they expect from their child in relation to alcohol use (Labrie, et al., 2014). The follow-up focus groups reported that it was helpful when parents explained the problems associated with alcohol use in a clear and reasonable way.

Other parental strategies were suggested in the focus groups. The participants recommended a more authoritative parenting style in which the parents were not so strict as to encourage rebellion-related alcohol use and, by contrast, not too permissive to imply parents do not care what their children do in regard to alcohol use. Baumrind (1966) differentiated parental styles between authoritarian, authoritative, and permissive. Baumrind (1971) defined authoritative parenting style as parents discussing rules and their rationale, encouraging autonomy as well as adherence to rules, being high in control, but also high in warmth and responsive towards the needs of their children. An authoritative parenting style would more likely encourage open dialogue on the topic of drug and alcohol use, with clear explanations regarding concerns and a closer bond developed between parent and child. This is important for parent education because this is further evidence of the benefits of authoritative parenting, which may be protective of problematic alcohol use.

Another recommendation from the focus group was the importance of parental modeling
related to alcohol use. Parents should model the alcohol behavior they expect from their college-
attending children. If parents have an alcohol problem, they should make the consequences clear
to their children so their lifestyle may be a deterrent to their children following in their parents’
footsteps.

This research also has implications for the faith community. The study supports the
literature regarding the benefits of religious belief and religious participation as a protective
factor in alcohol use (Ellison & Levin, 1998; Ellison, et al., 2008; Urry & Poey, 2008; VonDras,
et al., 2007; Wells, 2010). The Christian faith community should actively reach out to college
student populations to encourage religious participation and provide opportunities for faith
development. There can be special Sunday/Sabbath school classes and social activities
specifically for college students to increase social interaction, which in turn can help students
make sense of tragedies that may have happened in their lives, and to learn about healthy
lifestyles (Phillips & Henderson, 2006).

College administrators also can benefit from the results of this research. First, a college
may want to encourage parents to communicate clear alcohol use expectations to their students
(LaBrie et al., 2014). Donovan and colleagues (2012) developed a potentially helpful college-
administered web-based intervention that encouraged parents to talk to their college-bound teens
about alcohol. Additionally, college administrators can actively reach out to faith communities
to develop a partnership to address the prevention of problematic alcohol use in college students.

In addition to family and faith involvement, regular screenings for depression also are
recommended for students. The focus group participants identified alcohol as a means to cope
with stress or emotional problems. Since depression is common and is related to problematic
alcohol use, it is suggested that mental health screenings and access to trained counselors to
address any number of emotional, relationship, or substance use problems would be beneficial (Roberts et al., 2010).

**Research and Policy**

This research supported a human ecological theoretical lens. The mixed methods research study showed that there are multiple systems that play a role in college student alcohol use. Youth health risk research literature has examined micro-, meso-, exo-, and macro-system levels to look at parent/child relationships, peer interactions, the school system, school/neighborhood interactions, cultural influences, and the interactions between all of these systems (Brown & Larson, 2009; Eccles & Roeser, 1999; Ennett, et al., 2008; Maschinot, 2008). Tudge, et al., (2009) recommended researchers examine the Process-Personal-Context-Time model that was developed later in Bronfenbrenner’s career. This study supported this model by examining the process between parent and children, participant and religiosity, in the context of an abstinent-oriented religious school, with the person-oriented predictor variables of gender, age, marital status, and ethnicity. In addition, the historical time in which the participants are currently living and how the current culture normalizes alcohol consumption is acknowledged.

Lerner, et al., (2015) supports the human development theories moving to relational developmental systems metamodel. This study indicates that the family system and its place within the environment plays a role in alcohol use among college students, thereby showing support for the family ecology theory, although it has not appeared in the literature for some time. The new metamodel should include elements of family ecology theory as it applies to the way the family system relates and responds to its environment.

This study showed the benefits and usefulness of using explanatory mixed methods research to further inform survey results on the topic of youth health risk behaviors. The mixed
methods study allowed a deeper understanding of alcohol use in the college student population than the quantitative study alone. This understanding leads to implications for parents, the faith community, and college administrators, deans, and counselors to help address alcohol use problems on college campuses.

Our society and college campuses have each developed policies relating to youth alcohol consumption. One such societal policy is the minimum legal drinking age of 21 (Voas, 2013). This age is in the middle of the typical college age range of 18-25 years. This study found that regular alcohol consumption tripled between the age of 20 and the age of 21. There has been some discussion regarding the benefits to colleges and young adults of lowering the legal age of alcohol consumption to the age of 18 (Voas, 2013). The purpose of this study was not to specifically examine this policy, but it is interesting to note that in a population of abstinent-oriented college students, the participants tripled their regular alcohol consumption at the legal age of consumption. Other studies have found college students increased their alcohol consumption around the age of 21 (Fromme, et al., 2010). It may be potentially dangerous for young adults and the community at large for adolescents to increase their alcohol consumption at the age of 18. This could potentially increase the chance of alcohol dependency at a young age, which can cause adolescents to have higher rates of drinking and driving (Carpenter & Dopkin, 2009; Hingson, Heeren & Edwards, 2008). In most European countries the legal drinking age is 18 or younger (Friese & Grube, 2010). According to the 2007 European School Survey Project on Alcohol and Other Drugs and the 2007 United States Monitoring the Future Survey, most European countries have a greater percentage of young people reporting drinking in the past 30 days, higher intoxication rates, and report a greater percentage of young people reporting having been intoxicated before the age of 13 than the United States (Friese & Grube, 2010). When they
enter college, European young adults have similar problems with hazardous drinking as US college students (Karam, Kypri, & Salamoun, 2007).

Individual colleges establish their own alcohol use policies. Since this study was conducted on an abstinence-oriented Christian university campus, the findings cannot be generalized to other college campuses. Though the students in this study were found to have lower alcohol use rates than students on secular campuses, it does not imply that all colleges should have an alcohol-abstinence policy. What can be inferred from this study for college administrators is the importance of having an alcohol use policy that is clearly stated for the students. The focus group participants showed an awareness of their college’s alcohol use policy, which had an effect on their alcohol consumption.

**Future Considerations**

This cross-sectional study was conducted on one abstinence-oriented Christian campus. Expansion of this study to other college campuses in different regions of the United States, especially of different religious faiths, will provide more breadth. Conversations already have begun about duplicating this study at another Seventh-day Adventist college with lower rates of Seventh-day Adventist students with a goal of reaching out to other colleges from different Christian faiths.

Another future consideration is a longitudinal design to track students from before college admission through their senior year to understand the development of the multiple influences on alcohol use among college students. Based on this study, the multiple influences on alcohol use may be directly related to the development of the parent/child relationship and the student’s religious faith internalization throughout college.

The questionnaire is set to be repeated on the campus that was studied, as it has been
every five years for the past 28 years. Based on the results and the experience of conducting an analysis, there are a few recommended changes to the survey. It is recommended that the survey be made shorter, to lessen test-taker fatigue. In the survey’s current state, there were high missing value rates (around 15%) near the end of the questionnaire. Since the PEQ was not statistically significant, it is recommended that it not be included as a parent variable in the next questionnaire.

The focus group participants identified the theme of parenting style as a possible risk or protective factor. This is a commonly discussed topic within Christian parenting circles. Therefore, identifying parenting style experienced by the college student would be important. Since the definition of binge drinking as the consumption of five or more drinks in one setting is now outdated, the next questionnaire should include the newest definition as recommended by the National Institute on Alcohol Abuse and Alcoholism of five or more drinks for men and four or more drinks for females in about two hours (NIAA, 2004). With religious faith being the strongest protective variable, a scale that measures this variable should be included in the next questionnaire, but it needs to have the option of “not applicable” for those who do not participate in a religious faith.

A follow-up focus group should be planned from the beginning so participants in the survey can be further questioned to clarify the results from the actual questionnaire. The questionnaire could have a separate page so participants can put contact information if they are willing to participate in follow-up focus groups, and these follow-ups should be completed as soon as possible after the initial survey. The focus group questions should specifically extract clarifications of survey results to aid in more fully understanding the result implications.

