ABSTRACT

Title of Thesis: THE RELATIONSHIP BETWEEN STUDENTS' PERCEPTIONS OF THEIR FAMILY RELATIONSHIP ENVRIONMENT AND THEIR ALCOHOL CONSUMPTION BEHAVIORS

Degree Candidate: Rebecca L. Zonies

Degree and Year: Master of the Arts, 2004

Thesis directed by: Dr. Susan R. Komives, Associate Professor
Department of Counseling and Personnel Services

This thesis investigated the relationship between students' perceptions of their family relationship environment and their alcohol consumption behaviors. The family relationship environment was defined by the amount of control and support that students received from their parents and alcohol consumption behaviors were both the amount and frequency of student drinking. Gender, race, age, and time having lived away from were also independent variables in this study. The data used in this investigation was collected from a sample of 400 students who live on campus at the University of Maryland.

Four Pearson r Correlations concluded no significant relationships between support and frequency, support and amount, control and frequency, and control and amount. Hierarchical multiple regressions confirmed a relationship between the demographic variables but not one for support and control. Although the generalizability of these results is limited, the findings offer implications for practice and directions for future research.

THE RELATIONSHIP BETWEEN STUDENTS' PERCEPTIONS OF THEIR FAMILY RELATIONSHIP ENVIRONMENT AND THEIR ALCOHOL CONSUMPTION BEHAVIORS

by

Rebecca L. Zonies

Thesis submitted to the Faculty of the Graduate School of the
University of Maryland, College Park in partial fulfillment
of the requirements for the degree of
Master of Arts
2004

Advisory Committee:

Dr. Susan R. Komives, Associate Professor
Dr. Marsha A. Guenzler-Stevens, Affiliate Assistant Professor
Dr. Marylu K. McEwen, Associate Professor
Dr. Patricia L. Mielke, Affiliate Assistant Professor

ACKNOWLEDGEMENTS

In 1967, Nevitt Sanford proposed a theory on student development. He claimed that students require a balance of challenge and support in order for development to occur. If there is too little challenge and too much support, the student will become unmotivated and stagnant. If there is too much challenge and too little support, the student will become frustrated and retreat. Therefore, a proper balance of challenge and support is necessary to promote student development.

I would like to thank all those special people who found that perfect balance and helped me to develop both professionally and personally:

My greatest thanks and appreciation to Dr. Susan Komives, the chair of my thesis committee, my academic advisor, my professor extraordinaire, my motivator, my supporter, and my #1 cheerleader. Your patience, persistence, kind spirit, and contagious positive attitude are an inspiration to me. I feel lucky to have had the opportunity to work so closely and learn from a woman who exemplifies excellence.

Thank you to my outstanding thesis committee, Dr. Marsha Guenzler-Stevens, Dr. Patricia Mielke, and Dr. Marylu McEwen for your outstanding support and commitment to my development as a student affairs professional. Your dedication to student development is incredible, and I am honored to have been a recipient of your care, concern, kindness, support, and knowledge. Your exceptional abilities motivate me to work hard and strive for success.

How can I ever express my gratitude and appreciation to Dr. Joann Prosser, who spent many hours teaching me statistics, explaining analysis, and giving me crash courses on multiple regression. The time she dedicated to me is overwhelming, her patience is remarkable, and her sense of humor is outstanding.

To my friends, those who live near and those who live far, who continuously encouraged me and gave me the confidence and drive to work hard despite the many frustrations that I encountered. You are all truly special, and your support, positive spirit, and patience is priceless. I am lucky so have such wonderful people in my life.

Claire Williams, my supervisor, for her constant support, understanding, and patience as I tried to balance writing a thesis, going to school, and working for the Department of Resident Life. We are a team, and I feel fortunate to have had you as a guide, advisor, and teacher.

The fine, talented, kind hearted, and enthusiastic students with whom I have had the pleasure of interacting. You have truly educated me, and you have confirmed my passion for the field of higher education and student development. Only in a dream can someone work with the best, brightest, and most committed students . . .I must be dreaming!

To Sean, who was kind, gracious, caring, patient, and understanding despite my giving up many “date nights” to work on my thesis. Your thirst for knowledge and learning is admirable, and motivated me throughout this developmental process. I love you.

My most genuine thanks to my family, Mom, Dad, and Seth, who put up with tantrums and tears. You are truly the inspiration for this thesis, as I hold our strong family relationship sacred. In me, you have instilled your love of knowledge, passion for education, and commitment to life long learning. You are my educators, my energizers, my motivators, and my sense of humor. I am so proud to be a member of the "perfect family."

TABLE OF CONTENTS

LIST OF TABLES

Chapter One: Introduction

Background

One thousand four hundred college students die annually from alcohol-related injuries. Yearly, over 600,000 college students are victims of assault due to either their own intoxication or that of others. Annually, more than 70,000 college students experience alcohol-related sexual assault or date rape. About 2.1 million college students drive under the influence of alcohol each year (Hingson, Heeren, Zakocs, Kopstein, & Wechsler, 2002). Research concludes that students who binge drink are seven to 16 times more likely than their non-binge drinking peers to miss class or neglect school work (Wechsler, Dowdall, Davenport, & DeJong, 2001). It is a prime factor in 1,100 traffic and 300 non-traffic unintentional, fatal injuries each year. Wechsler et al. (2001) reported that around 500,000 college students are hurt each year as a result of intoxication. Over 600,000 students were assaulted in alcohol related incidents. Around 400,000 students may have had unprotected sex because of alcohol (Wechsler et al., 2001). Recognizing the enormous health and academic consequences of frequent and heavy alcohol consumption, 67 % of college presidents rated alcohol use as a "moderate" or "major" issue on their campuses (National Institute of Alcohol Abuse and Alcoholism, 2002)

The enormous incident rate that results from alcohol consumption suggests that consuming alcohol is engrained in the culture. Traditions including tailgating and drinking at athletic events, advertisements that promote alcohol industry sponsors, "drinking games," and functions where alumni drink with students encourage the potentially harmful behaviors (National Institute of Alcohol Abuse and Alcoholism, 2002). Movies and media that portray a collegiate environment filled with wild fraternity

parties, outrageous bars, and readily available alcohol to students who are under the age of legal alcohol consumption support dangerous, inappropriate, and often illegal drinking habits. According to many studies, college drinking is a "rite of passage" (National Institute of Alcohol Abuse and Alcoholism, 2002). This culture is prominent and embedded, suggesting that alcohol consumption is one of the largest concerns facing college campuses and one of the most difficult over which to take control.

Many variables influence the drinking culture. In fact, previous research reports that that personal characteristics such as background and identities, mesh with the environment, living situation, student involvement, and institutional type, to create either a high or low risk that students will consume alcohol. While research has identified countless variables that influence student-drinking behavior, there are some that are considered as primary and have received much investigation.

Personal Characteristics, Backgrounds, and Identities that Influence Alcohol Consumption

Researchers consider many personal characteristics and backgrounds as significant influences on college student drinking habits. These variables include gender, religion, ethnic or racial identity, class level, and age (Johnston, O'Malley, & Bachman, 2000; O'Malley & Johnston, 2002; Presley, Meilman, & Cashin, 1996; Wechsler et al., 2001). They also include involvement in college such as in athletics or the Greek community (Wechsler et al., 2001). In addition, biology and family history of alcoholism play a role in predicating college student drinking behavior (Baer, 2002). While research considers other personal identity variables as important, it suggests that these are the most significant.

By looking at these variables, researchers have identified who is most likely to consume alcohol. Studies indicate that White students are more than twice as likely to binge drink than other racial and ethnic groups of students. In addition, those who are religiously affiliated tend to drink half as much as those who are not religious. Students who participate in collegiate athletics are about one and a half times more likely to binge drink than their uninvolved peers (Wechsler et al., 2001). Gender identity, class level, and age also influence drinking behavior, as males drink more than females, freshman drink more than seniors, and students who are under the age of legal alcohol consumption drink more heavily than their peers who are legally able to consume alcohol (Johnston, O'Malley, & Bachman, 2000; Presley, Meilman, & Cashin, 1996; Wechsler et al., 2001). While there is a relatively small amount of research on the rates of alcohol use disorders among college students of alcoholic parents, studies have shown higher rates of drinking among the children of alcoholics than their peers. As research on college student alcohol consumption is vast, there has been much work to identify variables that influence drinking behavior. While it is impossible to identify which variables are most influential, research suggests that there are those that have the most influence on alcohol consumption behaviors.

As each variable independently influences students to consume alcohol, students who exhibit a number of the characteristics are predicted to drink at different rates than those who only exhibit a single one of the significant variables. For example, just as women and individuals who identify as religious drink less than their peers, women who affiliate religiously have even lower rates of consumption than those who exhibit either one or the other variable, independently (Templin & Martin, 1999). Students of color who are under

the legal drinking age tend to drink less than their White peers, though they consume more alcohol than students of color who are legal to drink (Wechsler et al., 2002). While these are just a few examples, it is evident that the interaction of variables is helpful in predicting student alcohol consumption rates.

Yet, personal characteristics and background information are not sole predictors of alcohol consumption habits. Rather, their interaction with environmental influences ultimately effect behavior.

Environmental Variables that Influence Alcohol Consumption

Just as an understanding of individual and personal characteristics is important for examining student behavior, it is necessary to recognize environmental influences. In 1936, Lewin formulated, $B = f(PXE)$. He explained that behavior is a function of the person in the environment. Therefore, to understand drinking behavior, it is necessary to identify related environmental factors in addition to personal characteristics.

Peer Environment

One of the most researched and accepted theories addressing the environmental influences on student drinking behavior is the normative factor (Fishbein & Ajzen, 1975). It claims that individuals who drink more heavily and frequently than their peers, might do so because of their misperceptions of the social norms of drinking. Believing that their peers drink more than they actually do, some college students drink to establish their role in social groups (Capraro, 2000; Ponton & Dean, 2001; Read et al., 2003; Upcraft, 2002; Weitzman, Nelson, & Wechsler, 2003; Weitzman et al, 2003). The perception that the environment is permissive, whether or not it is to the extent that students believe, and the belief that conformity leads to social acceptance, heavily influences student-drinking

behaviors (Fitzpatrick & Potoczniak, 1999; Ponton & Dean, 2001; National Institute of Alcohol Abuse and Alcoholism, 2002; Weitzman et al., 2003). Such findings suggest that peer environments have significant influence on drinking habits.

Institutional Environment

Social theories also help to explain students' tendencies to drink. For example, studies indicate that living arrangements influence student alcohol consumption. Research shows that students who live in Greek letter organization housing drink the most (Weitzman, et al., 2003). While at slightly lower rates than those who live in fraternity or sorority houses, students who live on-campus report drinking at higher levels than their peers who commute (Presley et al., 1996). Students who commute and live with parents or guardians are least likely to consume alcohol (Presley et al. 1993 as cited in Presley, Meilman, & Leichliter, 2002). As there are significant differences in the drinking habits of students in various living situations, it is important to consider the living environment when studying drinking habits.

While a student's living situation is an important environmental influence on alcohol use, so is the institutional type. Related to findings that show students of color and women drink less than White and male students, research suggests that there are lower rates of alcohol use at both historically Black institutions and women's colleges (Presley, Meilman, & Leichliter, 2002) than at co-educational, traditional institutions. Just as research confirms that students who are affiliated with the Greek community drink more than those who are not, studies indicate that institutions with a Greek community have higher rates of alcohol use than the colleges that do not have fraternities and sororities (Baer, 2002). Statistics are similar regarding athletics. As athletes tend to drink

more than their peers, institutions that have strong athletic programs report higher alcohol usage than institutions without competitive sports (Presley, Meilman, & Leichliter, 2002).

In addition, data from two-year colleges reports lower student-drinking rates than four-year institutions (Weitzman et al., 2001). Students at smaller institutions have decreased rates of drinking relative to their peers at large institutions. Schools in the northeast region of the United States have significantly greater reports of student alcohol usage than those in other regions, as well (Presley, Meilman, & Leichliter, 2002; Wechsler et al., 2001; Weitzman et al., 2003). Therefore, the research suggests that there are a number of institutional factors that influence the student-drinking environment.

Parental Environment

Along with the peer and institutional environments, the parental environment is influential in determining student alcohol behavior. Many facets of the parent-child relationship including level of parental support, control, modeling, attitudes, and behaviors have an impact.

Research proposes that parents have significant influence on their children's drinking habits (Baer, 2002; Barnes, Farrell, & Cairns, 1986; Barnes & Farrell, 1992; Booth-Butterfield & Sidelinger, 1998; Jung, 1995; Reifman, Barnes, Dintcheff, Farrell, & Uhteg, 1997). For instance, studies confirm that the children of parents who exhibit heavy drinking behaviors are more likely to drink than the children of those who do not consume alcohol or consume it in moderate amounts. Children of parents who deem it acceptable to drink have congruent attitudes, as well (Deakin & Cohen, 1986). Independent of genetics, children whose parents consume alcohol regularly tend to consume more than those with parents who abstain from drinking (Baer, 2002).

Research also suggests that parents who strictly control their children's' behaviors, taking away their autonomy, independence, and freedom of thought influence higher alcohol rates than those parents who do not control at such high levels. Additionally, parents who show support through granting freedom of thought, joint decision-making, encouragement, and affection have children that are less likely to drink than their peers (Barnes & Farrell, 1992). It is important to note, however, that these investigations focus specifically on children and adolescents who live with their parents. In fact, there is very little research on the influence of such components of the parent-child relationship regarding children who no longer live with parents, such as those who attend college. Despite the lack of research regarding college students, the many results suggesting that parents play a role in their children's drinking habits gives insight into the influential components of the parental environment on drinking behavior.

Parent Involvement in the Institutional Environment

In addition to the ways that parents interact with their children, university policy and practice that encourages parental involvement also affects student-drinking behaviors. FERPA, the Family Education Rights and Privacy Act, is a mandate that protects student educational records, making it illegal to share information without student consent. Previous to the year 2000, the mandate made it illegal for institutions to contact the parents of students who were under the age of 21 when the student violated a law or policy governing the use of alcohol or a controlled substance. In August 2000, however, new iterations of the mandate made it legal to contact parents under such circumstances (U.S. Department of Education, 2000). Recognizing the benefit of parental involvement in decreasing college student drinking behaviors, institutions took advantage

of the FERPA revision, and they began contacting parents when students illegally consumed alcohol. They based their decision on the notion that parental involvement is helpful, if not essential, in reducing college student drinking (Reisberg, 2002).

The University of Delaware is an example of one such school. The institution created the practice of sending notices to parents who help pay their student's tuition when the student violates an alcohol consumption policy, despite that students are at least 18 years old, the legal age of adulthood. Administrators at Delaware, in addition to those at other institutions that adopted the same policy, report that their practice has helped to reduce the rate of drinking on campus (Reisberg, 2002). Such evidence suggests that parents who are involved in their college students' lives contribute to decreased alcohol consumption rates.

Summary

When reviewing literature on student drinking habits, it is apparent that the interaction of the person (personal characteristics and background information) and the environment (peer, institutional, and parental) influences student-drinking behavior. An understanding of both and their interaction with each other gives meaning to the mystery of why students consume alcohol.

Statement of Problem

Alcohol consumption on college campuses is one of the most threatening issues facing higher education today because of its consequences on the educational and developmental environment. Wechsler et al. (2001) reported that 81 % of the women and 82 % of the men in the College Alcohol Study reported having experienced a hangover. Due to alcohol, 26 % of women who drink and 33 % of men reported engaging in

unplanned sexual activity. Six percent of women and 24 % of men damaged property while intoxicated. Thirty-one percent of women and 34 % of men fell behind in schoolwork because of their drinking habits. Even those researchers who dispute the College Alcohol Study due to the questionable methodology and definition of terms have found similar results. For instance, The Johnston et al., (2000), Monitoring the Future Study, the Centers for Disease and Control Prevention (1997), National College Health Risk Behavior Survey, and the Core Institute Study (Presley et el., 1996) reported much of the same information. Such a variety of research suggests that no matter the methodology, definition of terms, sample, or variables studied, alcohol consumption on college campuses is a large and prominent concern for students who exhibit the hazardous behavior.

Drinking does not only affect those participating in the behavior. It also has secondary effects, consequences for students who are not involved in drinking. This includes having sleep or studying interrupted, facing verbal or physical attack, and having to clean up restrooms and hallways as a result of the alcohol-related behaviors of others (Wechsler et al., 2001). Alcohol increases the risk of vandalism and property damage, as well. The secondary effect of alcohol can be frustrating to those not participating in the behavior, and can deter them from building relationships with those causing the damage. (Perkins, 2002). The many negative effects of drinking illustrate why alcohol consumption is a large and concerning issue.