Ideally, when studying parent/child relationships, both individuals in the dyad should be
included. Survey participants could give permission for researchers to contact them and their parents to study parenting variables from the parents’ perspectives as well as the children’s perspective. However, confidentiality may necessitate that the parents who participate would not necessarily have their children participate in the follow up focus groups.

This study shows that the relationship between religious belief and alcohol will depend on the theological position of individual religions. The degree to which an individual has accepted the belief that “God does not want you to use alcohol,” is a powerful predictor of regular alcohol use among members of an alcohol-abstinent religion. Even in a religious group that has been quite successful at maintaining lower levels of regular drinking, parental effects remain. This study found parents had an effect on regular alcohol use in the form of indirect monitoring, open communication on the topic of alcohol, and parenting style. What this suggests is even in an alcohol abstinent environment parents play a role, especially during the early college transition years when alcohol consumption is still illegal. This means in planning alcohol prevention programming, parents are an effective agent to team with colleges to decrease alcohol use.
APPENDIX A

The Health Risk and Protective Factors Study
Form A
THE HEALTH RISK AND PROTECTIVE FACTORS STUDY - Form A

1. Classification:
   - Freeman
   - Professional
   - Senior
   - Other

2. Student status:
   - Main (11+ credits)
   - Part-time (1-11 credits)
   - Overload (12+ credits)
   - Not taking a degree

3. First in immediate family to attend college:
   - Yes
   - No

4. Age:
   - 0

5. Ethnic group:
   - American Indian/Alaskan Native
   - African American
   - Caucasian
   - Hispanic/Latino
   - Other

6. Marital status:
   - Single
   - Engaged
   - Married
   - Divorced
   - Separated
   - Widowed
   - Other

7. Gender:
   - Male
   - Female

8. Religion:
   - Jewish
   - Catholic
   - Other Protestant
   - Other

9. Living situation:
   - With parents
   - With roommate
   - On-campus housing
   - Off-campus housing
   - Other

10. Are you working?
    - Yes, full-time (20 or more hours per week)
    - Yes, part-time (less than 20 hours per week)
    - No

11. Height and Weight:
    a. Height (inches):
    b. Weight (pounds):

12. Place of permanent residence:
    a. In-state USA
    b. Out of state USA
    c. Country other than USA

13. Approximate cumulative grade point average:

DIRECTIONS:
Please be sure to use a #2 pencil and fill in the circles completely, without going outside of the circle. Please fill in dark enough for the machine to read. If you make a mistake, change an answer, be sure to erase it completely and put the correct one in.

For each item, there are two columns of circles. Please mark the correct circle in each column. If your answer was '2' in the first column and '3' in the second, you would mark '2' in the second column and '3' in the second column. Please check the examples below. For any answer '2' or greater, mark the correct circle in two columns. Thank you for your participation.
II. Substance Use

1. Campus situation on alcohol and drugs:
   a. Our campus has alcohol and drug policies
   b. If so, are they enforced?
   c. Our campus has a drug and alcohol prevention program?
   d. Do you believe your campus is concerned about the prevention of drug and alcohol use?
   e. Are you actively involved in efforts to prevent drug and alcohol use problems on your campus?
   f. Is your primary alcohol source on campus (e.g., friends)?
   g. Is your primary drug source on campus (e.g., friends)?
   "Do not answer if you do not use.

2. Do you think the average student on the Andrews campus used each of the following substances in the last year? . . . (MARK ONE FOR EACH LINE)
   a. tobacco (smoke, chew, snuff)
   b. alcohol (beer, wine, liquor): other than a few sips
   c. marijuana (pot, hash, hash oil)
   d. cocaine (crack, rock, freebase)
   e. amphetamines (diet pills, speed)
   f. sedatives (downers, ludes)
   g. hallucinogens (LSD, PCP)
   h. opiates (heroin, smack, horse)
   i. inhalants (glue, solvents, gas)
   j. designer drugs (ecstasy, MDMA)
   k. steroids
   l. other illegal drugs

3. Think back over the last two weeks. How many times have you had five or more drinks* at a sitting?
   "a drink is a bottle of beer, a glass of wine, a wine cooler, a shot glass of liquor, or a mixed drink"
   None 3-5 times
   Once 6-9 times
   Twice 10 or more times

4. Average # of drinks* that you consume a week:
   "a drink is a bottle of beer, a glass of wine, a wine cooler, a shot glass of liquor, or a mixed drink"
   None 3-5
   One 6-9
   Two 10 or more

5. At what age did you first use . . . (MARK ONE FOR EACH LINE)
   a. tobacco (smoke, chew, snuff)
   b. alcohol (beer, wine, liquor): other than a few sips
   c. marijuana (pot, hash, hash oil)
   d. cocaine (crack, rock, freebase)
   e. amphetamines (diet pills, speed)
   f. sedatives (downers, ludes)
   g. hallucinogens (LSD, PCP)
   h. opiates (heroin, smack, horse)
   i. inhalants (glue, solvents, gas)
   j. designer drugs (ecstasy, MDMA)
   k. use of prescription drugs W/O prescription
   l. steroids
   m. other illegal drugs

6. Within the last year about how often have you used . . . (MARK ONE FOR EACH LINE)
   a. tobacco (smoke, chew, snuff)
   b. alcohol (beer, wine, liquor): other than a few sips
   c. marijuana (pot, hash, hash oil)
   d. cocaine (crack, rock, freebase)
   e. amphetamines (diet pills, speed)
   f. sedatives (downers, ludes)
   g. use of prescription drugs W/O prescription
   h. other illegal drugs

7. During the past 30 days on how many days did you have . . . (MARK ONE FOR EACH LINE)
   a. tobacco (smoke, chew, snuff)
   b. alcohol (beer, wine, liquor): other than a few sips
   c. marijuana (pot, hash, hash oil)
   d. cocaine (crack, rock, freebase)
   e. amphetamines (diet pills, speed)
   f. sedatives (downers, ludes)
   g. use of prescription drugs W/O prescription
   h. other illegal drugs
8. Where have you used . . . (MARK ALL THAT APPLY FOR EACH LINE) Never | On-campus | Residence | Bar | Where | In a | Private | On
| | Events | Hall | Restaurant | You Live | Car | Parties | Campus | Other
- a. tobacco (smoke, chew, snuff)
- b. alcohol (beer, wine, liquor): other than a few sips
- c. marijuana (pot, hash, hash oil)
- d. cocaine (crack, rock, freebase)
- e. amphetamines (diet pills, speed)
- f. sedatives (downers, ludes)
- g. use of prescription drugs W/O prescription
- h. other illegal drugs

9. Please indicate how often you have experienced the following due to your drinking or drug use during the last year . . . (MARK ONE FOR EACH LINE) Never | 1-3 | 4-7 | 8-11 | 12-15 | 16-25 | 26 or more
- a. had a hangover
- b. performed poorly on a test or important project
- c. been in trouble with police, residence hall, or other college authorities
- d. damaged property, pulled fire alarm, etc
- e. got into an argument or fight
- f. got nauseated or vomited
- g. driven a car while under the influence
- h. missed a class
- i. been criticized by someone I know
- j. thought I might have a drinking or other drug problem
- k. had a memory loss
- l. done something I later regretted
- m. been arrested for DWI/DUI
- n. have been taken advantage of sexually
- o. tried unsuccessfully to stop using
- p. seriously thought about suicide
- q. seriously tried to commit suicide
- r. been hurt or injured

10. Here are some reasons people give for not using cigarettes, alcohol, and/or other drugs. Please tell us which reasons are very important to you. (PLEASE MARK YOUR TOP 3 ANSWERS. FILL IN CIRCLE 1 FOR THE MOST IMPORTANT REASON, 2 FOR THE NEXT, AND 3 FOR THE THIRD MOST IMPORTANT. EACH COLUMN SHOULD BE USED ONLY ONCE. IF YOU ONLY HAVE 1 OR 2 REASONS, USE ONLY THOSE COLUMNS).