Since drinking is an apparent problem on college campuses, institutions have focused much effort on reducing student alcohol consumption rates. Administrators have used social norming programs in an attempt to defeat misperceptions regarding peer

permissiveness and liberality toward alcohol use (Ponton & Dean, 2001; Wechsler et al., 2003, Weitzman et al., 2003). Institutions have placed restrictions on alcohol providers such as forcing them to raise the prices of alcohol in an effort to deter drinking (Presley et al., 2002). They have created substance-free floors, alcohol education and awareness programs, and community living situations in the hopes inhibiting drinking (Presley et al., 2002; Wechsler et al., 2001). While there are questions and concerns regarding the effectiveness of each individual practice, there is evidence to suggest that a combination of many practices is effective in reducing alcohol consumption rates (DeJong, Vince-Williams, Colthurst, Cretella, Gilbreath, Rosati, & Zweig, 1998; DeJong & Langford, 2002)

As colleges work to find the most effective ways to combat alcohol consumption, questions remain over the impact of parental involvement and how institutions should get parents involved in the process. While literature on the influence of parent involvement exists, most of it addresses children and adolescents. Few studies measure the effect of the parent-child relationship on college students' drinking behaviors. Information regarding parental influence on college students is primarily anecdotal rather than empirical. Therefore, the purpose of this study is to investigate the relationship between college students' perceptions of their family relationship environment, particularly the amount of parental support and control that they perceive, and their alcohol consumption behaviors including the amount and frequency with which they drink. Focused only on students living in on-campus housing at the University of Maryland, the study will also take race, gender, age, and time having lived away from parents into consideration.

These variables were chosen for this study because they appear as the most significant influences on student drinking behaviors according to previous research. The differences in alcohol consumption according to gender, race, and age are not only the most predictive of how much and how frequently students drink, but are also the most often found as significant.

Due to the location and characteristics of the sample, it is important to recognize the constant factors and assumptions. As athletics at the University of Maryland are strong and prominent, it is important to consider the rates of drinking in the sample for this study are higher than institutions that do not have such strong athletic programs. This is also the case for Greek organization life. The University of Maryland has an active Greek Letter community, suggesting that the rates of drinking among the student sample might be higher than institutions that do not have such a Greek Organization system. Another constant in this study is the institutional type. Maryland is a large, public, 4-year institution in the Northeast region of the United States, meaning that there is reason to believe that the rate of alcohol consumption is overall higher than at its peer institutions in different regions and schools of other sizes. As such variables are considered as important when studying student alcohol behaviors, it is essential to note their consistency across the sample in this study and determine how it might differ from other samples.

Definitions of Key Terms

For the purpose of this study, the *Family Relationship Environment* is defined by the amount of parental support and control that is present within the parent-child relationship. *Support* is the expressiveness of emotions, level of openness, and parental

behaviors toward students that indicate that they are valued, loved, accepted, and given autonomy of belief and thought. Such behaviors include: joint decision-making, freedom to share emotions, clear communication, praise, and encouragement (Ritchie, 1990). *Control* is the degree to which parents force children to conform to parental authority, to give up autonomy, and to follow parentally established norms. Such behaviors include making and enforcing rules and regulations, restraining decision-making freedom, and hushing conversation on sensitive topics.

Previous research coined the term for the combination of parental support and control as the Family Communication Environment, (Caughlin, 2003; Fitzpatrick, Marshall, Leutwiler, & Krcmar, 1996; Fitzpatrick & Ritchie, 1994; Ritchie & Fitzpatrick, 1990) claiming that the amount of support and control parents have over children influences the openness and ease of their communication. As the variable in this study was not how students communicate with their parents, but rather how the relationship affects their drinking habits, the variable was renamed as the *Family Relationship Environment* to better explain the research. While the name for the variables is different in this study from what it is in previous research, it is measuring support and control in the same manner.

Another key term in this study is *alcohol consumption behaviors.* It is identified as both the amount and frequency of alcohol use. As the patterns of student drinking are complex, it is essential to look at both and their relationship with each other. It is incorrect to assume that frequency is reflective of amount or vice versa.

The Wechsler et al. (2002) study is the basis and reasoning behind much of this study, as the research is referred to multiple times. Therefore, it is it is important to note

the current controversy over the Wechsler et al. (2002) study. Those who question the research do so because of Wechsler's (2002) definition of binge drinking. The researchers define binge drinking as men having five or more drinks at a time and women having four or more drinks in a single sitting. Yet, the 5/4 binge-drinking rule does not account for essential factors including body weight and the amount of time in which individuals consumed the alcohol. Therefore, recent studies have criticized the Wechsler et al. (2002) study.

Despite controversy regarding the Wechsler et al. (2002) study, it is used as primary literature in this investigation and items from its instrument are used, as well. In addition, much of the research regarding alcohol consumption has recognized the validity in Wechsler et al. (2002). Therefore, to maintain consistency with majority of the research and to gather the most accurate results possible from the instrument used in this study, the *alcohol consumption behaviors* variable is defined as the frequency and amount at which students consume alcohol and is reflective of may components of the Wechsler et al. (2002) study.

Significance and Usefulness of Study

This investigation is important because of the overall risks and consequences that student drinking has on the college campus environment not only for those who drink, but also for their peers and the entire institutional environment. Recognizing the negative effects of alcohol, institutions are developing plans to reduce drinking. One of the many ideas to lower rates of student alcohol consumption is to involve parents both reactively, notifying parents when students violate consumption laws, and proactively, educating parents about the importance of their relationship with their students. There is much

debate, however, as to the appropriateness of such actions. Therefore, this study will help to understand how the family relationship environment affects student-drinking behaviors, thus suggesting the role parents should play in the lives of their college aged students and the way that institutions should involve parents in the process of lowering drinking rates.

Once practitioners understand how parents assist in decreasing the alcohol consumption of college students, they can use that information in the creation of action plans to combat the problem. This information will guide policy, giving insight into the magnitude and type of relationship institutions should form with parents and address whether and how to involve them in the process of lowering college student alcohol consumption rates.

Chapter Two: Literature Review

This chapter reviews the literature on college student alcohol use. It addresses alcohol behaviors in terms of frequency and amount of usage, the traits that predict high levels of alcohol consumption in college students, and influences on specific drinking behaviors. It also provides information on parent-child relationships and their influence on problem behaviors. In addition, this chapter examines research that measures the parent-child relationship in terms of parental support and control and the influence that it has on alcohol consumption.

Alcohol Consumption

Countless studies sought to understand alcohol use among college students because of the great concern it presents for college campuses. In fact, United States college presidents have identified alcohol use as the number one threat to campus life (National Institute of Alcohol Abuse and Alcoholism, 2002). In an effort to understand drinking on college campuses, researchers have identified and examined a variety of variables that give insight into student alcohol consumption. Such variables include the amount of alcohol students consume in a single sitting and the frequency at which they drink over an extended period of time. Many researchers have also inspected influences of drinking behaviors such as race, religion, gender, and age. The many studies that have looked at variables related to alcohol consumption in college students give researchers and administrators insight into the overwhelming problem of college student alcohol consumption.

Frequency and Amount of Alcohol Consumption

The Monitoring the Future study conducted at the University of Michigan (Johnston, O'Malley, & Bachman, 2000), the College Alcohol Study (Wechsler, Lee, Kuo, Seibring, Nelson, & Lee, 2002), the National College Health Risk Behavior Survey, Centers for Disease Control and Prevention, 1997), and the Core Institute study (Presley, Meilman, & Cashin, 1996) all determined that approximately two of every five American college students were binge drinkers. Wechsler et al. (2002) defined binge drinkers as men who have five or more drinks in a single sitting and women who have four or more drinks in a single sitting. Despite their different methodologies, it is noteworthy that the studies found similar results. Consistency across studies makes the finding generalizable, and intensifies the notion that college student alcohol consumption is a large problem.

The College Alcohol Study, one of the many studies that determined problematic college student alcohol consumption behaviors, (Wechsler, et al., 2002) was conducted in four separate years, 1993, 1997, 1999, and 2001, to students attending 4-year institutions. On average, about 15,000 students participated in the study each time it was administered. In 2001, participants attended schools located in 38 states and in the District of Columbia. Sixty-nine percent of the participants attended public schools while 31% attended private ones. It is a proportional distribution of full-time college students who attend 4-year institutions in the United States. Sixty-four percent of those who participated in the 2001 study were women, higher than the national average of women in higher education. Half of the participants were under 21 years of age and three in four students were White. As the demographics of the 2001 study were different than those of

the previous three, the researchers used weighted data in all analyses of trends over the four studies to better compare the results (Wechsler et al, 2002).

Analysis of the four studies revealed interesting results. In addition to determining that two in every five college students reported having consumed alcohol over the course of the school year previous to completing the College Alcohol Study's survey (Wechsler et al., 2001), 70 % of men and 55 % of women acknowledged having been intoxicated three or more times in the past month. The study also reported that only one college student in every six claimed to have never consumed alcohol (Wechsler et al., 2001).

Wechsler et al.'s (2001) national assessment on drinking also indicated that 55 % of men and 39 % of women have engaged in binge drinking at least once in their lifetime (Wechsler et al., 2001; Weitzman et al., 2003). Forty-four percent of those same college students engaged in binge drinking within the two weeks prior to completing the survey. More than half of those students who binge drank within the two weeks prior to the survey did so at least three or more times, classifying them as frequent binge drinkers.

Despite the congruency in the findings among the College Alcohol Study (Wechsler et al. 2002), the Monitoring the Future Study (Johnston et al., 2000), the National College Health Risk Behavior Survey (Centers for Disease Control and Prevention, 1997), and the Core Institute Study (Presley et al., 1996), debate remains. Those studies defined binge drinking as men consuming five drinks in a row and women consuming four drinks in a single sitting. Therefore, according to the "binge drink" definition (Wechsler et al., 2001), 50 % of men and 39 % of women are binge drinkers (Dejong & Linkenbach, 1999). That equals 44 % of college students overall.

According to critics, those numbers distort the actual scope of the problem because they do not take the time during which individuals consume that number of drinks into consideration (DeJong & Linkenbach, 1999). With the loose definition of binge drinking, Wechsler et al., (2001) and others who use binge drinking as a variable generate an exaggerated and inaccurate view of college student alcohol consumption.

Even with the positive perspective developed by critics of Wechsler et al.'s (2001) definition of "binge drinking," studies confirm that alcohol use is an intractable problem (DeJong & Linkenbach, 1999). College students tend to have increased drinking habits compared to their same aged peers who do not attend college (Centers for Disease Control, 1997; Johnston et al., 2000). In 1995, 68 % of college students drank in the past month (Johnston et al., 2000), hundreds of thousands of college students were victims of assault due to intoxication, and millions drove under the influence. The overwhelming numbers of incidents and the prevalence of student drinking still suggest that it is an issue, though less concerning than Wechsler et al., (2002) proposed.

Unfortunately, problematic drinking behavior among college students has not drastically improved over time. Comparing Straus and Bacon's 1953 report on college student drinking to today's research, there are obvious similarities. Sixty-five percent of college students between 1949 and 1951 reported drinking once a month or more. Today's results are similar (Johnston et al., 2002; Centers for Disease Control and Prevention, 1997). Despite the enormous contributions of literature since the Straus and Bacon's 1953 report, there is little success in decreasing the drinking rates of college students. Such information also confirms that alcohol consumption is a complex, intractable issue.

Variables that Affect Alcohol Consumption Habits

Many studies identify characteristics that predict which students are more likely to use alcohol than their peers. (Dowdall & Wechsler, 2002; O'Malley & Johnston, 2002; Presley, Meilman, & Leichliter, 2002; Wechsler et al., 2001; Weitzman, Nelson, & Wechsler, 2003). Studies suggest that White students drink more heavily than their peers of other races (Wechsler et al., 2001), that men consume more alcohol than women (Johnston et al., 2000), and that those who are religiously affiliated drink less than those who are not (Templin & Martin, 1999). Students who participate in Greek Letter organizations or athletics also have increased consumption habits compared to their peers who do not share the same involvement (Nelson & Wechsler, 2003). In addition, students who attend four-year institutions in the mid-Atlantic region seem to drink more than students who attend other types of institutions. Studies have suggested many characteristics, both individual and environmental that predict which students are more likely to drink than others.

Race. According to the College Alcohol Study (Wechsler et al, 2001), there were differences in the rates of alcohol consumption between students who are White and those of other races. White students drank significantly more. The Monitoring the Future (Johnston et al, 2000) research, a longitudinal study comparing the drinking habits of about 1,500 high school seniors before and after graduation, discovered similar findings. Several research studies suggest that White students drank more than students of color, indicating that White students are more than twice as likely to take part in binge drinking than their peers (Dowdall & Wechsler, 2002; O'Malley & Johnston, 2002; Presley et al., 2002; Wechsler et al., 2001; Weitzman et al., 2003).

While studies reported significant differences in the drinking rates of White students from their peers, they also gave insight into the drinking habits of non-White college students. The Monitoring the Future study (Johnston et al., 2000), The College Alcohol Study (Wechsler et al., 2001), the National College Health and Risk Behavior Survey (Center for Disease Control and Prevention, 1997), and the National Household Survey on Drug Abuse (Gfroerer, Greenblatt, & Wright, 1997) reported that Black students exhibited the lowest rates drinking while Latino students fell between those of White and Black students. The many studies that have examined the difference in drinking habits among students of color versus White ones suggest significant incongruence in their alcohol behaviors.

Religion. Not only are there differences in the drinking habits of students when race is a factor, but there are also differences among students who are religious compared to those who are not (Templin & Martin, 1999; Wechsler et al, 2001). In a study looking at the relationship between commitment to religion and drinking behavior among Catholic college students, Templin and Martin (1999) reported an inverse correlation between the two, especially in the case of women. While the investigation suggested that students who exhibit religiosity drank less when compared to students who are not religious, it is difficult to generalize those results to other religions without proper research. Templin and Martin recognized the limitations of their study and claimed that further research would improve understanding of the differences in drinking behavior between religious and non-religious college students.

While limited in its scope, Templin and Martin's (1999) research is consistent with others. In fact, Wechsler et al. (2001) found that students who report religiosity as

not important are twice as likely to engage in binge drinking behaviors than their religious peers. As the study was significantly larger and more generalizable than Templin and Martin's, it supported their findings.

Gender. Just as religiosity and race help to predict the alcohol consumption behaviors of college students, gender does, as well. A significantly higher rate of men than women claimed not only to have consumed alcohol in the past month, but also to have engaged in binge drinking (Wechsler et al., 2001). The Monitoring the Future (Johnston et al., 2000) research also reported large differences in the heavy consumption habits of men versus women. Fifty percent of males as opposed to 33 % of females were heavy drinkers (Wechsler et al., 2001).

Other research supports the Monitoring the Future (Johnston et al., 2000) and College Alcohol Study (Wechsler et al., 2001). The Core Institute Research of Presley et al. (1996) conducted studies of large samples over the course of four cycles (1989-1991, 1990-1992, 1991-1993, and 1992-1994) and had similar findings. It reported that two and a half times as many males as females drank ten or more drinks per week. Proof of gender differences in regard to alcohol consumption is apparent within both the smallest, most limited investigations and the most generalizable, well established, and well respected ones. Thus suggests the strength in the relationship between gender and alcohol use.

Involvement. In addition to gender, there is a relationship between student involvement in college and drinking behaviors. Students who identify with Greek letter organizations were reported to be four times as likely to binge drink than their unaffiliated peers (Wechsler et al, 2001; Weitzman, Nelson, & Wechsler, 2003). Cashin

et al. (1998) studied more than 25,00 students from 61 different institutions and discovered similar results. Similarly, researchers found student athletes to be one and a half times more likely to participate in binge drinking than their uninvolved peers (Wechsler et al., 2001; Weitzman, Nelson, & Wechsler, 2003). The Core Survey (Leichliter et al., 1998) had the same conclusions. Therefore, these studies suggest that the more leadership that students have in Greek or athletic organizations, the heavier their drinking habits.

Residence. Research also reports that the type of residence in which students live has a relationship to their drinking behaviors. Students who live in Greek letter organization houses drink more than their peers. Those who live in on-campus housing reported drinking greater amounts and more frequently than students who live off-campus. In the case of commuters, those who live at home with parents drink significantly less in amount and less frequently than those who live off-campus either by themselves or with roommates (Presley et al., 1996; Wechsler et al., 2002). Therefore, research suggests that students living on campus tend to exhibit significantly higher rates of alcohol consumption behaviors than their peers who are living in alternative housing situations (Presley et al., 1996; Wechsler et al., 2002).

Institutional Type. It is also possible to describe the difference in drinking behaviors of students who attend various types of institutions. The Core Institute research (Johnston et al., 1996) reported that students who attend smaller schools drink more frequently than those who attend larger ones. In addition, students who attend religiously affiliated institutions exhibit lower drinking rates than their peers (Johnston et al., 2000; Templin & Martin, 1999; Wechsler et al., 2001). Such data is consistent with research

that indicates an inversely proportional relationship between religiosity and student drinking habits. In congruence with research claiming that underrepresented students drink less than White individuals, students who attend institutions that are historic for their racial or ethnic affiliation have lower drinking rates than those who attend predominately White institutions (Presley et al., 2002). Such is also the case for women who attend all female institutions. Those women tend to drink less than their peers at co-educational universities. Results also indicated that students who attend two-year institutions report a lower average weekly alcohol consumption rate and a lower rate of heavy or binge drinking than their peers who attend four-year institutions. The research highlighting differences in the drinking behaviors of students who attend institutions of various types suggests that the institutional environment plays a significant role in understanding college student alcohol consumption patterns (Johnston et al., 2000; Presley et al., 1996; Wechsler et al., 2002).