<table>
<thead>
<tr>
<th>None of these, I use cigarettes, alcohol, and/or other drugs</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
</table>
- a. Concern about my health
- b. Concern for my academic success
- c. Concern for my future occupation
- d. My commitment to Christ
- e. I want to be in control of my life
- f. Fear of trouble with school or law authorities
- g. Using wasn’t enjoyable when I tried it
- h. Don’t want to disappoint or grieve my parents
- i. My friends don’t use them
- j. Drugs might damage my future children
- k. Drugs cost too much money
- l. Afraid of dying
11. Have any of your family had alcohol or other drug problems? (MARK ALL THAT APPLY)
- Mother
- Father
- Spouse
- Grandparents
- Stepparent
- Siblings
- None

III. Physical Activity and Diet
We would like to ask you a few questions about your physical activity and diet.

1. I engage in moderate to vigorous exercises for 30 minutes a day at least 5 times a week
   (examples include jogging, swimming, bicycling, aerobics, etc.).
2. I do exercises that enhance my muscle tone/strength at least 2 times a week
   (examples include weight training and calisthenics).
3. I spend some of my leisure time participating in individual, family, or team activities, such
   as gardening, bowling, or softball.
4. I maintain a healthy body weight, avoiding overweight and underweight.
5. I do things like taking stairs instead of elevators and don't worry about getting the
   closest available parking spot.
6. I do exercises that enhance my flexibility at least 3 times a week
   (examples include calf and hamstring stretches).
7. I eat a variety of foods each day, such as fruits and vegetables; whole grain breads
   and cereals; low-fat dairy products; dry peas and beans; nuts and seeds.
8. I limit the amount of fat, saturated fat, trans fat, and cholesterol I eat
   (including fat on meats, eggs, butter, cream, shortenings, etc.)
9. I avoid eating too much sugar (especially frequent snacks of sticky candy or soft drinks).
10. Have you been afraid that you might become fat (or fatter)?
11. Has thinking about your shape interfered with your ability to concentrate
    (e.g., while watching television, reading, working)?
12. Have you not gone out to social occasions (e.g., parties) because you have felt bad
    about your shape?
13. Have you vomited in order to feel thinner?
IV. Sexual Activity

1. How many males or females have you had sex with, even if only one time (oral, anal, or vaginal)?
   (Here, by “sex”, we mean any mutually voluntary activity with another person that involves genital contact and sexual excitement or arousal, that is, feeling really turned on, even if intercourse or orgasm did not occur. Certain activities such as close dancing or kissing without genital contact should not be included. Also, this does not refer to occasions where force was used and activity was against someone’s will – this definition applies to the next 3 questions)

   a. In your lifetime:        b. In the last 12 months:
      With Males With Females      With Males With Females
      0 0 0 0
      1 1 1 1
      2 2 2 2
      3 3 3 3
      4 4 4 4
      5 5 5 5
      6 6 6 6
      7 7 7 7
      8 8 8 8
      9 9 9 9

2. Which of the following sexual behaviors would you feel comfortable doing prior to marriage?
   a. Kissing
   b. Breast stimulation/ondling (yours or your partners)
   c. Other sexually arousing touching (not including breast or genitals)
   d. Masturbation (stimulating your own genitals)
   e. Stimulating partner’s genitals with your fingers
   f. Oral sex (stimulating the genitals by mouth, that is licking or kissing your partner’s genitals or when your partner does this to you)
   g. Anal intercourse (a man’s penis is inside his partner’s rectum)
   h. Vaginal intercourse (a man’s penis inside a woman’s vagina)

3. Have you ever (lifetime) engaged in the following sexual behavior?
   a. Kissing
   b. Breast stimulation/ondling
   c. Other sexually arousing touching
   d. Masturbation
   e. Stimulating partner’s genitals with your fingers
   f. Oral sex
   g. Anal intercourse
   h. Vaginal intercourse

   Lifetime    Last 12 months
   Yes  No   Yes  No
   a.  
   b.  
   c.  
   d.  
   e.  
   f.  
   g.  
   h.  

4. What is the shortest period of time that you have known a partner prior to having sexual intercourse (vaginal, oral, or anal) with them?
   a. I have not had sexual intercourse
   b. Less than one day
   c. One or two days
   d. More than two days but less than a month
   e. More than one month but less than a year
   f. More than one year

5. As far as you know, during the past 12 months, have any of your partners had other sexual partners?
   a. Yes  
   b. No  
   c. I have not had any sexual intercourse

6. There are many different reasons why people decide to have vaginal intercourse for the first time. What was the main reason you chose to have vaginal intercourse for the first time? (CHOOSE ONE ONLY)
   a. I have never had vaginal intercourse
   b. Peer pressure
   c. Wedding night
   d. Affection for partner
   e. Curious/ready for sex
   f. Physical pleasure
   g. Other
   h. Don’t know/don’t remember
7. During the last 12 months, how often did you or your partner use the following methods of birth control/contraception:

I have never had sexual intercourse

<table>
<thead>
<tr>
<th>Method</th>
<th>Never/Almost Never</th>
<th>Sometimes</th>
<th>Most of the time</th>
<th>Almost Always/Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Birth control pills</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Depo-Provera (injectable birth control)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Condoms</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Withdrawal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Some other method</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. No method was used to prevent pregnancy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8. With how many people have you "hooked up" (a one-time sexual encounter – anything between a kiss and intercourse – between acquaintances who have no plans to even talk afterwards, let alone repeat the experience) with?

- In your lifetime:
  - 0
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - 7
  - 8
  - 9

- In the last 12 months:
  - 0
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - 7
  - 8
  - 9

9. What type of sexual behavior has occurred during your "hook up"? (MARK ALL THAT APPLY)

I have never engaged in "hooking up"

- Kissing
- Breast stimulation/ondling
- Stimulating partner's genitals with your fingers
- Oral sex
- Anal intercourse
- Vaginal intercourse
- Other
10. If you did not use birth control/contraception/protection, what was the reason you did not?

(PLEASE MARK YOUR TOP 3 ANSWERS. FILL IN CIRCLE 1 FOR THE MOST IMPORTANT REASON, 2 FOR THE NEXT, AND 3 FOR THE THIRD MOST IMPORTANT. EACH COLUMN SHOULD BE USED ONLY ONCE. IF YOU ONLY HAVE 1 OR 2 REASONS, USE ONLY THOSE COLUMNS)

a. I have never had sexual intercourse
b. I did use birth control/contraception/protection
c. I was trying to get pregnant
d. I was trying to get my partner pregnant
e. We were trying to have a child
f. Passion of the moment (sex was unplanned)
g. Pressure from my partner not to use
h. I see birth control as non-moral or against my personal or religious beliefs
i. I do not believe that they are effective enough to use
j. I am worried about some of the side effects
k. If I used birth control methods, it would look like I was planning to have sex
l. Issues of sex make me feel uncomfortable or guilty, therefore I do not think about contraceptives
m. I have problems obtaining contraceptives (e.g. knowledge of where to buy, the expense, the hassle, etc.)
n. I rely on my partner to use birth control
o. The sex was unwanted or forced and birth control was not an option
p. I have negative feelings or attitudes about contraceptives (e.g. they are messy, embarrassing, etc.)
q. I did not think a pregnancy could occur
r. I lack the information of how to use contraceptives
s. I see abortion as a way out of an unplanned pregnancy

11. If you have chosen not to have had sexual intercourse, what is the major reason that has influenced your behavior?

(PLEASE MARK YOUR TOP 3 ANSWERS, USING THE SAME DIRECTIONS AS ABOVE)

a. I have had sexual intercourse
b. It is against my personal or religious beliefs to have sexual intercourse outside of marriage
c. I have not met the right person yet
d. Issues of sexuality create emotional concern for me (e.g. fear, embarrassment, shyness, guilt, etc.)
e. I am worried about getting a sexually transmitted disease
f. I am worried about an unplanned pregnancy
g. I have not had the opportunity present itself
h. I don't have a partner
i. My partner was unwilling
j. I am worried about performance issues
k. Issues of past abuse (physical or sexual) get in the way
l. Not interested in sex
m. Not emotionally ready
n. Fears of being caught, or what others would say if they found out
o. Medical or health reason (outside of STDs)
V. INTERNET PORNOGRAPHY

1. Have you ever intentionally gone to an internet porn site?
   - Yes
   - No

2. How many hours in the last week have you viewed internet porn sites?
   - 0
   - 1
   - 2
   - 3
   - 4
   - 5
   - 6
   - 7
   - 8
   - 9

3. What types of pornography do you usually watch?
   a. I do not view pornography
   b. Live video streaming
   c. Pictures
   d. S & M
   e. Chat rooms
   f. Fantasy
   g. On line magazines
   h. On line movies

4. What types of problems have you experienced as a result of viewing internet pornography?
   (CHECK ALL THAT APPLY)
   a. I do not view internet pornography
   b. Lead to more permissive attitudes concerning sexual behavior
   c. Lead to an increase in my own sexual behavior (from masturbation to intercourse)
   d. Has led to a decrease in family values (e.g. less committed to marriage, etc)
   e. Has led to a dissatisfaction with my partner (e.g. their performance or looks, etc)
   f. An increasing amount of time spent viewing internet pornography
   g. Damaged relationships with other people (from intimacy to withdrawal from others)
   h. Increased negative emotions (e.g. guilt, shame, low self-esteem, etc)
   i. Attitudes about or toward the opposite sex have deteriorated
   j. Increased aggression (sexual or non-sexual) toward the opposite sex
   k. Worsened my relationship with God/Christ
   l. Lost interest in spiritual things
   m. Has affected the quality of school work (grades, missed classes or appointments, etc)
   n. Other
   o. I have experienced no problems as a result of viewing internet pornography

5. What types of benefits have you experienced as a result of viewing internet pornography? (CHECK ALL THAT APPLY – INCLUDING ONES WHICH YOU HAVE TOLD YOURSELF IN THE PAST)
   a. I do not view internet pornography
   b. Lead to more permissive attitudes concerning sexual behavior
   c. Lead to an increase in my own sexual behavior (from masturbation to intercourse)
   d. Gives me new ideas for my own (or parts) sexual behavior
   e. It produces sexual arousal for me
   f. It is risk-free from elements like STDs
   g. It is a sexual outlet where I do not have to deal with other people
   h. It helps me feel more relaxed (less stress)
   i. It helps me to sleep better
   j. It serves as an emotional outlet
   k. Other
   l. I have experienced no benefits as a result of viewing internet pornography

6. What elements increase your utilization of internet pornography? (CHECK ALL THAT APPLY)
   a. I do not view internet pornography
   b. When I am experiencing negative emotions (e.g. anger, depression, stress, boredom, loneliness, etc.)
   c. When strong feelings of low self-esteem occur
   d. When I feel rejected in a relationship (e.g. following a fight)
   e. When in conflict with other(s), outside of spouse or boyfriend/girlfriend
   f. When doing poorly in school or work (e.g. after failing a test, etc)
   g. When I can't sleep
   h. I want sexual arousal
   i. I mostly do it out of habit
   j. Other
VI. Parental Environment

PLEASE ANSWER EVERY QUESTION even if you are not sure which answer is right for you. Read each item carefully, and indicate your response as it relates to each parent (can be a stepparent instead if they are like a parent to you). If you have only one parent, blacken the Not Applicable circle for the absent parent.

<table>
<thead>
<tr>
<th></th>
<th>Definitely</th>
<th>Probably</th>
<th>Probably</th>
<th>Definitely</th>
<th>Not Applicable</th>
<th>Definitely</th>
<th>Probably</th>
<th>Probably</th>
<th>Definitely</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>I talk about my concerns and my experiences with my parent.</td>
<td>False</td>
<td>False</td>
<td>True</td>
<td>True</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>True</td>
<td>True</td>
</tr>
<tr>
<td>2.</td>
<td>My parent often criticizes me.</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>True</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
</tr>
<tr>
<td>3.</td>
<td>My parent praises me when I do something well.</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>True</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
</tr>
<tr>
<td>4.</td>
<td>Before I finish saying something, my parent often interrupts me.</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>True</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
</tr>
<tr>
<td>5.</td>
<td>My parent knows a lot about my hobbies.</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>True</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
</tr>
<tr>
<td>6.</td>
<td>I don’t want my friends to meet my parent.</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>True</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
</tr>
<tr>
<td>7.</td>
<td>My parent often irritates me.</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>True</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
</tr>
<tr>
<td>8.</td>
<td>There are few misunderstandings between my parent and myself.</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>True</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
</tr>
<tr>
<td>9.</td>
<td>My parent comforts me when I am discouraged or have had a disappointment.</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>True</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
</tr>
<tr>
<td>10.</td>
<td>I treat others with more respect than I treat my parent.</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>True</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
</tr>
<tr>
<td>11.</td>
<td>My parent helps me direct my feelings.</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>True</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
</tr>
<tr>
<td>12.</td>
<td>My parent and I have a lot to talk about when we are together.</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>True</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
</tr>
<tr>
<td>13.</td>
<td>My parent tries to keep up with how well I do in school and/or in my job.</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>True</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
</tr>
<tr>
<td>14.</td>
<td>My parent often does not trust me to make my own decision.</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>True</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
</tr>
<tr>
<td>15.</td>
<td>My parent and I often get into arguments.</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>True</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
</tr>
<tr>
<td>16.</td>
<td>I prefer to talk about my personal problems with my parent.</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>True</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
</tr>
<tr>
<td>17.</td>
<td>I often seem to anger or annoy my parent.</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>True</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
</tr>
<tr>
<td>18.</td>
<td>My parent often loses his/her temper with me.</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>True</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
</tr>
<tr>
<td>19.</td>
<td>My parent sometimes hits me in anger.</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>True</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
</tr>
<tr>
<td>20.</td>
<td>Once in a while I have been really scared of my parent.</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>True</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
</tr>
<tr>
<td>21.</td>
<td>My parent doesn’t seem to know much about how I do in school.</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>True</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
</tr>
<tr>
<td>22.</td>
<td>My parent and I do a lot of things together.</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>True</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
</tr>
<tr>
<td>23.</td>
<td>I feel very close to my parent.</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>True</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
</tr>
<tr>
<td>24.</td>
<td>My parent doesn’t know much about how I spend my spare time.</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>True</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
</tr>
<tr>
<td>25.</td>
<td>My parent accepts me unconditionally.</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>True</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
</tr>
<tr>
<td>26.</td>
<td>I can talk to my parent about sensitive issues like alcohol/drugs/sex.</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>True</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
<td>False</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Definitely</th>
<th>Probably</th>
<th>Probably</th>
<th>Definitely</th>
</tr>
</thead>
<tbody>
<tr>
<td>27.</td>
<td>There is a lot of warmth between my parents.</td>
<td>False</td>
<td>False</td>
<td>False</td>
</tr>
<tr>
<td>28.</td>
<td>On average, when you were living at home, how many dinners did your family have together per week?</td>
<td>0 1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
VII. Relationships/Social Support

We would like to ask you a few questions about the personal relationships you have in your life.