Class Year. While multiple characteristics influence the drinking habits of college students, some contend that year in school is also influential. Fitzpatrick and Potoczniak (1999) conducted a study to determine grade level differences in alcohol use. Their study reported that freshman, as they defined as students in their first year of school and not by earned credit amount, have liberal perceptions of the alcohol consumption norms on college campuses. First-year students behave in accordance with those perceptions. As their view of the drinking environment grows more conservative over time, more accurate to the actual drinking environment, so does their level of alcohol consumption (Fitzpatrick & Potoczniak, 1999). Yet, the College Alcohol Survey (Wechsler et al., 2001) did not indicate those same findings. Rather, the percentage of students who binge

drank was nearly equal in freshmen and in seniors. With the range of conclusions regarding grade-level differences in alcohol consumption, it is difficult to predict drinking behaviors in connection with grade-level. Therefore, it is helpful to look at characteristics that correlate with grade-level.

Age. When looking at traditional college students who are the majority of the students involved in higher education, age is correlated with grade-level. For them, there is a relationship between age and drinking habits. Most specifically, research focuses on the differences in the alcohol use patterns of students who are over 21 years of age, the legal age for consuming alcohol, and those who are underage. Of the over 45,000 participants in the Core Institute Survey, (Presley et al, 1996) 32,000 of whom were underage, 82.2 % of those students younger than 21-years old reported using alcohol in the year prior to completing the survey. About sixty-nine percent of those students claimed that they had consumed alcohol within the month prior to the study. Significantly less claimed having consumed alcohol in the two weeks prior to participating in the study. Those statistics indicate that students who are under the legal age for alcohol consumption drank less frequently than their over-aged peers. Yet, the results also show that students who are underage are more likely to drink to excess, "binge drink," when they do consume alcohol. In fact, underage college students partake in heavy drinking so much more than their over-aged peers that they consume approximately half of all the alcohol that college students report consuming (Wechsler et al., 2002).

Summary. There are a variety of characteristics with suggested relationships to college student alcohol consumption. Aspects such as age, class-level, type, size, region of institution attended, student involvement, religiosity, and demographic characteristics

help to understand the behavior (O'Malley & Johnston, 2002; Wechsler, 2001). Yet, it is not only important to understand the relationship between personal characteristics and drinking behaviors. It is also necessary to identify what factors influences college students to consume alcohol.

Influences of Alcohol Consumption

Research has identified a number of factors that influence the alcohol consumption habits of college students. They range from emotional and self-confidence issues (Kuther & Timoshin, 2003; Owens, Roth, & Schmelkin, 2001; Schulenberg & Maggs, 2002) to peer pressure and misconception of social norms (Baer, 2002; Ponton & Dean, 2001; Spear; 2002), to parental influences (Barnes & Farrell, 1992; Baer, 2002; Booth-Butterfield & Sidelinger, 1998; Brody, Flor, Hollett-Wright, & McCoy, 1998; Manning, 1991).

Emotional. According to many studies, emotional issues influence college student drinking habits. For many, a primary reason for alcohol consumption is "impulsive expression/sensation seeking" (Baer, 2002, p. 42; Owens, Roth, & Schmelkin, 2001; Read, Wood, Kahler, & Maddock, 2003). Drinking is a means for pleasure seeking, impulsivity, and rebellion. Therefore, students who want to lower their inhibitions often turn to alcohol as a method for achieving instant gratification (Baer, 2002; Read et al., 2003).

Social. In addition to emotional stimulation, students report consuming alcohol for a variety of social reasons. They expect that alcohol will not only enhance social situations and make them more enjoyable, but it will also facilitate social interactions by acting as a lubricant against social anxieties (Baer, 2002; Read et al., 2003). Also,

students view alcohol as a coping mechanism because the physiological effects of alcohol help to diminish negative emotions or to make them more tolerable. Just as alcohol is a means for enhancing emotions, college students also consume it to reduce tension. They expect that alcohol will calm their anxieties and help decrease stress levels (Baer, 2002; Read, 2003). Because of alcohol's physiological effect on the body, college students who drink often do so to cover emotional and social problems and insecurities they face.

Social Norms. In addition to the emotionally related reasons for student alcohol consumption, a significant amount of research reported that students' perceptions of social norms affected their alcohol use. Perkins and Berkowitz (1986) noticed a trend of high rates of drinking in students who perceived the drinking environment and the attitudes and behaviors of their peers as extremely liberal in regard to alcohol use. Fitzpatrick and Potoczniak (1999) described similar results in their study that investigated misperceptions of college drinking norms. Both studies reported that freshmen believe that their upper-class peers drink more heavily than they actually do. Having misperceptions of the actual alcohol consumption norms, students adopt liberal attitudes. Their attitudes toward drinking guide their behaviors of increased alcohol usage (Baer, 2002; Fitzpatrick & Potoczniak, 1999; Perkins & Berkowitz).

Commonly, students claim that they drink in order to "get drunk" or because everyone else does it (Weitzman et al., 2003, p. 29). Capraro (2000) confirmed those reasons for drinking, specifically among males. His study concluded that men are likely to drink as a means for social acceptance because it is perceived as a sign of masculinity. Drinking supposedly helps men to experience "college as an adventure" (Capraro, 2000, p. 311). It is a form of mixing excitement with danger. For college men, drinking is the

means for experiencing college, a time and culture for independence, exploration, and machismo (Capraro, 2000). Capraro's (2000) study on the reasons why college men drink suggests that alcohol consumption is a normed and expected facet of the college culture. Therefore, college students chose to drink because they perceive it as a way to fit in better with their peers (Baer, 2002; Fitzpatrick & Potoczniak, 1999; Perkins & Berkowitz; Weitzman et al., 2003). Drinking is the "normal" way of experiencing college.

Summary

In addition to personal characteristics such as race and gender that help to predict who is more likely to consume alcohol, researchers have suggested many reasons for why students consume alcohol. Some of those reasons are emotional, while others are social. Men, have different reasons for drinking than women, and older students drink for different reasons than their young peers. Yet, looking at the reasons for student drinking only gives a partial perspective of what influences college student consumption habits. It also helpful to investigate how the parent-child relationship ultimately affects the drinking habits of college students.

Parental Influence on Behavior

Multiple studies conclude that children's behaviors are affected by their relationship with their parents (Booth-Butterfield, & Sidelinger, 1998; Caughlin, 2003; Fitzpatrick & Ritchie, 1994; Ritchie & Fitzpatrick, 1990). Parental attitudes influence behaviors (Booth-Butterfield & Sidelinger, 1998), as do the communication patterns between parents and their children (Ritchie & Fitzpatrick, 1990). The way in which parents behave has the potential to impact child conduct (Reifman, Barnes, Dintcheff,

Farrell, & Uhteg, 1998). In addition, parenting style, including methods of control, support, and authority, influence behavior (Baumrind, 1991; Manning, 1991). Perceptions of closeness with parents have influence as well as the norms that parents establish within the family (Barnett, Far, Mauss, & Miller, 1990). Research makes clear that there are significant influences within the parent-child relationship that affect child and adolescent behavior.

Parent modeling

Research indicates that parents' modeling of drinking influences how their children use alcohol (Barnes, Farrell, & Cairns, 1986; Jung, 1995). Brennan (1986b) reviewed ten studies that examined the relationship between parental drinking practices and those of their college age students. Eight of those ten studies reported small positive correlation, suggesting that the alcohol consumption habits of students were related to that of their parents. With the idea that parents serve as primary models for child behavior, Barnes, Farrell, and Cairns (1986) concluded that parents who drink have children who are more likely to drink, as well. Consequently, parents who model abstention to alcohol have children who are less likely to consume it.

Biology and Alcoholism

Aside from modeling the behavior, alcoholic parents also pass a genetic predisposition to drink to their children that often surfaces in the college years. In fact, Kushner and Sher (1993), Perkins and Berkowitz (1991), and Pullen (1994) conducted studies looking at the correlation between drinking behaviors of alcoholic parents and their children. Children of alcoholics reported increased rates of alcohol related problems and disorders and surpassed the amount and frequency of alcohol usage of their peers

raised by non-alcoholic parents. Therefore, there is not only a modeling component of the parent-child relationship that affects student drinking behavior, but there is also a biological disposition for drinking.

Family Environment

Not only do parental modeling and genetics influence college student alcohol use, but so do the family environment, parenting style, and family schemata (Barnett et al., 1990; Baumrind, 1991; Brody et al., 1998; Ennett, Bauman, Foshee, Pemberton, & Hicks, 2001; Zhang et al., 1997). The means by which parents support their children, give encouragement, show affection, and give independence and autonomy combines with the manner in which parents control their children through the establishment of rules, expectations, and family norms. Such a relationship is influential in adolescent problem behavior (Booth-Butterfield, & Sidelinger, 1998; Caughlin, 2003; Fitzpatrick & Ritchie, 1994; Ritchie & Fitzpatrick, 1990)

Though there are multiple influences associated with the parent-child relationship, the remainder of this chapter will emphasize some of the significant findings regarding parental support and control as a factor for influencing adolescent behavior, especially regarding alcohol consumption.

Parental Support and Control

Researchers have attempted to identify aspects of parent-child relationships and determine their role on child and adolescent behavior. According to one study (McLeod & Chaffee, 1972), parents either encourage their children to develop and express their own opinions and ideas (concept-orientation) or act as an authority by taking away independence (socio-orientation). McLeod and Chaffee's (1972) research suggested that

socio-orientation was most useful in maintaining harmonious relationships between parents and children because of the avoidance of conflict. When children and adolescents follow the direction of their parents, there is no disagreement or controversy. In a relationship based on concept-orientation where children and adolescents were encouraged to act autonomously, there is no harmony. Rather there is conflict because child behaviors might be incongruent with parental expectations, desires, and values (McLeod & Chaffee, 1972). Therefore, the researchers concluded that parents who had strong control (socio-orientation) had children who were less likely to exhibit problem behaviors than the children of parents who gave more support (concept-orientation) than control.

To test the connection between those two aspects of the parent-child relationship and child problem behavior, McLeod and Chaffee (1972) developed an instrument called the Family Communications Pattern Instrument. As a respected measurement of family communication norms, use of the instrument led various researchers to support McLeod and Chaffee's (1972) original findings. Children in socio-orientation relationships with their parents were more likely to be influenced by others, parents, peers, and authorities alike, because of their desire to maintain amicable relationships. By behaving according to the direction of others, they engaged in few problem behaviors. On the other hand, those who were involved in concept-orientation relationships with parents were less likely to be influenced by others. They behaved in accordance with their own beliefs because their parents taught them the importance of individuality and autonomy of thought (McLeod & Chaffee, 1972). Thinking independently, they engaged in more problem behaviors than their peers. Thus, McLeod and Chaffee concluded that socio-

orientated behavior, authority and control, was more effective in preventing problem behaviors than was a concept-oriented parent-child relationship.

Years later, however, Ritchie (1991) challenged the findings of the Family Communications Pattern Instrument. He claimed that concept-orientation, not socio-orientation, led to congruence in the thoughts and behaviors of all family members. He explained that when parents and children have an open and supportive relationship (concept-orientation) they were more like to make joint decisions, agree on family norms, and feel comfortable discussing problem situations. Thereby, it decreased the amount of problem behavior. Conversely, Ritchie recognized that socio-orientation inhibits family agreement, discussion, and autonomous behavior, contributing to problem behaviors such as rebellions to strict parental control and greater conflict within the parent-child relationship. Therefore, through analyzing the instrument and conducting his own research, Ritchie determined exactly the opposite of what the original creators of the instrument had claimed. Autonomous and supportive relationships were more effective in managing problem behavior than authoritative and controlling ones.

Ritchie's (1991) revision of the Family Communications Pattern Instrument did more for understanding the relationship between parents and children than reexamining the role of concept-orientation and socio-orientation. According to Ritchie and Fitzpatrick (1990), it illustrated the family communication environment as one comprised of both supportive and controlling messages. Family social science literature claims the amount of support and control that parents exhibit toward their children influences child socialization and congruence with societal norms (Rollins & Thomas, 1979). Therefore,

support and control within the parent-child relationship have helped to explain the reasons for problem behavior, behaviors that are not socially accepted.

To make Ritchie's (1991) findings congruent with the family social science literature, researchers renamed Ritchie's variables, concept-orientation and socio-orientation, as control and support, respectively, while keeping their definitions similar. Baumrind (1991) was one such researcher. Baumrind (1991) conducted a study to determine how the interaction of support and control influenced child behavior. In his study of 139 adolescents and their parents, he identified six different family types ranging in the amount of supportive control, assertive control, directive/conventional control, and intrusiveness. Supportive control was defined as encouragement of individualization, intellectual stimulation, and the use of communication to influence children. The researcher defined assertive control as strict, yet non-restrictive monitoring including the use of rules and regulations, and directive/conventional control was measured as constraining control and the enforcement of traditional and conventional values. The fourth measurement, intrusiveness, was explained as intense parental involvement and restriction of independence.

After categorizing each participant of the study according to family type, Baumrind (1991) focused on the relationship between family type and child behavior. In congruence with other research, the study reported the highest rate of problem behaviors in adolescents who received little control and little support from their parents (Barnes, Farrell, & Cairnes, 1986; Lamborn, Mounts, Steinberg, & Dornbusch, 1991). Conversely, adolescents whose parents displayed both medium levels of control (assertive control) and high levels of support (supportive-control) are least likely to exhibit problem

behaviors. Those who display high levels of control (intrusiveness) in combination with any level of support are least effective in inhibiting problem behavior. These findings are consistent with other studies that report high levels of support and mild to moderate levels of control as most successful in reducing problematic behavior in children (Baumrind, 1991; Fitzpatrick & Ritchie, 1994; Fitzpatrick, Marshall, Leutwiler, & Krcmar, 1996; Ritchie, 1991; Lamborn, Mounts, Steinberg, & Dornbusch, 1991).

Similar to Baumrind's (1991) study, Lamborn, Mounts, Steinberg, and Bornbusch (1991) identified four types of families and determined how family type affects child problem behavior. With participation from 4,081 ninth through twelfth graders who adequately represented the demographic breakup of the population, Lamborn et al. (1991) reported similar, but not exact, results as Baumrind (1991) who studied a similar population. Adolescents' whose parents exhibited high levels of control and high levels of support, were less likely than their peers to behave problematically. In contrast, those whose parents displayed low levels of both, engaged in problem behaviors. Parents who exhibit low levels of support and high levels of control behaved in between the two extremes, exhibiting more problem behavior than those with high levels of both support and control but less than adolescents receiving low levels of both (Lamborn et al., 1991). While this study confirmed the importance of high levels of support, it conflicted with previous research by reporting that high levels of control are negatively correlated with problem behavior. Other studies reported that high levels of control increase problem behaviors (Barnes & Farrell, 1992; Ritchie, 1991; Ritchie & Fitzpatrick, 1994).

Research consistently suggests that high levels of support, most commonly defined as encouragement, engagement, and emphasis on individuality, are effective in

reducing the prevalence of problem behaviors. Reports also prove the importance of parental control, yet researchers do not agree on the type of control that is related to the least among of problematic behaviors. While some identify useful control as strict and authoritarian, others view helpful control as rule, regulation, and expectation making that is not constraining, thereby still emphasizing individuality (Barnes & Farrell, 1992; Barnes, Farrell, & Cairnes, 1986; Baumrind, 1991; Lamborn et al., 1991; Ritchie & Fitzpatrick, 1994; Ritchie, 1991). Though there is not a single type of control that is confirmed as most effective, research verifies that some type of control, in combination with high levels of support, is the best for decreasing the amount of problem behavior in children and adolescents (Baumrind, 1991; Lamborn et al., 1991; Ritchie, 1991; Fitzpatrick & Ritchie, 1994).

In an effort to more specifically describe the influential components of the parent-child relationship, Caughlin (2003) looked at romantic relationship research, as it is the most prevalent research regarding relationships, to identify "relational standards" (p.6). Though he understood that there are different facets of romantic relationships and parent-child relationships, he used the information as the basis of his understanding. He defined "relational standards" as the ideal components of a relationship for which individuals strive. The "relational standards" that he discovered included; conversing freely about events, feelings, and thoughts, showing affection, maintaining privacy within the relationship, providing emotional support, and managing conflict. Such are the same characteristics defined in a supportive parent-child relationship (Barnes & Farrell, 1992; Barnes, Farrell, & Cairnes, 1986; Baumrind, 1991; Lamborn et al., 1991). Recognizing similarities between romantic relationships and those between parents and children, he

conducted investigations to determine the role of those "relational standards " in familial, relationships, parent-child relationships, specifically.