1. How long has it been since you were first married? (If never married or cohabitating, skip to question 5)
   - 0
   - 1
   - 2
   - 3
   - 4
   - 5
   - 6
   - 7
   - 8
   - 9

2. Are you currently living with your spouse or another person in an intimate relationship?
   - Yes
   - No

3. How much does (did) your (husband/wife/partner/person you live with) make you feel loved and cared for?
   - A great deal
   - Quite a bit
   - Some
   - A little
   - Not at all

4. How much do you feel (he/she) (makes/made) too many demands on you?
   - A great deal
   - Quite a bit
   - Some
   - A little
   - Not at all

5. How many close friends do you have (people you feel at ease with, can talk to about private matters, and can call on for help)?
   - None
   - 1 or 2
   - 3 to 5
   - 6 to 9
   - 10 or more

6. How much pressure do you feel from friends to use alcohol or drugs?
   - A lot
   - Some
   - A little
   - None

7. How many Andrews' faculty/staff can you discuss sensitive issues like alcohol/drugs/sex with?
   - None
   - 1 or 2
   - 3 to 5
   - 6 to 9
   - 10 or more

8. How many relatives do you have that you feel close to?
   - None
   - 1 or 2
   - 3 to 5
   - 6 to 9
   - 10 or more

9. How many of these friends or relative do you see at least once per month?
   - None
   - 1 or 2
   - 3 to 5
   - 6 to 9
   - 10 or more

10. Do you belong to any social, recreational, work church or other community groups? (For example, social clubs, exercise groups, campus ministries, or community service?)
    - Yes
    - No

11. What is the total number of groups to which you belong?
    - 0
    - 1
    - 2
    - 3
    - 4
    - 5
    - 6
    - 7
    - 8
    - 9
VIII. Personality

Here are a number of personality traits that may or may not apply to you. Please indicate the extent to which you agree or disagree with each statement. You should rate the extent to which the pair of traits applies to you, even if one characteristic applies more strongly than the other.

<table>
<thead>
<tr>
<th>Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Disagree</th>
<th>Independent</th>
<th>Disagree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly</td>
<td>Moderately</td>
<td>a Little</td>
<td>Not</td>
<td>Agree</td>
<td>a Little</td>
<td>Agree</td>
</tr>
</tbody>
</table>

1. Extroverted, enthusiastic
2. Critical, quarrelsome
3. Dependable, self-disciplined
4. Anxious, easily upset
5. Open to new experiences, complex
6. Reserved, quiet
7. Sympathetic, warm
8. Disorganized, careless
9. Calm, emotionally stable
10. Conventional, uncreative

IX. Religious Behaviors

Each statement is followed by three possible responses. Please read the first statement, and then consider each response. Indicate how true each response is for you.

1. One reason I think it’s important to actively share my faith with others is:
   a. Because God is important to me and I’d like other people to know about Him too.
   b. Because I would feel bad about myself if I didn’t.
   c. Because I want other Christians to approve of me.

2. When I turn to God, I most often do it because:
   a. I enjoy spending time with Him.
   b. I would feel guilty if I didn’t.
   c. I find it is satisfying to me.

3. A reason I think praying by myself is important is:
   a. Because if I don’t God will disapprove of me.
   b. Because I enjoy praying.
   c. Because I find prayer satisfying.

4. An important reason why I attend church is:
   a. Because I’m supposed to go to church.
   b. By going to church I learn new things.
   c. Because others would disapprove of me if I didn’t.
5. How much do you believe the following statements are true? (MARK ONE FOR EACH LINE)

<table>
<thead>
<tr>
<th>Definitely</th>
<th>Mostly</th>
<th>Mostly</th>
<th>Definitely</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>No</td>
<td>Neutral</td>
<td>Yes</td>
</tr>
</tbody>
</table>

a. Family worship has helped me spiritually.
b. God wants me to take good care of my body by avoiding alcohol, tobacco, and drugs.
c. I have had a conversion or "born again" experience with Jesus Christ.
d. My father is a real Christian.
e. My mother is a real Christian.
f. The Seventh-day Adventist church is the true church.
g. I intend to remain a Seventh-day Adventist (only answer if you are a SDA).

6. How often do you participate in the activities listed below? Please circle your answer on a scale of 1-9, with:

1 - never 4 - several times a year 7 - nearly every week
2 - less than once a year 5 - about once a month 8 - every week
3 - about once or twice a year 6 - 2/3 times a month 9 - several times a week

a. Attend church services
b. Personal prayer
c. Read the Bible (outside of class assignments)
d. Family worship
e. Attend Sabbath School
f. Read Seventh-day Adventist literature outside of class assignments
g. Attend school sponsored religious programs

X. Nature Activities

1. How often do you engage in nature oriented activities:

   Never
   Once in a while
   Several times per week
   Daily

2. How often do you do any of the following: Never Once in Several Daily

   Bird watching
   Visit the beach
   Take care of your garden
   Hiking in the woods
   Take a nature walk
   Other _________________________
APPENDIX B

The Health Risk and Protective Factors Study:
Form B
THE HEALTH RISK AND PROTECTIVE FACTORS STUDY - Form B

DIRECTIONS:
Please be sure to use a #2 pencil and fill in the circles completely, without going outside of the circle. Please fill it in dark enough for the machine to read. If you change an answer, be sure to erase it completely and put in the correct one. On a few questions, such as age and some frequency items, there will be two columns of circles going down with the numbers 0-9 to the left of them. The first row should be for the tens column and the second row for the ones. So if your answer was '09' you would mark '0' in the first column and '9' in the second. If your answer was '21' you would mark where the '2' is in the first column and '1' is in the second column—see example below. For any answer '99' or greater, mark the bottom two circles. Thank you for your participation.

2 1

0 1
2 3
4 5
6 7
8 9

1. Socio-Demographic Information

1. Classification:
   - Freshman
   - Sophomore
   - Junior
   - Senior
   - Grad/professional
   - Not seeking a degree
   - Other

2. Student status:
   - Part-time (1-11 credits)
   - Full-time (12-16 credits)
   - Overload (17+ credits)

3. First in immediate family to attend college:
   - Yes
   - No

4. Age
   - 0
   - 1
   - 2
   - 3
   - 4
   - 5
   - 6
   - 7
   - 8
   - 9

5. Ethnic origin:
   - American Indian/Alaskan Native
   - African American
   - Asian/Pacific Islander
   - West Indian
   - White (non-Hispanic)
   - Latino
   - Other

6. Marital status:
   - Single
   - Engaged
   - Married
   - Separated
   - Divorced
   - Widowed

7. Gender:
   - Male
   - Female

8. Religious affiliation:
   - None
   - Seventh-day Adventist
   - Other Protestant
   - Catholic
   - Muslim
   - Hindu
   - Other

9. Living arrangements:
   a. Where: (MARK BEST ANSWER)
      - Residence hall
      - Approved campus housing
      - Off-campus housing
   b. With whom: (MARK ALL THAT APPLY)
      - With roommate(s)
      - With spouse
      - With parent(s)
      - Alone
      - With children
      - Other

10. Are you working?
    - Yes, full time (20 or more hours per week)
    - Yes, part time (less than 20 hours per week)
    - No

11. Approximate cumulative grade point average:
    (CHOOSE ONE)
    - A
    - A-
    - B+
    - B
    - B-
    - C+
    - C
    - C-
    - D
    - F

12. Place of permanent residence:
    - In-state
    - USA, but out of state
    - Country other than USA

13. Height and Weight
    a. Height
    - Feet
    - Inches
    - Total
    - 0

    b. Weight
    - Total
    - 0
II. Substance Use

1. Campus situation on alcohol and drugs:
   a. Our campus has alcohol and drug policies
   b. If so, are they enforced?
   c. Our campus has a drug and alcohol prevention program?
   d. Do you believe your campus is concerned about the prevention of drug and alcohol use?
   e. Are you actively involved in efforts to prevent drug and alcohol use problems on your campus?
   f. Is your primary alcohol source on campus (e.g., friends)?
   g. Is your primary drug source on campus (e.g., friends)?
      "Do not answer if you do not use.

2. Do you think the average student on the Andrews campus used each of the following substances in the last year? . . . (MARK ONE FOR EACH LINE)
   a. tobacco (smoke, chew, snuff)
   b. alcohol (beer, wine, liquor): other than a few sips
   c. marijuana (pot, hash, hash oil)
   d. cocaine (crack, rock, freebase)
   e. amphetamines (diet pills, speed)
   f. sedatives (downers, ludes)
   g. hallucinogens (LSD, PCP)
   h. opiates (heroin, smack, horse)
   i. inhalants (glue, solvents, gas)
   j. designer drugs (ecstasy, MDMA)
   k. steroids
   l. other illegal drugs

3. Think back over the last two weeks. How many times have you had five or more drinks* at a sitting?
   "a drink is a bottle of beer, a glass of wine, a wine cooler, a shot glass of liquor, or a mixed drink"
   None 3-5 times
   Once 6-9 times
   Twice 10 or more times

4. Average # of drinks* that you consume a week:
   "a drink is a bottle of beer, a glass of wine, a wine cooler, a shot glass of liquor, or a mixed drink"
   None 3-5
   Once 6-9
   Two 10 or more

5. At what age did you first use . . . (MARK ONE FOR EACH LINE)
   a. tobacco (smoke, chew, snuff)
   b. alcohol (beer, wine, liquor): other than a few sips
   c. marijuana (pot, hash, hash oil)
   d. cocaine (crack, rock, freebase)
   e. amphetamines (diet pills, speed)
   f. sedatives (downers, ludes)
   g. hallucinogens (LSD, PCP)
   h. opiates (heroin, smack, horse)
   i. inhalants (glue, solvents, gas)
   j. designer drugs (ecstasy, MDMA)
   k. use of prescription drugs W/O prescription
   l. steroids
   m. other illegal drugs

6. Within the last year about how often have you used . . . (MARK ONE FOR EACH LINE)
   a. tobacco (smoke, chew, snuff)
   b. alcohol (beer, wine, liquor): other than a few sips
   c. marijuana (pot, hash, hash oil)
   d. cocaine (crack, rock, freebase)
   e. amphetamines (diet pills, speed)
   f. sedatives (downers, ludes)
   g. use of prescription drugs W/O prescription
   h. other illegal drugs

7. During the past 30 days on how many days did you have . . . (MARK ONE FOR EACH LINE)
   a. tobacco (smoke, chew, snuff)
   b. alcohol (beer, wine, liquor): other than a few sips
   c. marijuana (pot, hash, hash oil)
   d. cocaine (crack, rock, freebase)
   e. amphetamines (diet pills, speed)
   f. sedatives (downers, ludes)
   g. use of prescription drugs W/O prescription
   h. other illegal drugs
8. Where have you used... (MARK ALL THAT APPLY FOR EACH LINE)
   a. tobacco (smoke, chew, snuff)
   b. alcohol (beer, wine, liquor; other than a few sips)
   c. marijuana (pot, hash, hash oil)
   d. cocaine (crack, rock, freebase)
   e. amphetamines (diet pills, speed)
   f. sedatives (downers, ludes)
   g. use of prescription drugs W/O prescription
   h. other illegal drugs

9. Please indicate how often you have experienced the following due to your drinking or drug use during the last year... (MARK ONE FOR EACH LINE)
   a. had a hangover
   b. performed poorly on a test or important project
   c. been in trouble with police, residence hall, or other college authorities
   d. damaged property, pulled fire alarm, etc
   e. got into an argument or fight
   f. got nauseated or vomited
   g. driven a car while under the influence
   h. missed a class
   i. been criticized by someone I know
   j. thought I might have a drinking or other drug problem
   k. had a memory loss
   l. done something I later regretted
   m. been arrested for DWI/DUI
   n. have been taken advantage of sexually
   o. tried unsuccessfully to stop using
   p. suspected about suicide
   q. seriously tried to commit suicide
   r. been hurt or injured

10. Here are some reasons people give for not using cigarettes, alcohol, and/or other drugs. Please tell us which reasons are very important to you. (PLEASE MARK YOUR TOP 3 ANSWERS. FILL IN CIRCLE 1 FOR THE MOST IMPORTANT REASON, 2 FOR THE NEXT, AND 3 FOR THE THIRD MOST IMPORTANT. EACH COLUMN SHOULD BE USED ONLY ONCE. IF YOU ONLY HAVE 1 OR 2 REASONS, USE ONLY THOSE COLUMNS).

   None of these, I use cigarettes, alcohol, and/or other drugs
   a. Concern about my health
   b. Concern for my academic success
   c. Concern for my future occupation
   d. My commitment to Christ
   e. I want to be in control of my life
   f. Fear of trouble with school or law authorities
   g. Using wasn't enjoyable when I tried it
   h. Don't want to disappoint or grieve my parents
   i. My friends don't use them
   j. Drugs might damage my future children
   k. Drugs cost too much money
   l. Afraid of dying
11. Have any of your family had alcohol or other drug problems?: (MARK ALL THAT APPLY)
- Mother
- Father
- Spouse
- Grandparents
- Stepparent
- Siblings
- None

III. Community Service

1. Have you engaged in community service/volunteered in the community in the last 12 months?
   - Yes
   - No (if no, skip to the next section)

2. How important were the following reasons in your decision to be involved in volunteer community service?
   - Not Important
   - Somewhat Important
   - Very Important
   - to satisfy a personal need
   - to learn about the community
   - to help with a particular community service
   - to learn about community organization
   - to contribute to community well-being
   - to become a community leader
   - to express religious values
   - to help solve social problems
   - to explore career interests
   - to gain experience, to build your resume
   - to complete a course requirement
   - to meet other people
   - because you were personally invited
   - because of someone you admired
   - required by the court
   - to stay out of trouble
   - to avoid negative habits and risky behavior
   - other ________________________________

3. If you volunteer any of your time on or off campus to help others, please indicate the approximate number of hours per month in the last year.
   - Don't volunteer, or less than 1 hour
   - 1-4 hours
   - 5-9 hours
   - 10-15 hours
   - 16 or more hours

4. Indicate your agreement/disagreement with the following statements.
   - Students can make a difference in society through volunteer work.
   - It is important for students to perform volunteer and community service.
   - Students should be concerned about the needs of people in the community.
   - Service is a healthy or worthwhile use of my time
IV. Sexual Activity

1. How many males or females have you had sex with, even if only one time (oral, anal, or vaginal)? (Here, by "sex", we mean any mutually voluntary activity with another person that involves genital contact and sexual excitement or arousal, that is, feeling really turned on, even if intercourse or orgasm did not occur. Certain activities such as close dancing or kissing without genital contact should not be included. Also, this does not refer to occasions where force was used and activity was against someone's will – this definition applies to the last 12 months)

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<th></th>
<th>In your lifetime</th>
<th>In the last 12 months</th>
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<td></td>
<td>With Males</td>
<td>With Females</td>
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2. Which of the following sexual behaviors would you feel comfortable doing prior to marriage?

   a. Kissing
   b. Breast stimulation/fondling (yours or your partners)
   c. Other sexually arousing touching (not including breast or genitals)
   d. Masturbation (stimulating your own genitals)
   e. Stimulating partner's genitals with your fingers
   f. Oral sex (stimulating the genitals by mouth, that is licking or kissing your partner's genitals or when your partner does this to you)
   g. Anal intercourse (a man's penis is inside his partner's rectum)
   h. Vaginal intercourse (a man's penis inside a woman's vagina)

3. Have you ever (lifetime) engaged in the following sexual behavior?

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<thead>
<tr>
<th></th>
<th>Lifetime</th>
<th>Last 12 months</th>
</tr>
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<tbody>
<tr>
<td>a. Kissing</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>b. Breast stimulation/fondling</td>
<td>Yes</td>
<td>No</td>
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<td>c. Other sexually arousing touching</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>d. Masturbation</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>e. Stimulating partner's genitals with your fingers</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>f. Oral sex</td>
<td>Yes</td>
<td>No</td>
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<td>g. Anal intercourse</td>
<td>Yes</td>
<td>No</td>
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<td>h. Vaginal intercourse</td>
<td>Yes</td>
<td>No</td>
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4. What is the shortest period of time that you have known a partner prior to having sexual intercourse (vaginal, oral, or anal) with them?