Once he identified the "relational standards" that were linked to familial relationships, Caughlin (2003) enhanced his research through a second study. He categorized those standards, coupling those that were similar through a factor analysis. Four of the original standards remained as their own categories. They included: expression of affection, emotional or instrumental support, discipline, and humor or sarcasm. While Caughlin combined openness about problems and intimate disclosure into a single factor that he labeled as openness, he created a category that he titled avoidance. He also reported that structural stability, mind reading, politeness, and regular and routine interaction were ideal components in the parent-child relationship. By categorizing the "relational standards," Caughlin was better able to identify which of them were associated with negative relationships and which influenced positive ones. His groupings were similar to the groupings of characteristics that previous researchers associated with support (encouragement, independence, openness) and those that they used to define control (negativity and conflict, rules, and regulation) (Barnes, 1984; Baumrind, 1991; Lamborn et al., 1991; Ritchie, 1991; Ritchie & Fitzpatrick, 1990). Caughlin's (2003) identification and categorization of the "relational standards" of parent-child relationships used empirical findings to define the components of supportive relationships and controlling ones. The actual research supports previous researchers' non-empirically based definitions of the terms.

While Caughlin's (2003) study helped to define support and control within the parent-child relationship, it also strengthened the notion that supportive characteristics

including shared decision-making, autonomy, and freedom of thought and speech are most beneficial in reducing problem behaviors of children. It is consistent with previous research (Baumrind, 1991; Cauglhlin, 2003; Fitzpatrick & Ritchie, 1994; Ritchie, 1991; Zhang et al., 1998).

Relationship Between Family Relationship and Alcohol Usage

As presented in Chapter One, the negative consequences and high rates of incidences that are related to alcohol consumption indicate that it is a problem behavior. As research concludes that the parent-child relationship influences the prevalence of problem behaviors, it suggests that parent-child relationships have an effect on the alcohol consumption habits of children and adolescents.

Studying parental support and control, Barnes and Farrell (1992) looked at the influence of the parent-child relationship on adolescent drinking behavior. Similar to previous studies, they defined support as parental actions that foster autonomy, independence, and the freedom of children to make their own decisions. They defined control as parents' attempt to guide child behavior. Control included non-coercive actions such as forming rules, regulations, and warnings in addition to intrusive behaviors such as physical punishments like hitting or slapping.

With a sample representing 699 adolescents between the ages of thirteen and sixteen, results showed a significant relationship between control and problematic drinking behavior. The more parental control, the higher levels of adolescent alcohol use. Therefore, Barnes and Farrell (1992) concluded that control is a negative aspect within parental-child relationships because of its high correlation with adolescent conduct, especially as related to alcohol consumption (Barnes & Farrell, 1992).

Conversely, Barnes and Farrell (1992) found that parental support is a positive predictor of adolescent behavior. In fact, the study found a strong, negative relationship between parental support and alcohol use. Unlike previous studies that reviewed the relationship between parental support and control on behavior, Barnes and Farrell did not look at the interaction of the two, despite its proven importance (Baumrind, 1991; Fitzpatrick & Ritchie, 1994; Fitzpatrick, Marshall et al., 1996; Lamborn et al., 1991; Ritchie, 1991).

Also looking at the differences in supportive relationships versus controlling ones, Barnes, Farrell, and Cairns (1986) looked separately at mother-child and father-child relationships because they recognized that different socialization factors played a role. They defined support as praise, affection, cooperative decision-making, and comfort in discussing sensitive issues. These components foster autonomy and openness. They defined control as physical punishment such as slaps or hits, the elimination of privileges and rights, and warning against problem behavior (Baumrind, 1991; Fitzpatrick & Ritchie, 1994; Lamborn et al., 1991; Ritchie, 1991).

Their results suggested that mothers had a different influence on adolescent drinking behavior than did fathers. While there were no significant relationships, a trend indicated that mothers whose control levels were low had children with increased problem drinking behaviors. Different than previous research, they did not find a similar trend with mothers who practice high levels of control. In the case of fathers, problem-drinking behavior is prevalent at the extreme levels of control, either high or low. Concerning support in the case of mothers and fathers, adolescents exhibit lower alcohol use with higher levels of support. Therefore, the researchers reported that mothers and

fathers who showed control influenced child behaviors differently. Supportive relationships with mothers and fathers effect similarly and positively, thereby proving the importance of a supportive relationship in decreasing the problem behavior of alcohol use (Barnes, et al., 1986).

Age is also a factor of the parent-child relationship, predicting the amount of support and control that children perceive from their parents. (Eccles, Midgley, Wigfield,. Buchanan, Reuman, & MacIver, 1998; Galambos & Ehrenberg, 1997; Steinberg, 1988). For instance, maturing adolescents grow increasingly independent from parents. As parental influence decreases, peer influence increases. It is the establishment of autonomy by way of peer norming. Therefore, adolescents are more likely to establish the negative habits of their peers as they lose connection with their parents. Yet, at the same time, aging adolescents attempt to copy parental behavior in an effort to identify themselves as adults. In this case, adolescents copy their parents' behaviors, either positive or negative, in an effort to establish adulthood (Eccless et al., 1993; Galambos & Ehrenberg, 1997). Such contradictions in the literature as to whether the parent-child relationship increases or decreases as an influence on behavior does little to help determine the status of the relationship over time.

Supporting research on the importance of continued positive parent-child relationships, however, Kenny (1990) investigated the influence of parent-child relationships on the social behaviors of college seniors. The research was meant to measure the extent and function of parent involvement among college seniors and how it differs from that among first-year students. He proved his hypothesis when concluding that the parent-child relationship was not only important when adolescents were

developing, but it was essential for proper social competence in the later years of adolescence. His research suggested that students who perceive a close relationship with their parents, one that is based on the items that define support in previous research, are more likely to develop independence, are more socially component, and are less likely to exhibit problem behaviors such as alcohol use. Therefore, his results suggest that parental support is not only essential for younger children, but it is important throughout the development of adolescence (Kenny, 1990).

Though Kenny's (1990) research suggested the importance of a continued relationship between parents and children as they mature, there is very little research proving the significance. In addition, it is difficult to truly understand how the parent-child relationship affects college student alcohol consumption habits because very little research on it exists. Therefore, at this point, it is only possible to speculate how parent-child relationships influence the drinking behaviors of college students.

Summary

The issue of alcohol consumption is very complex because a multitude of influences affect student-drinking behaviors. Personal characteristics such as gender, race, ethnicity, religious affiliations, and age impact alcohol usage. In addition, there are a variety of emotional and social components that guide student drinking. Campus involvement, living situation, and institutional type also play a role. As research indicates that many aspects influence college student alcohol consumption habits, there is evidence that the parental-child relationship is an important stimulus. Studies identify many components of the parent-child relationship that effect child behavior. Such examples of influential aspects are the amount of support, as defined by encouragement

and autonomy, and control, the way in which parents force conformity and compliance. As this study focuses on the relationship between the family relationship environment in terms of parental support and control and student drinking behaviors as defined by frequency and amount, it will add to the existing literature on the topic of alcohol consumption in college and present information on combating the problem.

Chapter Three: Methodology

This chapter outlines the research design, sample, instrumentation, procedures, and statistical analysis of the study.

Purpose

The purpose of this study was to examine the relationship between the family relationship environment, as defined by the amount of support and control present in the parent-child relationship, and student alcohol consumption behaviors in terms of frequency and amount. Gender, race, age and time having lived away from parents were also examined. The hypotheses for the research included:

Hypothesis 1: There is a relationship between students' perceptions of the family relationship environment (support and control) and their alcohol use behaviors (frequency and amount of use).

Hypothesis 2: There is a relationship between gender, race, age, amount of time having lived away from home, students' perceptions of the family relationship environment (support and control), and the frequency with which they consume alcohol.

Hypothesis 3: There is a relationship between gender, race, age, amount of time having lived away from home, students' perceptions of the family relationship environment (support and control), and the amount of alcohol they consume in a single drinking episode.

Research Design

The research for this study was a non-experimental design because only a single sample group was studied. This investigation used four Pearson *r* correlation analyses to determine the relationship between parent support and frequency of alcohol use, parental

control and frequency of alcohol use, parental support and amount of alcohol consumed, and parental control and amount of alcohol consumed. After determining the relationship between support, control, amount, and frequency, two hierarchical multiple regressions were used to determine the relationship between gender, race, age, amount of time having lived away from home, students' perceptions of the family relationship environment, and frequency with which they consume alcohol. The same independent variables were used in the second multiple regression in order to determine the relationship with the amount of alcohol students consume in a single drinking episode.

Sample

A random sample of 400 students out of the 8000 students living in on-campus residence halls at the University of Maryland were chosen for this study. While some of the students in the sample lived in the traditional high-rise buildings that are predominantly first and second year students, others lived in the apartment and suite style housing that is mostly comprised of third and fourth year students.

Past projects that were conducted with similar procedures had return rates of over 90 %, giving reason to believe that this study would yield the same. With that consideration, a power analysis with a 95 % confidence level and a confidence interval of five % was conducted. The power analysis identified the need for an *N* of at least 367 individuals. As the response rate was predicted to yield at least 90 %, a sample of 400 seemed appropriate for properly representing the population. This study actually yielded a 75.5 % response rate.

The sample included 46.7 % men, 52.6 % women, 13 % African American students, 68.8 % White students, 8 % American Indian, 12.5 % Asian American, zero %

Latino, and five % of students who did not report a race or ethnicity. About 85 % of students were under the legal age of alcohol consumption, 21, while the rest were legally allowed to consume alcohol. Characteristics of the total sample as compared to the respondents are reported in Chapter Four

Variables

The independent variables in this study included gender (male or female), race (Caucasian, African American, Asian American, Latino, American Indian, or Unknown), number of semesters having lived away from parents, age, and perception of the family relationship environment (support and control). The dependent variable in this study was alcohol use behavior measured by the frequency of consumption and by the amount students consume in a single drinking episode.

Description of Independent Variables

Gender. There are many research findings on gender as a variable that influences student alcohol use behaviors. Previous research addressed topics such as the relationship among gender, religiosity, and alcohol consumption behaviors (Templin & Martin, 1999), gender role and its relationship to drinking (Capraro, 2000; Korcuska & Thombs, 2003), the differences related to gender and taking-up binge drinking (Weitzman, Nelson, & Wechsler, 2003), and gender as a factor of attitudes and perceptions toward alcohol consumption (Fitzpatrick & Potoczniak, 1999; Presley, Meilman, & Leichliter, 2002; O'Malley & Johnston, 2002; Wechsler, Dowdall, Davenport, & DeJong, 2002; Wechsler, Lee, Nelson, & Kuo, 2002).

Such research reports differences in the drinking habits of men and women. The literature claims that men not only drink larger amounts of alcohol than women, but they

also drink more frequently no matter what other factors are considered (i.e., race or religion) (Fitzpatrick & Potoczniak, 1999; Presely, Meliman, & Leichliter, 2002; O'Malley & Johnston, 2002; Wechsler, Lee, Nelson, & Kou, 2002). With research citing gender as one of the most significant variables for predicting drinking habits, this study considered it when investigating the relationship between drinking habits and students' perceptions of the family relationship environment.

Race. Another independent variable, race, has also faced investigation regarding its relationship to drinking habits. Studies have looked at the association among race, attitudes, and drinking habits (O'Malley & Johnston, 2002; Wechsler, Dowdall, Davenport, & DeJong, 2002; Weitzman, Nelson, & Wechsler, 2003) and differences in alcohol use among students of different racial backgrounds who attend predominantly White institutions versus those who attend historically Black or Native American institutions (Presley, Meilman, & Leichliter, 2002).

Research that analyzed race as an influence on student drinking behavior reported significant differences in the consumption habits of White individuals versus those of other races. White students drink significantly more than their peers (Wechsler et al., 2001). Black students have the lowest drinking rates, and Latino students fall in between. While there is not much literature addressing races other than White, Black, and Latino, the research that exists overwhelmingly concludes that race is a prominent predictor in student alcohol use behaviors. Therefore, this study considered the racially based differences in alcohol usage when investigating their relationship with individuals' perceptions of their family relationship environment.

Age. In addition to the racially based influences on alcohol consumption, much research reviews the drinking differences of students according to age. Most specifically, those studies have addressed differences in frequency and amount of alcohol use as well as the different reasons for drinking among students who are over or under the legal age to consume alcohol, 21 years of age (Fitzpatrick & Potoczniak, 1999; Schulenberg & Maggs, 2002; Upcraft, 2002).

Such research has found discrepancy in the drinking habits of students over and under 21 years of age. Studies suggest that while students who are under 21 consume alcohol less frequently than their over-aged peers, they are more likely to drink a greater amount of alcohol during a single sitting and are more likely to partake in binge drinking as Wechsler et al. (2002) defined it. Since it is a significant factor in alcohol consumption behaviors, this study considered age when investigating the relationship between the family relationship environment and alcohol consumption habits.

Amount of time having lived away from home. While there is not much information addressing individuals' perceptions of their family relationship environment over time, there are a few studies that have addressed the changing dynamic of the parent-child relationship as children mature. Such investigations look at the impact of parent involvement in the lives of their children who are first-year students versus seniors in college. Research also addresses how the parental relationship influences student maturity and satisfaction (Eccles & Ehrenberg 1998; Galambos, 1992). Unfortunately, there is very little research on how parents influence children when they are not living together and whether the relationship changes over the course of time that the child is away.

Though the research is slim, existing studies have determined that the longer students are away from their parents, the more likely they are to adopt the behaviors that their peers exhibit and the less their parents influence them. However, research also claims that maturing students sometimes follow parents' behavior in an effort to identify as adults (Eccles & Ehrenberg, 1998; Galambos, 1992). Though inconsistent, the research does suggest an important relationship between the amount of time students have lived away from their parents and their drinking behaviors. Therefore, this study investigated the relationship between alcohol consumption behaviors and students' perceptions of their family relationship environment with consideration of how long students have lived away from their parents.

Family relationship environment. Much research has addressed the relationship between parental control and support and child and adolescent drinking behaviors (Barnes, Farrell, & Cairns, 1986; Baumrind, 1991; Reifman, Barnes, Dintcheff, Farrell, & Uhteg, 1998), the influence of parental attitudes on student attitudes concerning alcohol consumption (Barnett, Far, Mauss, & Miller, 1996; Deakin & Cohen, 1986), and the relationship between parental support, involvement, closeness, control and student drinking (Barnes, 1984; Biglan, Duncan, Ary, & Smolkowski, 1995; Jung, 1995; Manning, 1991; Zhang, Welte, & Wieczorek, 1999).

While research is inconsistent in determining the relationship between the family relationship environment and alcohol consumption behaviors, most studies indicate that children who perceive high levels of support and mild to moderate levels of control are less likely to engage in problem behaviors such as alcohol consumption. With discrepancy in the knowledge, this investigation sought to determine the relationship

between students' perceptions of their family relationship environment as defined by the amount of support and control they perceive and their alcohol consumption behaviors while controlling for other influential variables.

Rationale for Independent Variables

Previous research concludes that many variables influence student-drinking habits (Johnston et al., 2000; Presley et al., 1996; Wechsler et al., 2002; Weitzman et al., 2003). These variables include personal characteristics and identities such as race and gender and environmental influences such as campus involvements, parental modeling, and type and size of institution. In the case of this investigation, many of those variables were constants across the entire population. For instance, type and size of institution attended, regional location of institution, presence of strong Greek and athletic communities, and living on campus were the same among all people in the sample studied. As these variables are consistent across the entire sample, there is no need to consider them as variables in this investigation.

Rather, the variables that are included in this study are those that differ across members of the population such as race, gender, age (over or under the legal age of alcohol consumption), and time having lived away from home. A thorough review of the literature also suggests that race, gender, and age are most significant in influencing drinking behaviors and time having lived away from home is significant in influencing the parent-child relationship. As these characteristics differ across members of the population and they relate to both drinking habits and students' perceptions of the family relationship environment, they are considered as the independent variables for this investigation.

Description of Dependent Variable

Alcohol use. There is much past research that addresses college student alcohol consumption behaviors. Investigations review drinking behaviors in relation to demographic differences (Capraro, 2000; Fitzpatrick & Potoczniak, 1999; Korcuska & Thombs, 2003), descriptive differences (Schulenberg & Maggs, 2002; Templin & Martin, 1999), attitudinal differences (Upcraft, 2002), environmental differences (Presley, Meliman, & Leichliter, 2002), residential differences (Weitzman, Nelson, & Wechsler, 2003), and motivational differences (Baer, 2002; Wechsler, Dowdall, Davenport, & DeJong, 2002).

When addressing the differences in consumption habits, most research measures it in two ways. Frequency is the regularity with which students consume alcohol. It is a measurement of how often they drink. Amount, the other variable for measuring alcohol use, addresses how much individuals consume during a single drinking episode. Sometimes, students who drink heavily do not do so frequently and vice versa (Presley, Meliman, & Leichliter, 2002; Shattuck, 1998; Wechsler, Dowdal, Davenport, & DeJong, 2002). Therefore, the complex nature of student drinking habits demonstrates the necessity of measuring both frequency and amount of alcohol consumption when looking at student drinking habits. Therefore, this investigation measured alcohol consumption behaviors by both amount and frequency and studied their relationship to the family relationship environment while considering the influence of demographic and descriptive variables.

Instruments and Measures

The instrument for this study contained items from the Revised Family Communication Patterns instrument (Ritchie, 1988, 1989; Ritchie & Fitzpatrick, 1999), items adapted from instruments that measure alcohol consumption behaviors, items that identify demographic and descriptive characteristics of the participants, and items that measure an awareness and practice of responsible drinking behaviors.

Revised Family Communication Patterns Instrument

To measure students' perceptions of their relationship environment, the instrument for this study included items from the Revised Family Communications Instrument (Ritchie, 1988). While the survey for this study included all of the items from the original instrument, they did not appear in the same order. Rather than placing them in subscales, the questions were reordered to achieve greater reliability. In addition, the variables of the original instrument, "conversation-orientation" and "conformity-orientation" were renamed for the purpose of this discussion as *support* and *control*, respectively. It follows recent investigations that have also defined "conversation-orientation" and "conformity-orientation," as support and control (Barnes, Farrell, & Cairns, 1986; Barnes & Farrell, 1992; Baumrind, 1991; Manning, 1991; Shattuck, 1998). Therefore, the change in terminology was an effort to remain consistent with primary and more recent research on the topic. Ritchie gave permission for both the use and revision of the instrument (L.D. Ritchie, personal communication, November 20, 2003). The items appear in Table 3.1. The chart separates the items that measure control from those that measure support, though items are numbered as they were in the instrument.

As previously defined, the support items measure the degree to which parents encourage conversation and the open exchange of ideas and opinions with their children (Ritchie, 1991). It reflects parental behaviors to grant children autonomy, independence, and freedom of thought. Conversely, the Revised Family Communication Patterns instrument measures control, also previously defined, as the degree to which parents exert power over children, forcing conformity and dependence (Ritchie, 1991).

The response choices for each item were based on Likert scale of 1 to 5 where 1 represented strongly disagree and 5 represented strongly agree. Items 3, 5, 8, 10, 11, 12, 14, 16, 17, 18, 19, 21, 23, and 24 measured *support.* After the data were collected, the responses for all the *support* items were added together, and the possible range of scores measuring support ranged from 14 - 70 where 14 was the least amount of possible support and 70 was the greatest amount. Items 4, 6, 7, 9, 13, 15, 22, 25, and 26 measured *control*. The possible range of scores measuring *control* was 9 - 45 where 9 was the lowest measurement of control and 45 was the greatest amount of control students perceived from their parents.

Reliability. Reliability was tested since the instrument was adapted for the purpose of this study. A Cronbach alpha test was conducted on both the items that measured support and the items that measured control to ensure their reliability. An initial test revealed an alpha of .71 for the items that measure support. The test also confirmed that removal of Item #2 (see Table 3.1) would increase the reliability of the measurements to an alpha of .91. Therefore, the researcher disregarded all data collected from Item #2 and used the fourteen remaining to measure support.

In the case of control, the original test revealed a Cronbach alpha of .37. The test conformed that removal of Item # 20 (see Table 3.1) would increase the reliability to .68. Therefore, the investigator of this study removed Item #20 from the measurement and used the nine remaining items to measure the independent variable, control.

Validity. The authors of the instrument asserted their validity, although no measures of that validity were reported.

Measurement of Alcohol Consumption Behaviors

For the purpose of this study, the researcher adapted items from highly regarded studies on alcohol to determine the frequency and amount of student alcohol consumption (Presley et al., 1996; Wechsler, Davenport, Dowdall, Moeykens, & Castillo, 1994). Such items helped to determine how much (amount) and how often (frequency) students drink. These items appear in Table 3.2. In addition, the response choices as well as whether the item measured frequency or amount are presented in the table.

Reliability. The study originally planned to create composite variables from the set of items that appear in Table 3.2. Yet, the researcher modified the design so that only Item #46 was used to measure amount and Item #43 was used to measure frequency. As only one item was used in measuring each variable, there was no need to run Cronbach alpha reliability tests.

Validity. As these items were adapted from highly regarded instruments that study alcohol use behaviors, their validity was assumed.

Table 3.1

Revised Family Communication Pattern Instrument

Item #	Support Items
2	In our family we often talk about topics like politics and religion where some persons disagree with others (*not considered in measurement*)
3	My parents often say something like "every member of the family should have some say in family decisions."
5	My parents often ask my opinion when the family is talking about something.
8	My parents encourage me to challenge their ideas and beliefs.
10	My parents often say something like "you should always look at both sides of an issue."
11	I usually tell my parents what I am thinking about things.
12	I can tell my parents almost anything.
14	In our family, we often talk about feelings and emotions.
16	My parents and I often have long, relaxed conversations about nothing in particular.
17	I really enjoy talking with my parents even when we disagree.
18	My parents like to hear my opinions, even when they don't agree with me.
19	My parents encourage me to express my feelings.
21	My parents tend to be very open about their emotions.
23	We often talk as a family about things that we have done during the day.
24	In our family we often talk about our plans for the future.

Table 3.1 (*continued*)

Item #	Control Items
4	When I am at home, I am expected to obey my parent's rules.
6	If my parents don't approve of it, they don't want to know about it.
7	My parents sometimes become irritated with my views if they are different from theirs.
9	My parents feel that it is important to be the boss.
13	In our home, my parents usually have the last word.
15	My parents often say something like "you should give in on arguments rather than risk making people mad."
20	M parents often say something like "a child should not argue with adults." (*not considered in measurement*)
22	My parents often say something like "my ideas are right and you should not question them."
25	My parents often say something like "you'll know better when you grow up."
26	My parents often say something like "there are some things that just shouldn't be talked about."

Note. From "Family Communications Patterns," by L.D. Ritchie and M.A. Fitzpatrick, 1990, *Communication Research, 17,* p. 526. Copyright 1990 by Sage Publications, Inc. Adapted with permission of the authors.

Demographic and Descriptive Item

To better understand the relationship between the family relationship environment and student drinking habits, it is important to take demographic and descriptive information into consideration because research suggests that demographics have

Table 3.2

Items to Determine Alcohol Consumption Behaviors

Alcohol Consumption Behaviors	Response options	Measurement
35. Since starting college, have you ever consumed alcohol?	(1) Yes (2) No	(skip pattern: students who respond yes continue to the next item, students who respond no skip to item #47)
42. During an average month last semester, how many DAYS did you consume alcohol?	(1) None (2) 1-3 Days (3) 4-6 Days (4) 6-9 Days (5) 10 or more days	frequency
43. In a typical one week period during last semester, on how many DAYS did you consume alcohol? Circle the best response	0 1 2 3 4 5 6 7	frequency
44. On the days that you drank, what was the average number of drinks* that you consumed per day? **A drink is a bottle of beer, a glass of wine, a wine cooler, a shot of liquor, or a mixed drink*	*Open-ended*	amount
45. Last semester, during a typical two week period, how many times did you consume five or more drinks in a single setting. Please mark the appropriate box.	None 1 time 2 times 3 times 4 times 5 times 6 times 7 times 8 times 9 or more times	frequency/amount
46. The last time you partied/socialized, how many alcoholic drinks did you consume? State your best estimate.	*Open-ended*	amount

great influence on drinking behavior (Johnston et al., 2000; Presley et al., 1996; Wechsler et al., 2001; Weitzman, Nelson, & Wechsler, 2003). Therefore, this study looked at the relationship between students' perceptions of the family relationship environment with consideration of demographic influences on student drinking habits. Table 3.3 illustrates the items that identify demographic and descriptive information. The remainder of the demographic data (gender, race, and age) was obtained by referencing each participant in the Student Information System, the main University database that stores student information. Further discussion on the procedure is discussed in the next section.

Table 3.3

Items that Measure Descriptive and Demographic Variables

Demographic and Descriptive Items	Response options
1. Not including summer and winter break, which BEST DESCRIBES how long you have lived away from your parents?	(1) 1 academic semester (2) 2 academic semesters (3) 3 academic semesters (4) 4 academic semesters (5) more than 4 academic semesters
47. On average, how many times a month do you have contact* with your parents? * *contact is considered as e-mail, phone, conversation, Instant Message, or in person*	*open-ended*

Resident Life Items

The Department of Resident Life at the University of Maryland provided the funding for this research and, therefore, added items to the instrument for their own research purposes and interests. . Items 27-34 and 36-40 measure responsible drinking behavior. However, they were not analyzed in this study. For further information and

results regarding questions 27-34 and 36-40, please contact the Coordinator for Research and Assessment in the Department of Resident Life at the University of Maryland.

Coding the open-ended items. As the open-ended items asked students to respond freely onto the instrument itself rather than onto the answer sheet, the responses were input into the database separately from those collected on the answer sheet. They were not coded or scaled, rather the actual number response was used for the analyses. Responses that were obviously given as a joke, such as a student having consumed over 100 drinks in a single setting, were discarded so that the false responses did not bias the data. Please see Appendix A for a complete instrument.

Procedure

Each year, during the first two weeks of the spring academic semester, the Department of Resident Life conducts the "Residence Hall Evaluation Project (RHEP)" in conjunction with the completion of the Department's bi-annual room verification process. In the RHEP, approximately 2000 resident students are surveyed to determine the level of satisfaction of students living in the residence halls. While the entire department, undergraduate students, graduate students, and professional staff aid in the completion of this project, the Coordinator for Research and Assessment for the Department is primarily responsible for its management.

Interested in learning about the influences of student drinking behaviors, staff in the Department of Resident Life at the University of Maryland agreed to financially support and distribute the instrument for this investigation in conjunction with the completion of the RHEP. While the two investigations went on simultaneously, the

instruments were not combined. Rather, each student received one or the other, thus separating the two studies.

The instrument for this study was established and completed at the end of December 2004. The Institutional Review Board (IRB) approved the use of the instrument with human subjects on January 1, 2004. Please see Appendix C for the IRB approval form. In January 2004, after the Coordinator for Research and Assessment pulled the sample of students for the RHEP, she pulled the names and contact information of the students that were included in the random sample for this investigation. Survey packets including the instrument, the informed consent form that confirmed their desire to participate in the study (Appendix B), and an answer sheet were compiled for each participant and were placed in an envelope with the resident's name during the end of January 2004. After compilation, the packets were given to the appropriate resident directors who were responsible for their distribution to the resident assistants. Resident assistants distributed the survey packets to the resident named on the front of the envelope.

In order to ensure proper distribution and collection, resident assistants received specific guidelines from the Coordinator for Research and Assessment. The instructions detailed the proper administration of the survey and the means for tracking its distribution and collection. To motivate participation, the Department of Resident Life provided all participants with a free ticket to the on-campus movie theater. Resident assistants received two tickets for their efforts.

For majority of the questions, students answered on an Answer Sheet using a number two, lead pencil. However, the last four items on the instrument were open-ended

and students were instructed to respond directly onto the instrument. Students sealed their survey in the envelope provided and returned it to their resident assistant. In addition they returned the "Informed Consent Form" into a separate envelope in which the resident assistant collected all the informed consent forms of the students on the entire floor.

Once the data were collected, the Answer Sheets were sent outside of the university to a data-entry company to input the data. Once the data entry was complete, the company returned it to the researcher to perform the appropriate statistical analyses. The researcher for this study entered the data from the open-ended questions by hand and merged it with the scanned data once it was returned.

Data Analysis

Hypothesis 1: *There is a relationship between students' perceptions of the family communication environment and alcohol use behaviors* was analyzed using Pearson *r* correlations between control and amount, control and frequency, support and amount, and support and frequency variables. Thus, there were a total of four Pearson *r* correlations.

Hypothesis 2: There is a relationship between gender, race, age, amount of time having lived away from home, students' perceptions of the family relationship environment (i.e. support and control), and the frequency with which they consume alcohol was analyzed using hierarchical multiple regression where gender, race, age, and time having lived away from home were in block I, and support and control were in block II. The dependent variable in the multiple regression analysis was frequency at which students consume alcohol.

Hypothesis 3: There is a relationship between gender, race, age, amount of time having lived away from home, students' perceptions of the family relationship

environment (i.e. support and control), and the amount of alcohol that they consume in a single drinking episode was analyzed the same as Hypothesis Two but with the amount as the dependent variable rather than frequency.

Previous research suggested that the order of the variables for the hierarchical multiple regressions were appropriate. Studies claim that gender and race are two of the most significant influences on alcohol consumption behaviors. They report age and time having lived away from home also as having relationships with drinking behaviors, though less significant than race and gender (Johnston, et al., 2000; Presely, et al, 1996; Wechsler, et al., 2002). Support and control were added to the multiple regressions as Block II.

While literature suggested the importance of including these variables in the multiple regression analysis, a correlation matrix was conducted in order to determine if the variables were correlated and might result in multicollinearity issues. The correlation matrix reported a significant correlation (r = .725) between time having lived away from home and age but no other significant relationships among the variables (gender, race, age, time having lived away from home).

Having concluded a significant relationship between time having lived away from home and age, the researcher conducted a multicollinearity diagnostic to determine if the significant correlation between the variables led to a multicollinearity effect. That analysis determined that the tolerances for all of the variables where amount was the dependent variable ranged from .23 to .92. The ranges of tolerance when frequency was the dependent variable was .23 to .93. As explained in Norusis, (2002) tolerances that are small, less than 0.1, may have a multicollinearity problem, a linear combination between

variables that possibly biases the results. Tolerance is sometimes recalculated as the Variance Inflation Factor (VIF). The VIF is the inverse of the tolerance (= 1/tolerance). Therefore, tolerances of 0.1 or less become VIFs of 10 or more (Neter, Wasserman, & Kunter, 1990). The higher the VIF or the lower the tolerance, the more chance that a multicollinearity effect is present (More on Multicollinearity). As the tolerances for all of the variables were above 0.1, their VIFs were less than 10 and no multicollinearity problem appeared (Table. 3.4).

Table 3.4

Collinearity Diagnostics for Independent Variables

Dependent Variable	Dependent Variable	Tolerance	VIF
Amount			
	Gender	.92	1.08
	African American	.33	3.09
	Asian American	.35	2.82
	White	.23	4.32
	Age	.42	2.36
	Time having Lived Away from Home	.43	2.30
	Gender		
Frequency	African American	.93	1.07
	Asian American	.32	3.14
	White	.36	2.77
	Age	.23	4.44
	Time having Lived	.42	2.36
	Away from Home	.43	2.31

The researcher chose these methods for a variety of reasons. The Pearson *r* correlation analysis determines the strength of the relationship between one dependent variable and one independent variable, thus suggesting a relationship between family relationship environment and alcohol consumption behaviors. Multiple regression

analysis indicates how much of the variance in the dependent variable (amount or frequency of alcohol consumption) is explained by an individual variable (gender, race, age, time having lived away from home, perceptions of the family relationship environment) or a block of variables.

Summary

The purpose of this study was to determine the relationship between students' perceptions of family relationship environment and alcohol consumption behaviors. It took gender, race, age, and time having lived away from parents into consideration. A random sample of 400 students received the instrument from their resident assistant who distributed it while completing the bi-annual room verification process and the RHEP for the Department of Resident Life at the University of Maryland. The survey included items from the Revised Family Communication Patterns, though the original instrument was adapted to ensure greater reliability and validity. Questions based on previous alcohol research measured alcohol use in terms of frequency and amount, though only a single question was used to measure amount and one item was used to measure frequency. The instrument asked only two demographic and descriptive questions. The remainder of the demographic information was collected through institutional statistics. Both Pearson *r* correlations and hierarchical multiple regression were used to analyze the data. Results of the analysis will be reported in the next chapter.

Chapter Four: Results

The purpose of this investigation was to determine if there is a relationship between students' perceptions of their family relationship environment and their alcohol consumption behaviors. For the purpose of this study, family relationship environment was the perceived amount of support and control that students receive from their parents. Alcohol consumption behavior was defined as the amount of alcohol beverages that students consume during one sitting and the frequency at which they drink over an extended period of days. Gender, race, age, and the amount of time having lived away from home were also considered. The hypotheses for the study were as follows: (1) There is a relationship between students' perceptions of the family relationship environment (i.e. support and control) and their alcohol use behaviors (frequency and amount of use); (2) There is a relationship between gender, race, age, amount of time having lived away from home, students' perceptions of the family relationship environment (i.e. support and control), and the frequency with which they consume alcohol; and (3) There is a relationship between gender, race, age, amount of time having lived away from home, students' perceptions of the family relationship environment (i.e. support and control), and the amount of alcohol they consume in a single drinking episode.

This chapter reports the results found from the statistical analyses that are described in Chapter Three. It will first review the sample, response rate, and characteristics of students who participated in the study as compared to those who are in the sample and those who are in the population. Then, it will address each hypothesis and whether it was not rejected or rejected by the data.

Sample Characteristics

Surveys were distributed in the manner described in Chapter Three to 400 students at the University of Maryland who lived in on-campus housing. The sample consisted of 194 men (48.5 %) and 206 women (51.5 %). Two hundred and seventy five of those participants were White (68.8 %), 50 were Asian American (12.5 %), 52 were African American (13 %), 3 were American Indian (.8 %), and 20 were Unknown (5 %). Zero percent of the sample was Latino. One hundred thirty eight of the participants had freshman standing, 125 had sophomore standing, 85 had junior standing, and 51 of the students in the sample had senior standing. From the entire sample, 310 students responded for a response rate of 78 %. Eight of the students who returned the instrument did not complete the informed consent form, therefore their data were discarded leaving 302 cases for analysis. One hundred fifty nine of the respondents were women (52.6 %) while 141 of the respondents were men (46.7 %). Two respondents did not report their gender. Thirteen of the students who returned the instrument did not report their race, 2 were American Indian, 37 were African American, 39 were Asian American, and 209 were White. There were no Latino respondents. One hundred ten of the respondents were freshman, 97 of them were sophomores, 57 of them were juniors, and 36 of them were seniors (Table 4.1).