   - I have not had sexual intercourse
   - Less than one day
   - One or two days
   - More than two days but less than a month
   - More than one month but less than a year
   - More than one year

5. As far as you know, during the past 12 months, have any of your partners had other sexual partners?

   - Yes
   - No

   I have not had any sexual intercourse

6. There are many different reasons why people decide to have vaginal intercourse for the first time. What was the main reason you chose to have vaginal intercourse for the first time? (CHOOSE ONE ONLY)

   - I have never had vaginal intercourse
   - Peer pressure
   - Wedding night
   - Affection for partner
   - Curious/ready for sex
   - Physical pleasure
   - Other
   - Don't know/don't remember
7. During the last 12 months, how often did you or your partner use the following methods of birth control/contraception:

I have never had sexual intercourse

<table>
<thead>
<tr>
<th>Never/Almost Never</th>
<th>Sometimes</th>
<th>Most of the time</th>
<th>Almost Always</th>
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</table>
a. Birth control pills
b. Depo-Provera (injectable birth control)
c. Condoms
d. Withdrawal
e. Some other method
f. No method was used to prevent pregnancy

8. Have you ever sent erotic pictures of yourself to someone via cell phone?
   Yes
   No
   a. If yes, how many times in the last 12 months:
      0
      1
      2
      3
      4
      5
      6
      7
      8
      9

9. Have you ever engaged in "sexting"?
   Yes
   No
   a. If yes, how many times in the last 12 months:
      0
      1
      2
      3
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10. With how many people have you "hooked up" (a one-time sexual encounter—anything between a kiss and intercourse—between acquaintances who have no plans to even talk afterwards, let alone repeat the experience) with?
<table>
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<tr>
<th>a. in your lifetime:</th>
<th>b. in the last 12 months</th>
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11. What type of sexual behavior has occurred during your "hook up"? (MARK ALL THAT APPLY)
   - I have never engaged in "hooking up"
   - Kissing
   - Breast stimulation/fondling
   - Stimulating partner's genitals with your fingers
   - Oral sex
   - Anal intercourse
   - Vaginal intercourse
   - Other
12. If you did not use birth control/contraception/protection, what was the reason you did not?

(Please mark your top 3 answers. Fill in circle 1 for the most important reason, 2 for the next, and 3 for the third most important. Each column should be used only once. If you only have 1 or 2 reasons, use only those columns)

a. I have never had sexual intercourse
b. I did use birth control/contraception/protection
c. I was trying to get pregnant
d. I was trying to get my partner pregnant
e. We were trying to have a child
f. Passion of the moment (sex was unplanned)
g. Pressure from my partner not to use
h. I see birth control as non-moral or against my personal or religious beliefs
i. I do not believe that they are effective enough to use
j. I am worried about some of the side effects
k. If I used birth control methods, it would look like I was planning to have sex
l. Issues of sex make me feel uncomfortable or guilty, therefore I do not think about contraceptives
m. I have problems obtaining contraceptives (e.g., knowledge of where to buy, the expense, the hassle, etc.)

13. If you have chosen not to have had sexual intercourse, what is the major reason that has influenced your behavior?

(Please mark your top 3 answers, using the same directions as above)

a. I have had sexual intercourse
b. It is against my personal or religious beliefs to have sexual intercourse outside of marriage
c. I have not met the right person yet
d. Issues of sexuality create emotional concern for me (e.g., fear, embarrassment, shyness, guilt, etc.)
e. I am worried about getting a sexually transmitted disease
f. I am worried about an unplanned pregnancy
g. I have not had the opportunity present itself
h. I don’t have a partner
i. My partner was not willing
j. I am worried about performance issues
k. Issues of past abuse (physical or sexual) get in the way
l. Not interested in sex
m. Not emotionally ready
n. Fears of being caught, or what others would say if they found out
o. Medical or health reason (outside of STDs)
VI. Parental Environment

PLEASE ANSWER EVERY QUESTION even if you are not sure which answer is right for you. Read each item carefully, and indicate your response as it relates to each parent (can be a stepparent instead if they are like a parent to you). If you have only one parent, blacken the Not Applicable circle for the absent parent.

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<tbody>
<tr>
<td>1. I talk about my concerns and my experiences with my parent.</td>
<td>Mother</td>
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<td>Father</td>
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<td>2. My parent often criticizes me.</td>
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<td>3. My parent praises me when I do something well.</td>
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<td>4. Before I finish saying something, my parent often interrupts me.</td>
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<td>5. My parent knows a lot about my hobbies.</td>
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<td>6. I don't want my friends to to meet my parent.</td>
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<td>7. My parent often irritates me.</td>
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<td>8. There are few misunderstandings between my parent and myself.</td>
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<td>9. My parent comforts me when I am discouraged or have had a disappointment.</td>
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<td>10. I treat others with more respect than I treat my parent.</td>
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<td>11. My parent often hurts my feelings.</td>
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<td>12. My parent and I have a lot to talk about when we are together.</td>
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<td>13. My parent tries to keep up with how well I do in school and/or in my job.</td>
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<td>14. My parent often does not trust me to make my own decision.</td>
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<td>15. My parent and I often get into arguments.</td>
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<td>16. I prefer to talk about my personal problems with my parent.</td>
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<td>17. I often seem to anger or annoy my parent.</td>
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<td>18. My parent often loses his/her temper with me.</td>
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<td>19. My parent sometimes hits me in anger.</td>
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<td>20. Once in a while I have been really scared of my parent.</td>
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<td>21. My parent doesn't seem to know much about how I do in school.</td>
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<td>22. My parent and I do a lot of things together.</td>
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<td>23. I feel very close to my parent.</td>
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<td>24. My parent doesn't know much about how I spend my spare time.</td>
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<td>25. My parent accepts me unconditionally.</td>
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<td>26. I can talk to my parent about sensitive issues like alcohol/drugs/sex.</td>
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27. There is a lot of warmth between my parents.

28. On average, when you were living at home, how many dinners did your family have together per week?

   U  1  2  3  4  5  6  7
VII. Domestic Issues

The following questions will ask you if something has happened to you in the last 12 months, if you exhibited a certain behavior, or what you opinion is about these behaviors.

1. Insulting or swearing at an intimate partner or spouse.
2. Scolding one’s intimate partner or spouse.
3. Threatening to hit or throw something at one’s intimate partner or spouse.
4. Deciding whether an intimate partner or spouse should work outside the home.
5. Using a gun or a knife on one’s intimate partner or spouse.
6. Stepping or pushing one’s intimate partner or spouse.
7. Hitting or choking one’s intimate partner or spouse.
8. Beating one’s intimate partner or spouse once in a while.
9. Physically forcing one’s intimate partner or spouse to have sex.
10. Pressuring/forcing one’s intimate partner or spouse to have sex in a way he/she doesn’t like or want.
11. Physically attacking sexual body parts of an intimate partner or spouse.
12. Forcing an intimate partner or spouse to watch pornographic materials.
13. Being told/saying the man has the ultimate spiritual authority in the family.
14. Being told/saying a woman should always submit to her husband/partner.
15. Coercing one’s intimate partner or spouse to go to church even when he/she may not want to.
16. Not allowing one’s intimate partner or spouse to go to church when he/she may want to.

VIII. Religious Behaviors

Each statement is followed by three possible responses. Please read the first statement, and then consider each response. Indicate how true each response is for you.

1. One reason I think it’s important to actively share my faith with others is:
   a. Because God is important to me and I’d like other people to know about Him too.
   b. Because I would feel bad about myself if I didn’t.
   c. Because I want other Christians to approve of me.

2. When I turn to God, I most often do it because:
   a. I enjoy spending time with Him.
   b. I would feel guilty if I didn’t.
   c. I find it is satisfying to me.