Table 4.1

Demographics of Total Sample (N = 400) and Usable Respondents (N = 302)

Variable		Total Sample (*N* = 400)	Usable Respondents (*N* = 302)
Gender	Male	194 (48.5%)	141 (46.7%)
	Female	206 (51.5%)	159 (52.6%)
Race	White	275 (68.8%)	209 (69.2%)
	African American	52 (13.0%)	37 (12.3%)
	American Indian	3 (8.0%)	2 (7.0%)
	Asian American	50 (12.5%)	39 (12.9%)
	Latino	0 (0.0%)	0 (0.0%)
	Unknown	20 (5.0%)	13 (4.3%)
Class Standing	Freshman	138 (34.5%)	110 (36.4%)
	Sophomore	123 (32.3%)	97 (32.1%)
	Junior	85 (21.3%)	57 (18.9%)
	Senior	51 (12.8%)	36 (11.9%

Results of the Primary Research Questions

Hypothesis 1: There is a relationship between students' perceptions of the family relationship environment (i.e. support and control) and their alcohol use behaviors (frequency and amount of use)

The primary investigation of this study was to determine the relationship between students' perceptions of their relationship with their parents (i.e. support and control) and their alcohol consumption habits (i.e. amount and frequency of drinking). Using a Likert scale of one to five, students were asked to rate their agreement with items that measured the amount of support and control that their parents provide to them. Their responses for each of the items that measured control were added together as were those that measured support. As mentioned in Chapter Three, the possible range for perceived support went

from 14 to 70 where 14 was the lowest amount of perceived support and 70 was the highest amount. The possible range for the control items was 9-45 where 9 was the least amount of perceived control and 45 was the greatest amount.

For alcohol consumption behavior, separate items measured amount and frequency. Students were asked "in a typical one week period during last semester, on how many days did you consume alcohol," to measure the frequency at which they drink and "the last time you partied/socialized, how many alcohol drinks did you consume?" to measure the amount that they drink, on average. They were given eight response choices for the frequency item (0 – 7 days) and the item that measured amount was open-ended (Table 3.2).

Primary Results

Initial analyses were conducted to identify descriptive statistics and to give greater meaning to the findings. Such analyses included a frequency analysis and a comparison of means. Overall, 47.2 % of the participants reported having consumed at least four drinks in a single setting during a single week in the fall semester. Twenty five percent of the students studied reported moderate drinking habits, consuming less than five drinks in a single sitting and not drinking every week. The other 25 % of students sampled abstained from consuming alcohol. More specifically, the mean for frequency of alcohol consumption was 1.38 times per week with a range from zero to seven times per week (*SD* = 1.35). The mean for amount of drinks consumed per sitting was 5.05 (*SD* = 4.01) with a range from zero to 24. In terms of their perception of the family relationship environment, findings indicated a mean of 25.06 (*SD* = 5.0) for control with a minimum of 11 and a maximum of 45. The mean for the support variable was 47.47 (*SD* = 10.42)

while the range was from 17 to 70. See Table 4.2 for total means and standard deviations of support, control, frequency, and amount. Table 4.3 illustrates the means and standard deviations of frequency of consumption and amount consumed based on the demographic variables of this investigation (gender, race, age, and time having lived away from home).

Table 4.2

Frequencies for Support, Control, Frequency and Amount of Alcohol Consumption

Variable	Mean	Std. Dev.	Minimum	Maximum
Support (*N* = 300)	25.06	5.00	11.00	45.00
Control (*N* = 301)	47.47	10.42	17.00	70.00
Frequency (*N* = 221)	1.38	1.35	0.00	7.00
Amount (*N* = 229)	5.05	4.01	0.00	24.00

Table 4.3

Comparison of Means for Frequency and Amount of Alcohol Consumption by Race, Gender, Age, and Time Away From Home

Demographic		Frequency	Amount
White	N	165	168
	Mean	1.62	5.50
	Std. Dev.	1.40	4.02
African American	N	26	27
	Mean	58	2.96
	Std. Dev.	.81	4.03
Asian American	N	20	23
	Mean	.65	3.59
	Std. Dev	.88	2.82
Unknown	N	10	11
	Mean	1.00	6.23
	Std. Dev	1.05	3.91
Male	N	106	106
	Mean	1.46	6.44
	Std. Dev.	1.37	4.63
Female	N	115	123
	Mean	1.31	3.84
	Std. Dev.	1.34	2.91

Table 4.3 *(continued)*

Under 21 Years of Age	N	185	192
	Mean	1.44	5.21
	Std. Dev	1.39	4.07
21 Years of Age and Older	N	35	36
	Mean	1.14	4.31
	Std. Dev	1.09	3.57
1 Semester Away	N	88	91
	Mean	1.44	5.60
	Std. Dev	1.25	4.32
2 Semesters Away	N	14	13
	Mean	1.57	4.00
	Std. Dev	1.87	2.68
3 Semesters Away	N	53	54
	Mean	1.35	5.08
	Std. Dev.	1.34	3.62
4 Semesters Away	N	20	24
	Mean	1.70	5.15
	Std. Dev.	1.87	4.67
5 Semesters Away	N	46	47
	Mean	1.11	4.18
	Std. Dev	1.10	3.65

Four Pearson *r* correlations were calculated to determine the following relationships; control and frequency, support and frequency, control and amount, and support and amount. Analysis showed a slight negative correlation (r = -.02) between level of control and amount of alcohol consumption and no correlation (r = .00) between level of control and frequency of alcohol consumption. There was a slight inverse relationship (r = -.12) between level of support and amount of consumption and a slight negative correlation (r = -.03) between level of support and frequency of alcohol consumption. Though analysis confirmed small inverse relationships for control and amount, support and amount, and support and frequency, they were not statistically significant. There was no significant relationship between level of control and amount of alcohol consumption (Table 4.4), therefore Hypothesis One was rejected.

It is also of interest to note the significant relationship between amount (number of drinks per single sitting) and frequency (number of drinking episodes in one week) of alcohol use and the one between support and control (family relationship environment). Analysis concluded a significant positive relationship (r = .47) between the amount of alcohol students consume and the frequency at which they consume it. Therefore, students who drink often, are more likely to drink heavily. In addition, results suggest a moderate inverse relationship between students' perception of parental control and that of support. The significant inverse relationship between the two variables (support and control) shows that the oppose each other, support is opposite of control. Their inverse relationship also helps to demonstrate the validity of the measurement in that it further supports that the items are effective in measuring the two opposing variables (Table 4.4).

Table 4.4

Correlation Matrix for Family Relationship Environment and Alcohol Consumption Behaviors

	Support	Control	Amount	Frequency
Support	.__	.__	.__	.__
Control	-.40**	.__	.__	.__
Amount	-.12	-.02	.__	.__
Frequency	-.03	.00	.47**	.__

**p < .01 (two-tailed)

Hypothesis 2: There is a relationship between gender, race, age, amount of time having lived away from home, students' perceptions of the family relationship environment (i.e. support and control), and the frequency with which they consume alcohol.

As previous research has claimed the importance of gender, race, age, and time having lived away from home as variables influencing both alcohol consumption habits

and parent-child relationships, another primary research question of this study investigated the significance in the relationship between frequency of consumption and parental support and control. It also considered gender, race, age, and time having lived away from home, variables that previous literature reports as significant. A hierarchical multiple regression analysis was conducted.

A multiple regression analyses determined that the total variance explained by all variables was 10.2% (p<.00). As shown in Table 4.5, the first block, including gender, race, age, and time having lived away from home accounted for 9.7% of the variance while Block II (support and control) added .5%. F-tests were not significant at the p<.05 level in Block II (F = .53), but were significant for Block I (F = .00) which considered the demographic variables previously discussed. Therefore, the hypothesis was not rejected because there was a significant relationship determined between frequency of alcohol consumption and the demographic variables (gender, race, age, and time having lived away from home), though there was not one determined between the family relationship environment (support and control) and frequency of consumption.

It is important to note, however, that despite the significance of Block I in the multiple regression analysis (F = .00), there were no significant relationships when the variables were split into groups. As seen in Table 4.6 none of the variables appeared to present significant differences in the frequency of alcohol students in each consumed.

Table 4.5

Multiple Regression of Frequency of Alcohol Consumption with Support and Control

Model	R	Adjusted R Square	R Square	R Square Change	F Change	df1	df2	Sig.
1	.31	.07	.10	.10	3.76	6	211	.00**
2	.32	.10	.10	.01	.64	2	209	.53

**p < .01 (two-tailed)

Table 4.6

Multiple Regression for Frequency as the Dependent Variable

Model	Variable Entered	Standard ß	Sig.
1	(constant)		.52
	-Gender	.04	.55
	-African American	-.09	.43
	-Asian American	-.07	.50
	-White	.20	.15
	-Age	-.02	.86
	-Time having lived away from home	-.03	.77
2	(constant)		.59
	-Gender	.03	.65
	-African American	-.09	.43
	-Asian American	-.08	.44
	-White	.21	.13
	-Age	-.01	.95
	-Time having lived way from home	-.03	.79
	-Control	.03	.65
	-Support	-.06	.44

Hypothesis 3: There is a relationship between gender, race, age, amount of time having lived away from home, students' perceptions of the family relationship environment (i.e. support and control), and the amount of alcohol that they consume in a single drinking episode

A hierarchical multiple regression analysis was conducted for Hypothesis Three in the same manner as done for Hypothesis Two, however the dependent variable was changed from frequency of alcohol consumption to amount consumed in a single sitting. Similarly, Block I of the regression included gender, race, age, and time having lived away from home. Block II consisted of the support and control variables.

As illustrated in Table 4.7, analysis determined that the total variance explained by all variables was 18.2%. While Block I (gender, race, age, time having lived away

from home) accounted for 17.4% of the variance, Block II added .8%. Again, an F-test was significant (F = .00) (p<.05) for the first block including the demographic variables, but was not significant for Block II (F = .35). While there was not significant relationship between amount of alcohol consumed and parental support and control, there were significant relationships among the demographic variables.

For example, analysis confirmed significant differences in the drinking habits based on gender as well as those based on race. In fact, men were found to consume significantly greater amounts of alcohol men than women (F = .00, ß = .34). In addition, African American students reported drinking significantly less in a single sitting than non-African American students (F = .04, ß = -.23). There were no significant relationships between age and time having lived away from home and amount of alcohol consumed. See Table 4.8.

As there were demographic relationships with the amount of alcohol students consume in a single sitting, Hypothesis Three was supported.

Table 4.7

Multiple Regression of Amount of Alcohol Consumption with Support and Control

Model	R	Adjusted R Square	R Square	R Square Change	F Change	df1	df2	Sig.
1	.42	.15	.17	.17	7.68	6	219	.00**
2	.43	.15	.18	.01	1.06	2	217	.35

**p < .01 (two-tailed)

Table 4.8

Multiple Regression for Amount as the Dependent Variable

Model	Variable Entered	Standard ß	Sig.
1	(constant)		.04*
	-Gender	.34	.00**
	-African American	-.23	.04*
	-Asian American	-.16	.09
	-White	-.09	.47
	-Age	-.10	.29
	-Time having lived away from home	-.06	.50
2	(constant)		.03*
	-Gender	.32	.00**
	-African American	-.22	.04*
	-Asian American	-.18	.09
	-White	-.08	.55
	-Age	-.09	.35
	-Time having lived way from home	-.06	.49
			.66
	-Control	-.03	.15
	-Support	-.10	

*p<.05, **p<.01

Ancillary Analyses

Though not specifically related to the hypotheses, ancillary analyses were conducted in order to further understand the relationship between students' perceptions of their family relationship environment and their alcohol consumption behaviors.

One of those ancillary analyses looked at the relationship between the number of times a month students communicated with their parents (phone, e-mail, instant message, or in person) and their perceived level of control and support. On average students communicated with their parents 16.93 times a month, or every other day. The standard deviation was 11.32. The range was between zero and 60 times a month (Table. 4.9)

Table 4.9

Descriptive Statistics for Number of Communications with Parents Each Month (N = 277)

	# of Communications per month
Mean	16.93
Std. Dev.	11.32
Variance	128.24
Minimum	0
Maximum	60

Further analysis determined a significant positive correlation (r = .31) between students' perception of support and the amount of times that they reported speaking to their parents each month. Conversely, there was no significant relationship between students' perceptions of control within the parent-child relationship and the amount of times that they spoke with their parents each month (r = .00). Therefore, it implies that frequency of communication is an indication of support but cannot be used to determine perception of control (see Table 4.10).

Table 4.10

Correlation Matrix for Number of Times Communicating with Parents Each Month and Students' Perception of Control and Support

	Support	Control	# of Communications
Support	.__	.__	.__
Control	-.40**	.__	.__
# of Communications	.31**	.00	.__

*p < .05 **p < .01 (2 tailed)

Another ancillary analysis investigated the relationship between the amount and frequency at which students drink and the number of times that they speak with their parents each month, on average. Results did not indicate significant relationships. In fact, the correlations were so small that they explained only minimal amounts of the variance. (Table 4.11).

Table 4.11

Correlation Matrix for Amount, Frequency, and Times Communicating with Parents Each Month

	Amount	Frequency	# of Communications
Amount	.__	.__	.__
Frequency	.47**	.__	.__
# of Communications	-.08	-.06	.__

*p < .05 **p < .01 (2 tailed)

In addition, no significant relationship was determined between the amount of time students have lived away from home and the number of times that they speak to their parents per month. (Table 4.12)

Table 4.12

Correlation Matrix for Time Having Lived Away from Home and Times Communicating With Parents Each Month

	Time Away from Home	# of Communications
Time Away from Home	.__	.__
# of Communications	-.07	.__

*p < .05 **p < .01 (2 tailed)

Summary

There were no significant findings for the relationship between students' perceptions of their family communication environment (support and control) and their alcohol consumption behaviors (amount and frequency). Therefore, after the Pearson *r* Correlation analyses, Hypothesis One was rejected. Multiple regression analyses were used to investigate the relationship between race, age, gender, time having lived away from home, students perceptions of the family relationship environment (support and control) and alcohol consumption behaviors (amount and frequency). While there was no relationship between perceptions of the family communication environment (control and

support), there were significant findings concerning the relationship of the demographic variables to student drinking habits (amount and frequency). While Block I of Hypothesis Two reported significance concerning the demographic variables in relation to alcohol consumption, analysis did not determine significant relationships when the variables were analyzed separately (gender, race, age, and time having lived away from home in relation to frequency). Hypothesis Three also found the demographic variables, and not support and control, to be significant. However, different than the one investigating frequency, the multiple regression analysis did find a significant relationship between gender and amount of alcohol consumed where men reported to drink a significantly higher amount than women. Analysis also showed that non-African American individuals drink a larger amount in a single sitting than do African-Americans. Despite lack of significance between students' perception of their family communication environment and their alcohol consumption behaviors, findings indicated significant relationships between the demographic variables and drinking behaviors. As the hypotheses indicated that significant relationships were present between the demographic variables and alcohol consumption behaviors, both Hypotheses Two and Three were not rejected.

The implications of these results, the limitations and generalizability of the study, and suggestions for future research will be discussed in the following chapter.

Chapter Five: Conclusion and Implications

Summary of Findings

This thesis investigated the relationship between students' perceptions of their relationship with their parents (perceived level of support and control in the parent-child relationship) and their alcohol consumption behaviors (amount and frequency of alcohol use). The first hypothesis speculated that a relationship existed. Pearson r correlation analyses were used to determine the relationships, and there were no significant findings. Therefore, the hypothesis was rejected. Hypothesis Two claimed that there was a significant relationship between the frequency at which students consume alcohol and the four demographic variables (gender, race, age, and time having lived away from home) as well as students' perceptions of their family relationship environment (support and control). Hypothesis Three claimed that there would be a relationship between the amount of alcohol that students consumed during a single drinking episode, the four demographic variables, and their perception of support and control within the parent-child relationship. Multiple regression analyses were utilized to examine the relationships addressed in Hypotheses Two and Three. The hypotheses were not rejected because there were significant findings related to the demographic variables, though there was not a significant relationship between consumption behaviors and their perception of parental support and control.

Based on the findings in the previous chapter and the literature discussed in Chapter Two, this chapter will present general conclusions and a discussion of the results. It will also recognize the limitations of this investigation and provide suggestions for current practice in dealing with college student alcohol consumption issues. In addition,

this chapter will make suggestions for future research to supplement and augment the findings in this study.

Findings of Primary Research Questions

Hypothesis 1: There is a relationship between students' perceptions of the family relationship environment (i.e. support and control) and their alcohol use behaviors (frequency and amount of use)

Previous studies have determined a relationship between the level of support and control within the parent child relationship and children and adolescent problem behaviors. As previously mentioned in Chapter Two, children who perceive high levels of support and mild to moderate levels of control are least likely to exhibit problem behaviors (Baumrind, 1991; Cauglhlin, 2003; Fitzpatrick & Ritchie, 1994; Ritchie, 1991; Zhang et al., 1998). Such problem behaviors include alcohol consumption. For example, Barnes and Farrell (1992) and Barnes, Farrell, and Cairns (1986) reported that the children and adolescents who receive high levels of support from their parents drink less than those who receive high levels of control.

Though research investigates the relationship between parental support and control and children's' problem behaviors, specifically alcohol consumption habits, only a small amount addresses college students. Rather, most of the research studies focus on children and adolescents.

Therefore, this study specifically focuses on the connection between the parent-child relationship and college students' drinking habits. Analysis of the collected data did not determine a significant relationship between the two. Thus, Hypothesis One was rejected.

However, this study did imply on average, students are drinking large amounts, and confirms previous studies that report a number of students engaging in binge drinking behavior fairly frequently. As illustrated in Chapter Four's report of means, students are drinking about five alcoholic beverages at least once a week. Frequency analyses determined that around 47.2 % of students report having participated in binge drinking during a single week in the fall semester. Yet, when looking at the standard deviations of frequency and amount (*SD* Frequency = 1.35, *SD* Amount = 4.01), it does not suggest a consensus of behavior. Still, close to half of the students surveyed reported having binge drank at least once in a single week.

These findings are consistent with the Wechsler et al. (2000) study, which predicates that 44 % of college students engaged in binge drinking behavior in the two weeks prior to the study. This implies that close to half of Maryland students living in the residence halls drink according to the binge drinking definition, men consuming five or more drinks in a single sitting and women consuming four or more drinks in a single sitting. Interestingly, close to 25 % of participants in this study abstain from alcohol as compared to the 19 % in the Wechsler et al. (2000) study. If close to half of the participants reported binge drinking behaviors and about 25 % reported abstaining from alcohol, only about 25 % have moderate drinking habits. Therefore, the data from this study imply that majority of the students who report consuming alcohol do so in large amounts, or binge drink. In fact, more students binge drink than drink moderately. Since majority of the students who drink consume heavy amounts of alcohol, consumption behaviors still appear as a consistent and overwhelming issue. The data from this study

confirm past investigations that report similar findings (Johnston et al., 2000; Presley et al., 1996; Centers for Disease Control and Prevention, 1997; Wechsler et al., 2002)

Though parental influence did not relate to the drinking habits of the particular university students in this study, literature suggests that it may have related in years previous to college. As a review of previous literature indicates that parents have influence on their children's and adolescents' drinking habits, and college students seem to develop problematic and concerning consumption behaviors, the data from this study suggest that the relationship between children and their parents grows weaker or less influential when children enter college. Thus, no significantly correlated relationship between the family relationship environment and student drinking habits might indicate a shift in parental influence when students enter college. A longitudinal study that assesses student drinking habits in college would be beneficial for confirming such implications.

This may also be because the influence of the peer group grows stronger and more influential than parental influence when student enter college. Therefore it causes students to engage in problematic drinking behavior at an increased level than they did when they were living with their parents. This is congruent with Eccless et al. (1993) and Galambos and Ehrenberg (1997) who reported that maturing adolescents grow independent from their parents as an attempt to develop autonomy from the parent-child relationship. As they do so, they establish the behaviors of their peers to norm themselves with their social groups.

In the fall of 1993, Alexander Astin reported his findings from the Four Critical Years Revisited study. Those findings confirmed the importance of the peer group in influencing student behaviors. From the more than 200 four-year colleges and

universities who participated in the study, Astin concluded that every aspect of student development has some relation to peer group characteristics. Often, several characteristics from the peer environment effect students. For instance, students tend to adopt the values, behaviors, plans, attitudes and self-concepts of their peers. In fact, the peer environment is often more influential on student development than the demographic characteristics of students such as race, gender, and religious orientation. As these findings suggest that the peer environment greatly influences students, it further confirms the possibility of the peer environment's strong relationship to student alcohol consumption behaviors as students move away from their parents and into the collegiate atmosphere.

As explained in Chapter One, Lewin (1936) proposed a model for explaining the importance of the environment in influencing behavior. It gives further meaning to the influence of the environment, in this case away from parents and close to peers, on drinking behavior. He claimed that $B = (f) E \chi P$ where B is behavior, E is the environment, and P is the person. The person components including race, religion, background, and personality -change less significantly than the environment does. Therefore, students no longer - live in an environment that is as heavily influenced by the support and control of their parents. Rather, their behaviors may be peer and institutionally influenced. Therefore, moving from an environment in which their parents might have condemned drinking to one in which alcohol consumption is the cultural norm, students are more likely to behave in congruence with the current environment than the one in which they used to live. This idea helps to explain why previous research suggested a relationship between the parent-child relationship and their alcohol

consumption behaviors and this study found no significant relationship (Barnes & Farrell, 1992, Barnes, Farrell, & Cairnes, 1986). While their personal characteristics remain relatively the same as they were before college, the environment is different. Thus, as students leave the environment of their parents and move into one more highly controlled by their peers, their parents have less influence on their behaviors. The notion that parents are less apparent in the culture might explain the increasing potential for students to consume alcohol. Studies investigating the influence of the peer environment on student behavior would be beneficial in supporting such implications.

Astin's (1970) I – E – O model suggests similar reasoning for this investigation's findings. Astin's model illustrates the connection between the individual including race, religion, ethnicity, gender, and other personality and identity traits, the environment, and outcomes. As mentioned previously, individual characteristics do not change as frequently and easily when adolescents enter college. The environment does, however. Therefore, according to the Astin (1993) model, an environmental change influences a change in outcomes. Such a model suggests reasoning for the difference in the relationship between children and their parents before and after they enter college and how it influences their drinking behavior. When comparing the findings of this study to those in the past that focused on children and adolescents, there is reason to believe that the relationship between parents and their students in college is not as influential as it was before students entered higher education. However, when looking at the results of the investigation with this model as a base of reasoning, it is hopeful that the institution can change the outcome, specifically drinking habits of students, through manipulation of the environment.

Hypothesis 2: There is a relationship between gender, race, age, amount of time having lived away from home, students' perceptions of the family relationship environment (i.e. support and control), and the frequency with which they consume alcohol.

Hypothesis 3: There is a relationship between gender, race, age, amount of time having lived away from home, students' perceptions of the family relationship environment (i.e. support and control), and the amount of alcohol they consume in a single drinking episode.

While there was no significant relationship determined between perceptions of the family relationship environment and drinking habits, the multiple regression analyses did determine that the independent variable Block I (gender, race, age, and time having lived away from home) was significant when the dependent variable was both frequency and amount. As the statistical analysis reported significance, both Hypotheses Two and Three were supported.

When each specific variable was analyzed to determine if it contributed to the significance of Block I, gender and race appeared to have a significant relationship to the amount of alcohol students consume in a single sitting. In fact, the data show that, on average, men consume more alcohol during a single sitting than do women (F = .000, ß = .339). Such results support the previous research findings that men have significantly higher rates of alcohol consumption than women (Johnston et al., 2000; Presley et al., 1996; Wechsler et al., 2000)

Capraro (2000) discussed possible reasons for why men drink more than women. He suggested that men drink because it is considered as a sign of masculinity. Drinking

mixes danger with adventure, culturally established definitions of manhood. It also gives men feelings of vigor and control, both of which impact others and confirm the role of men as the powerful. Yet, power and machismo are not the only reason why men might drink more than women. In fact, there is a paradox.

Men might also tend to drink more than women because drinking is a means for covering and hiding feelings of shame, fear, inadequacy, social anxiety, and insecurity. As the idea of manhood implies power and control, these feelings contradict the nature of masculinity. Therefore, men may drink to cover up the negative emotions that stifle their manhood. Conversely, it is more culturally acceptable for women to have such emotions. Therefore, they have less need to drown those emotions through the use of alcohol and are not as pressured to establish powerful and controlling roles (Capraro, 2000). While this investigation can only speculate the reasons for why men drink more than women, the data in this investigation support those notions that men are more likely to exhibit heavy drinking habits than women.

Not only did the multiple regression analysis with amount as the dependent variable suggest a significant relationship between gender and the amount of alcohol that students consume, but there is also a significant difference in the amount of alcohol consumed by members of different racial groups. In fact, the multiple regression analysis determined a significant difference in the drinking habits of African-American students and non-African American students. As a large number of the participants in the study were White (N = 209), such data imply that white students drink more than their peers of color, specifically African American individuals. As the percentages of other students of color (Asian American, Indian American, Latino) in this study were low, it is difficult to

determine their dinking habits as compared to their peers. However, these results are consistent with previous research that claims that White students have significantly heavier drinking habits than their peers (Presley et al., 1996; Wechsler et al., 2001). .

It is difficult to determine why White students drink more than students of color. In this case, it is important to note the large difference in the number of White students who participated in this investigation as compared to students of color, specifically African American students for the purpose of this study. Such a large difference might have ultimately affected the findings. It may be that the White students in this sample drank more than their peers is because they have a larger presence in the Greek System as compared to students of color. In fact, ten to 12 % of the University of Maryland population is involved in the Greek Community.. Therefore, there is reason to believe that the White students, who make up a large percentage of the sample, might be more likely to be involved in or to interact with the Greek community than their peers of color. As previous research indicates that members of Greek Letter Organizations tend to drink more heavily than those who do not affiliate with fraternities and sororities, it might explain why White students are more likely to have heavier drinking habits than their peers (Wechsler et al, 2001; Weitzman, Nelson, & Wechsler, 2003). In addition, some suggest that White students drink more because they are, on average, less religious than their peers of color. As research explains that those who affiliate religiously tend to have lower consumption habits than their non-religious peers, and White students tend to be less religious than students of color, it make sense as to why White students drink more than other racial groups **(**Dowdall & Wechsler, 2002; O'Malley & Johnston, 2002; Presley et al., 2002; Wechsler et al., 2001; Weitzman et al., 2003). While this

investigation did not determine the religiosity of the student population, it is a possible speculation for why the White students consume more than their peers. As it impossible to determine from this study why White students drink more than their peers, the numbers from this study support previous research that claims their higher rates of alcohol consumption.

While Block I of the multiple regression analysis had a significant relationship with the amount of alcohol students consume in a single sitting, only gender and race appeared to show significant relationships when the variables were assessed independently. Though previous research suggested that age and time having lived away from home has significant influence on consumption behaviors, this did not seem to be the case in this investigation (Presley et al., 1996; Wechsler et al., 2001). Such might be findings because of the small representation of individuals over the age of 21 (N = 35) as compared to the population of individuals under the age of 21 (N = 185). The large difference in the number of participants might bias the results, not giving accurate information about those over the age of 21 as compared to those under age.

Just as their was no significance related to age, there was also no significant differences in the amount of alcohol consumed related to time having lived away from home, despite previous research suggesting possible significance (Kenny, 1990). Such data might indicate that the length of time that students live away from home is not influential. Rather, it is the initial move away from the parental environment that affects their alcohol behaviors. Therefore, the influence of the parental relationship is important when students live with their parents and not influential when they do not. It does not change over an extended period of time that students are away from the parental

environment, though it may shift as students mature into adulthood and leave the collegiate environment

The data also support Lewin's (1936) model that a combination of personal factors and the environment ultimately effect behavior. It implies that influence of parents is not based on the length of time students are away from home, but rather the change in environment. As previously discussed, the data from this investigation might suggest that the peer environment becomes more influential on student behavior than the parental environment when students move from a parent centered situation to a peer centered one. Beyond the independent variables in Block I (gender, race, age, time having lived away from home), there was no additional relationship between perceptions of family support and control and the amount that students consume in a single sitting. Such findings further confirmed the rejection of Hypothesis One in which a Pearson *r* correlation analysis determined no significant relationship. As mentioned previously, when these findings are compared to the findings in previous research that claim a strong relationship between parental control and support on child and adolescent alcohol consumption behaviors, it seems that the parental influence grows weaker and less influential when children enter college.

While race and gender were found to be significantly related to the amount of alcohol students consume, they did not appear significant when the independent variables in Block I were analyzed individually in the multiple regression for which frequency was the dependent variable. In fact, when the variables were analyzed independently, no demographic variables appeared as significant, though the entire Block I was significant ($F = .001$). It is important to note that despite the correlation ($r = .72$) between age and

time having lived away from home, their inclusion into the multiple regression analysis did not cause multicollinearity issues, as discussed previously in Chapter Three.

It is also interesting to consider why findings appear for amount but not for frequency, even though the two are correlated. When looking through the perspective of the Lewin (1936) model, $B=f(PXE)$, it might mean that the environment influences a heavy amount of drinking but does not necessarily have the same influence on the frequency of alcohol consumption. The differences between the drinking habits of men versus women and those of different racial groups might also suggest environmental differences that influence alcohol consumption behaviors. For instance, the significant amount that men drink versus women suggests that men function in an environment that promotes heavy drinking more so than women. In the case of frequency, however, the lack of significant relationship implies that the environment is not influential on the frequency at which either men or women drink. Likewise, it seems that the environment including social norms, religious ties, and recognized values of African American students do not promote high levels of drinking as compared to White students. The Monitoring the Future Study (Johnston et al., 2000) and the College Alcohol Study (Wechsler et al., 2001) confirm such findings. Dowdall and Wechsler (2002) and O'Malley and Johnston (2002) offer similar suggestions as to possible differences influencing White student and African American student alcohol consumption rates. Again, frequency is not significant for either, suggesting that the environment does not actively influence how frequently students drink.

The fact that there was a limited population of students under the age of 21 might give meaning to why the relationship between the independent variables and frequency

was not significant but the independent variables (race and gender) and amount was. As a large majority of participants in this study (N = 19) were under the legal age of consuming alcohol, alcohol is not readily available to them. They cannot purchase it on their own. Rather, they are dependent on others to provide it for them. Therefore, the frequency at which they drink is less influenced by their environment, whether it is parent or peer-centered, and their demographic characteristics, whether they are White, male, or other, and more so by the availability of alcohol. Therefore, White students may chose to drink a greater amount during a single sitting than their peers of color and men may chose to drink a great amount than women. Therefore, a possible explanation of why amount produced significant relationships when each variable was analyzed independently and frequency did not is because availability of alcohol is more of a limiting factor for students' frequency and it not as much one for the amount of alcohol that they consume in a single sitting.

Overall, the results of the multiple regression analysis for Hypotheses Two and Three further confirm that demographic variables are influential on the drinking habits of college students. They also illustrate a lack of significance between the parent-child relationship and college student drinking behaviors. Since previous literature suggests a significant relationship between adolescent and children's perceptions of their family relationship environment and their drinking habits, it implies that the parent-child relationship might grow less influential when students enter college. Yet, it seems that demographic influences on drinking remain constant. It is possible to imply such conclusions because this investigation found similar demographic differences in drinking habits as the literature reports for children and adolescents prior to entering college

Similar demographic differences to what the literature reports and different environmental influences these findings further confirm the role of the environment (either parent or peer-centered) in influencing drinking habits because that is the changing variable between this investigation and previous studies. Moving from a parent-centered environment to a peer-centered one could explain why student alcohol consumption behaviors are less affected by the parent-child relationship when students go to college. Thus, suggests possible reasoning for the higher rates of drinking among college students.

Ancillary Analyses

In order to further knowledge on the relationship between the family relationship environment and student drinking behavior, ancillary analyses were performed. Those analyses determined a significant relationship between students' perception of support within the parent-child relationship and the amount of times students reported speaking with their parents each month. Such a finding might indicate that communicating with parents is indicative of the level of support present in the relationship. It might also mean that students who feel supported are more comfortable speaking to their parents on a regular basis.

Conversely, there was no correlation between the amount of times students communicate with their parents and their perceptions of control. Therefore, the number of times students communicate with parents cannot be seen as an indication of control within the parent-child relationship.

Another Pearson *r* correlation ancillary analysis reported a significant relationship between the amount and frequency with which students drink ($r = .47$). That

implies that students who consume frequently are more likely to drink a large amount per single sitting., Conversely, students who do not drink a large amount are less likely to drink frequently. As previously mentioned, however, this may not be the case for students who are under the age of 21 whose frequency of consumption might be controlled by the availability of the alcohol. The moderate, rather than strong, correlation between amount and frequency takes that into consideration.

Such conclusions illustrate components of Wechsler et al.'s (2001) discussion on binge drinking. As previously explained, the study defined binge drinking as when men consume five or more drinks in a single sitting and when women consume four or more drinks in a single setting. Further defining the term, the investigators categorized those who participated in binge drinking three or more times within a two-week span as frequent binge drinkers. The results of this study, a high correlation between amount and frequency of alcohol use, imply that those who binge drink are more likely to binge drink frequently than infrequently.