3. A reason I think praying by myself is important is:
   a. Because if I don’t God will disapprove of me.
   b. Because I enjoy praying.
   c. Because I find prayer satisfying.

4. An important reason why I attend church is:
   a. Because one is supposed to go to church.
   b. By going to church I learn new things.
   c. Because others would disapprove of me if I didn’t.
5. How much do you believe the following statements are true? (MARK ONE FOR EACH LINE)

- Family worship has helped me spiritually.
- God wants me to take good care of my body by avoiding alcohol, tobacco, and drugs.
- I have had a conversion or "born again" experience with Jesus Christ.
- My father is a real Christian.
- My mother is a real Christian.
- The Seventh-day Adventist church is the true church.
- I intend to remain a Seventh-day Adventist (only answer if you are a SDA).

6. How often do you participate in the activities listed below? Please circle your answer on a scale of 1-9, with:

1 - never
2 - less than once a year
3 - about once or twice a year
4 - several times a year
5 - about once a month
6 - 2-3 times a month
7 - nearly every week
8 - every week
9 - several times a week

- Attend church services
- Personal prayer
- Read the Bible (outside of class assignments)
- Family worship
- Attend Sabbath School
- Read Seventh-day Adventist literature
  outside of class assignments
- Attend school sponsored religious programs
IX. Major Life Experiences

Below is a list of some things that could have happened to you while you were a child or at any time in your life. Please read each one carefully. If the problem occurred to you, indicate at what age it last occurred, then indicate how much you were bothered by the experience.

1. Did you ever have a major illness or accident that required you to spend a week or more in a hospital? Did it occur? Yes No Age it last occurred 0-5 6-10 11-15 16-18 19+
2. Did your parents get divorced?
3. Did your father or mother not have a job for a long time when they wanted to be working?
4. Were you regularly physically abused by one of your parents?
5. Have you ever been divorced or been in a relationship breakup with someone you were still in love with?
6. Have you ever seen something violent happen to someone or seen someone killed?
7. Have you ever been in a major fire, flood, earthquake, or natural disaster?
8. Have you ever had a serious accident, injury, or illness that was life-threatening or a caused long-term disability?
9. Have you ever discovered that your spouse or boyfriend/girlfriend in a close relationship was unfaithful?
10. Have you ever been either sexually abused or sexually assaulted?
11. Has one of your parents died?
12. Have you ever been hurt by leaders, people or incidents in your church?

X. Resilience

1. When I make plans I follow through with them.
2. I usually manage one way or another.
3. I feel proud that I have accomplished things in my life.
4. I usually take things in my stride.
5. I am friends with myself.
6. I feel that I can handle many things at a time.
7. I am determined.
8. I have self-discipline.
9. I keep interested in things.
10. I can usually find something to laugh about.
11. My belief in myself gets me through hard times.
12. I can usually look at a situation in a number of ways.
13. My life has meaning.
14. When I am in a difficult situation, I can usually find my way out of it.
15. I have enough energy to do what I have to do.

Not A little Quite at all bit Moderately a bit Extremely

Strongly Disagree Strongly Agree
XI. BDI-II

Below are 21 groups of statements. Please read each group of statements carefully, and then pick out the one statement in each group that best describes the way you have been feeling during the past two weeks, including today. Blacken in the circle beside the statement you have picked. If several statements in the group seem to apply equally well, blacken the circle next to the highest number for that group. Be sure that you do not choose more than one statement for any group, including Item 16 (Changes in Sleeping Pattern) or Item 18 (Changes in Appetite).

1. Sadness
   0 I do not feel sad.
   1 I feel sad much of the time.
   2 I am sad all the time.
   3 I am so sad or unhappy that I can't stand it

2. Pessimism
   0 I am not discouraged about my future.
   1 I feel more discouraged about my future than I used to be.
   2 I do not expect things to work out for me.
   3 I feel my future is hopeless and will only get worse.

3. Past Failure
   0 I do not feel like a failure.
   1 I have failed more than I should have.
   2 As I look back, I see a lot of failures.
   3 I feel I am a total failure as a person.

4. Loss of Pleasure
   0 I get as much pleasure as I ever did from the things I enjoy.
   1 I don't enjoy things as much as I used to.
   2 I get very little pleasure from the things I used to enjoy.
   3 I can't get any pleasure from the things I used to enjoy.

5. Guilty Feelings
   0 I don't feel particularly guilty.
   1 I feel guilty over many things I have done or should have done.
   2 I feel quite guilty most of the time.
   3 I feel guilty all of the time.

6. Punishment Feelings
   0 I don't feel I am being punished.
   1 I feel I may be punished.
   2 I expect to be punished.
   3 I feel I am being punished.

7. Self-Dislike
   0 I feel the same about myself as ever.
   1 I have lost confidence in myself.
   2 I am disappointed in myself.
   3 I dislike myself.

8. Self-Criticalness
   0 I don't criticize or blame myself more than usual.
   1 I am more critical of myself than I used to be.
   2 I criticize myself for all of my faults.
   3 I blame myself for everything bad that happens.

9. Suicidal Thoughts or Wishes
   0 I don't have any thoughts of killing myself.
   1 I have thoughts of killing myself, but I would not carry them out.
   2 I would like to kill myself.
   3 I would kill myself if I had the chance.

10. Crying
    0 I don't cry anymore than I used to.
    1 I cry more than I used to.
    2 I cry over every little thing.
    3 I cry like crying, but I can't.

11. Agitation
     0 I am no more restless or wound up than usual.
     1 I feel more restless or wound up than usual.
     2 I am so restless or agitated that it's hard to stay still.
     3 I am so restless or agitated that I have to keep moving or doing something.

12. Loss of Interest
     0 I have not lost interest in other people of activities.
     1 I am less interested in other people or things than before.
     2 I have lost most of my interest in other people or things.
     3 It's hard to get interested in anything.

13. Indecisiveness
     0 I make decisions about as well as ever.
     1 I find it more difficult to make decisions than usual.
     2 I have much greater difficulty in making decisions than I used to.
     3 I have trouble making any decisions.

14. Worthlessness
     0 I do not feel I am worthless.
     1 I consider myself as worthless and useful as I used to.
     2 I feel more worthless as compared to other people.
     3 I feel utterly worthless.

15. Loss of Energy
     0 I have as much energy as usual.
     1 I have less energy than I used to have.
     2 I don't have enough energy to do very much.
     3 I don't have enough energy to do anything.

16. Changes in Sleeping Pattern
    0 I have not experienced any change in my sleeping pattern.
    1a I sleep somewhat more than usual.
    1b I sleep somewhat less than usual.
    2a I sleep a lot more than usual.
    2b I sleep a lot less than usual.
    3a I sleep most of the day.
    3b I wake up 1-2 hours early and can't get back to sleep.

17. Irritability
    0 I am no more irritable than usual.
    1 I am more irritable than usual.
    2 I am much more irritable than usual.
    3 I am irritable all the time.

18. Changes in Appetite
    0 I have not experienced any change in my appetite.
    1a My appetite is somewhat less than usual.
    1b My appetite is somewhat greater than usual.
    2a My appetite is much less than before.
    2b My appetite is much greater than usual.
    3a I have no appetite at all.
    3b I crave food all the time.

19. Concentration Difficulty
    0 I can concentrate as well as ever.
    1 I can't concentrate as well as usual.
    2 It's hard to keep my mind on anything for very long.
    3 I find I can't concentrate on anything.

20. Tiredness or Fatigue
    0 I am not more tired or fatigued than usual.
    1 I get more tired or fatigued more easily than usual.
    2 I am too tired or fatigued to do a lot of the things I used to do.
    3 I am too tired or fatigued to do most of the things I used to do.

21. Loss of Interest in Sex
    0 I have not noticed any recent change in my interest in sex.
    1 I am less interested in sex than I used to be.
    2 I am much less interested in sex now.
    3 I have lost interest in sex completely.
REFERENCES
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