The data from this study also suggest an inverse relationship between perception of support and control. Despite research that indicates the possibility of varied levels of support and control in the parent-child relationship, such findings indicate a large gap between support and control. It suggests that college students either feel highly supported or highly controlled, but do not often sense both as part of the relationship. The inverse correlation ($r = -.40$) of the two independent variables also confirms the validity of the measurements and the notion that control is the opposite of support.

While the relationship between the number of times students report speaking to parents each month and the frequency and amount with which they drink is not

significant, there is a minimal relationship exists. However, the relationship is so small that it accounts for only very little of the variance. These small findings suggest that students who speak with their parents often might be less likely to drink. Conversely, students who speak with their parents infrequently are more likely to drink. This as the case, it is possible to draw connections between the number of times parents and children speak, the amount of support students perceive, and their positive influence on drinking behaviors. As this implication is only speculation, further research is needed to confirm those results.

Last, an ancillary analysis suggested that the longer students live away from their parents, the less they communicate with them. While the relationship is not significant, it is slightly inverse. From these results and from the implication discussed previously that the number of times students communicate with their parents each month is an indicator of the level of support within the parent-child relationship, it is possible to speculate that the support within the relationship between parents and their children weakens the longer students are away from the parentally controlled environment. However, these results are simply implied. Further research is necessary to support conclusions.

Limitations and Generalizability of the Study

While this research gives good insight into the relationship between student drinking and parental influence on college age students, it is essential to recognize the limitations of this study. Further research in this area can make up for these limitations.

One of the potentially limiting factors of the study is the small sample size. A power analysis with a 95 % confidence level and a 5 % confidence interval determined that it was necessary to collect data from 360 individuals to be generalizable over the

entire population of students living in the residence halls at the University of Maryland. Predicted from past assessments, this investigation assumed that it would achieve a return rate of at least 90 %. The actual return rate for this investigation, however, was 75 %, somewhat lower than previous studies. It is also important to note that there were no Latino students in the sample, though there is a small Latino population at the University of Maryland. As only 302 usable responses were analyzed from the sample of 400 students and it may have not adequately represented the population, some caution should be used in generalizing these findings.

Other potential limitations relate directly to the instrument. The items that were used to measure support and control (Revised Family Communications Patterns Instrument, Ritchie, 1988, 1989) had no reports of validity and reliability. Although the investigator for this study tested for reliability, it would have been more accurate had the original instrument reported its validity. While the investigator for this study assumed the validity of the questions based on the notion that they were adapted from a highly regarded instrument, it is also a limitation that validity was not tested.

In addition, students were asked to report their drinking habits. As alcohol and drinking are sensitive and controversial topics of discussion, students might have hesitated to answer honestly. In addition, students were not only receiving the survey from their resident assistant, the one who was responsible for promoting responsible behavior, but they were also returning the completed instrument to them, as well. Despite that they returned the instrument in a sealed envelope, students might have hesitated to answer honestly. Since Resident Assistants administered the instrument and the Department of Resident Life was collecting the data, students may have answered the

questions according to what they felt was most appropriate rather than their actual behavior. If this is the case, it potentially biased the results.

Though there are limitations to this investigation, it paves the way for further research on the connection between the parent-child relationship and college-student drinking habits. As there is little empirical research on the relationship once children enter higher education, further research in this area would be beneficial in gaining a better understanding of how parents influence their children's drinking habits in college and how to use that knowledge to form better practices.

Implications for Practice

Though the findings of this study do not suggest a significant relationship between students' perceptions of their family relationship environment and their alcohol consumption behaviors, they do help to identify potential practices that might aid in the already established practices for decreasing the rate of college student drinking.

Currently, a trend in dealing with students who have problematic drinking behavior is parental notification. As previously discussed, institutions like the University of Delaware have begun to call the parents of students who violate an alcohol consumption policy. Such a practice is a reactive means for combating the problem behavior and is controversial. While some agree that this method of reducing drinking on college campuses is effective, others believe it is detrimental to student health and safety. For instance, reports suggest that students are hesitant to get medical attention for their friends who have consumed poisonous amounts of alcohol out of fear that the institution will call their parents (Palmer, Lohman, Gehring, Carlson & Garrett, 2001).

Not only are campuses adopting reactive measures to combat student-drinking problems, but they have also implemented proactive approaches. These practices include norming campaigns during which institutions attempt to give students a realistic sense of the drinking habits of their peers and alcohol education programming that encourage responsible drinking behavior. DeJong and Langford (2002), however, found fault with norming campaigns, and Flynn and Brown (1991) claimed that the alcohol awareness and mandatory education programs have a minimal effect on combating the problem. Therefore, research suggests that successful prevention efforts should combine many approaches.

The University of Arizona has made such attempts to combine many practices in an effort to decrease the rate of alcohol use on campus (Johannessen, Collins, Mills-Novoa, & Glider, 1999). At that institution, the Campus Health Staff pooled attributes of social norming campaigns that are focused on making students aware of the actual drinking habits of their peers without completely condemning the practice with environmental approaches. An environmental management approach is one in which the institution studies the social, political, and economic context of drinking. Then, they identify those on campus and in the community who have a stake in preventing alcohol consumption, and work to gain their support in doing so. It is a proactive means of creating an environment that prevents high rates of alcohol use and encourages responsible behavior. For the University of Arizona, the combination of social norming and environmental approaches has been successful (Johannessen, Collins, Mills-Novoa, & Glider, 1999).

The findings of this study confirm the need for environmental management as a way of controlling problematic drinking behavior. This study explains the influence of parents on children and adolescents, but suggests that the relationship is not as strong once children enter college. Therefore, it might be beneficial for institutions to help foster that parent-student relationship as students transition into college and throughout their college career. If institutions can help to maintain the influential relationship that is present before students enter college, it might decrease the alcohol consumption behaviors of students despite living away from their parents. Therefore, the lack of significant findings in this study suggests the importance of encouragement of parental involvement as another approach to blend with the already established practices that many institutions such as Arizona have used to combat the drinking issue. Such a practice includes the proactive education and involvement of parents. It encourages admission, orientation, and parent affairs offices to educate the parents of new students about the benefits of a supportive relationship when students first enroll in the institution. In addition, it suggests that institutions should provide continuing support and motivation to parents to maintain strong, supportive, and open relationships with their children throughout their collegiate career. Strengthening, promoting, and advocating on behalf of a solid parent-child relationship is another proactive approach that campus professionals can potentially combine with the already established practices to prevent the behavior before it happens.

As there is an apparent significant relationship between demographic variables, specifically gender and race, and college student consumption behaviors, it might also be helpful to create an environment that promotes responsible drinking, especially to men

and White students. An environment that makes men comfortable seeking support and assistance, for example, socially norming the idea of counseling and therapy, might help men to get assistance or discover alternatives to alcohol such as counseling when they need guidance rather than drowning their feelings in alcohol. In addition, an environment that diminishes the idea of power, control, adventure, and challenge as masculine might also give men students reasons to control their consumption behaviors. It might also be helpful to assess women in social settings to determine what inhibits them from drinking heavily, and work to foster such an environment in social settings for men.

Such is also the case for individuals of different races. By investigating the differences between White students and African American students in social settings, it might be possible to identify the characteristics that influence either heavy or light drinking behavior. For example, while there is no significant difference in the frequency with which White students and African American students drink, there are apparent differences in the amount that they consume in a single sitting. Therefore, it is possible to investigate the social activities of African American individuals to determine the helpful and influential components and work to implement those characteristics into social settings for White students.

More than simply addressing the characteristics of the environment that promote either heavy or light drinking habits, fostering diverse environments might ultimately influence drinking habits. A multicultural mix of students, African American, White, Latino and those representing other races, women, and men, might influence those who tend to drink heavily to decrease their consumption rates. A recent Wechsler study confirms such implications. The study determined that on campuses where 21 % or more

were racial minorities, the drinking rate was around 44 %. On campuses with less minority presence, the drinking rate rose to 53 %. Wechsler and Kuo (2003) of the recent investigation concluded that White men and underage students drank considerably less when students of minority populations were present.

Therefore, the data found in this investigation imply that managing the environment and increasing the proactive role of parents in the lives of their college-aged children has the potential to enhance already established practices that are focused on decreasing the outstanding rates of alcohol consumption on college campuses. With the increased roles that parents have taken in the collegiate lives of their children, it seems reasonable and promising to proactively involve parents in the process of combating alcohol issues on college campuses. While the findings of this investigation do not directly support the notion that parents effect their students' behavior, a combination of previous studies suggest that the role is significant and influential for adolescents. In addition, as the results of this study claim that there is not a significant relationship, institutions have a purpose for enhancing the relationship to potentially establish significance while still maintaining student independence, development, and individuality. Finding the appropriate amount of parental support while maintaining student autonomy is a difficulty task. However, there is reason to believe that if parents work to maintain a relationship with their college students, it might foster a stronger correlation between the parent-child relationship, thus having the potential to positively influence drinking behavior. As the implications of this study support proactive parental involvement in the collegiate lives of their children, further research might help to

confirm the implications and offer even more support to proactively involve parents in the battle against the alcohol consumption habits of college students.

Directions for Future Research

As there were limitations to this study, further investigation would be beneficial. It would be useful to replicate this investigation at other institutions across the country, with students who live both on and off campus, with a more diverse population, and with a greater sample size. It would be useful to consider other variables that previous researchers identified as significant, such as biology and history of family alcoholism, involvement in co-curricular activities, and parent modeling of alcohol consumption behaviors. If possible, it would be useful to not only measure students' perceptions of their relationship with their parents, but also measure parents' perception of that same relationship. Such an understanding would give more meaning to the parent-child relationship. It might also be helpful to longitudinally study students to determine the difference in their drinking habits and their relationship with their parents over time, helping to determine congruence among them. An effective longitudinal study might access the drinking habits of students during high school and continue to study their behaviors throughout their college experiences. Such a study would help to identify the effect of the environmental shift on alcohol consumption behaviors as well as the parent-student relationship. By using these improved upon methods and measurements to investigate the relationship between students' perception of their relationship with their parents and their alcohol consumption habits, future researchers will understand the connection and develop implications and future practices according to the findings.

In addition to further studying the relationship between students and their parents, it would also be helpful to study students' perceptions of their peer relationships. As this study suggests that the role of peer influence is more significant than parent influence on student drinking habits in college, an investigation of peer influence would further understanding of why students engage in high rates of alcohol consumption.

In addition to adapting the methodology, it would also be beneficial to analyze the data in ways other than correlation and regression, the statistical methods used for this investigation. A path analysis looking at the connection of the parent-child relationship to the amount of support or control to students' self concept to drinking behaviors would also give insight on the influences of student drinking and how to better combat the problem. In addition, conducting an ANOVA would identify if differences exist among racial groups or by gender in how students perceive their parent-child relationship, and its connection to alcohol consumption.

While this study did not find a significant relationship between students' perceptions of their relationship with their parents and their alcohol consumption habits, further investigation of this topic may conclude differently. Therefore, it would be beneficial for practitioners to continue research on the topic taking into consideration the limitations of this study as well as these suggestions for future research.

Summary

Both the significant findings and insignificant findings of this investigation help practitioners to better understand the relationship between college students and their parents and gives insight into practices involving parents and environmental management strategies to combat the problem of alcohol use on campus. These results give reason to

make an effort to foster the parent-child relationship when students first enter college and throughout their college career through programming, encouragement, and support. Results that suggest that demographic variables play a large role in the alcohol habits of students imply that environmental management and control of the social settings of those specific groups who tend to drink more heavily would also be an effective way to reduce the high rates of alcohol consumption. By working to enhance the relationship and better manage the environment, it might be possible to ultimately affect the alcohol consumption rates of college students.

As there were limitations to this study such as the size of the sample and the small scope of the variables under investigation, further research will help to better understand the issue and create more implications for practice. Such further research is necessary for institutions to truly understand the importance of parent involvement in their college-aged children's lives and how that relationship can ultimately influence student-drinking habits.

Thank you for taking the time to complete the following survey. Your individual responses will remain confidential, so you can feel comfortable answering honestly.

In advance, thank you for your participation.

PLEASE READ these instructions carefully: To make our computer data entry more efficient, please record your responses on the enclosed **NCS Answer Sheet.**

- Use only a soft-lead **#2 pencil** (enclosed for your convenience). Blacken each circle completely and be sure to erase any stray marks or responses you have changed.
- Please take care not to fold or bend your answer sheet.
- **Choose only one response** per question. Make sure the number on the answer sheet corresponds to the question on your survey.
- **Return your (1) answer sheet, (2) survey, and (3) informed consent form** to your RA in the envelope provided. Please remember to seal the envelope.

SECTION INSTRUCTIONS: Blacken the circle on your NCS answer sheet that corresponds to your response on item # 1.

BACKGROUND INFORMATION

1. Not including summer and winter break, which *BEST DESCRIBES* how long you have lived away from your parents?

   (1) 1 academic semester
   (2) 2 academic semesters
   (3) 3 academic semesters
   (4) 4 academic semesters
   (5) More than 4 academic semesters

SECTION INSTRUCTIONS: Please respond to items 2 - 26 by using the following scale.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
(1)	(2)	(3)	(4)	(5)

FAMILY COMMUNICATION ENVIRONMENT

2. In our family, we often talk about topics like politics and religion where some persons disagree with others.
3. My parents often say something like "every member of the family should have some say in decisions."
4. When I am at home, I am expected to obey my parents' rules.

please continue on the next page

Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)

5. My parents often ask my opinion when the family is talking about something
6. If my parents don't approve of it, they don't want to know about it.
7. My parents sometimes become irritated with my views if they are different from theirs.

8. My parents encourage me to challenge their ideas and beliefs.
9. My parents feel that it is important to be the boss.
10. My parents often say something like "You should always look at both sides of an issue."

11. I usually tell my parents what I am thinking about things.
12. I can tell my parents almost anything.
13. In our home, my parents usually have the last word.

14. In our family, we often talk about our feelings and emotions.
15. My parents often say something like "you should give in on arguments rather than risk making people mad."
16. My parents and I often have long, relaxed conversations about nothing in particular.

17. I really enjoy talking with my parents, even when we disagree.
18. My parents like to hear my opinions, even when they don't agree with me.
19. My parents encourage me to express my feelings.

20. My parents often say something like "a child should not argue with adults."
21. My parents tend to be very open about their emotions.
22. My parents often say something like "my ideas are right and you should not question them."

23. We often talk as a family about things we have done during the day.
24. In our family, we often talk about our plans and hopes for the future.
25. My parents often say something like "you'll know better when you grow up."
26. My parents often say something like "there are some things that just shouldn't be talked about."

SECTION INSTRUCTIONS: Please respond to each statement below (items 27- 34) by using the following scale.

Very Unlikely (1)	Unlikely (2)	Neutral (3)	Likely (4)	Very Likely (5)

How likely are you to:

27. Respect a person who abstains from alcohol
28. Talk about how to use alcohol responsibility with your roommate or close friend

please continue on the next page

Very Unlikely (1)	Unlikely (2)	Neutral (3)	Likely (4)	Very Likely (5)

29. Express displeasure to someone who has had too much to drink
30. Stay up and take care of a friend who has had too much to drink
31. Get involved in trying to help a friend whom you believe has a drinking problem

32. Seek help if one of your friends has had too much to drink
33. Confidently identify the symptoms of alcohol poisoning
34. Attend a presentation about the effects of alcohol on my body

SECTION INSTRUCTIONS: Blacken the circle on your **NCS** answer sheet that corresponds to your response on item # 35

35. Since starting college, have you ever consumed alcohol?
    (1) Yes
    (2) No *(if you answer no, please skip to item # 43)*

SECTION INSTRUCTIONS: Please respond to each statement below (items 36 - 40) by using the following scale.

Very Unlikely (1)	Unlikely (2)	Neutral (3)	Likely (4)	Very Likely (5)

How likely are you to:

36. Set limits on how many drinks you are going to have on a night out or at a party
37. Gulp drinks in order to get a stronger/quicker effect
38. Put a specific limit on the number of drinks you will consume in a given evening

39. Drink to get drunk
40. Drink alcohol prior to going out to party with friends ("pre-gaming"/"pre-partying")

SECTION INSTRUCTIONS: Blacken the circle on your **NCS** answer sheet that corresponds to your response on items 41 & 42.

ALCOHOL USAGE

41. How has your alcohol use CHANGED within the last **12 months**?
    (1) Decreased
    (2) Remained about the same
    (3) Increased

42. During an **average** month last semester, how many DAYS did you consume alcohol?
    (1) None
    (2) 1-3 days
    (3) 4-6 days
    (4) 6-9 days
    (5) 10 or more days

please continue on the next page

SECTION INSTRUCTIONS: Please answer questions 43 – 47 directly on this form.

43. In a **typical one week period** during last semester, on how many DAYS did you consume alcohol? Circle the best response.

0 1 2 3 4 5 6 7

44. On the days that you drank, what was the average number of drinks that you consumed per day?
** 1 drink is a bottle of beer, a glass of wine, a wine cooler, a shot glass of liquor, or a mixed drink.*

_____

45. Last semester, during a **typical two week** period, how many times did you consume five or more drinks in a single sitting. Please mark the appropriate box.

☐ None ☐ 1 times ☐ 2 times ☐ 3 times ☐ 4 times

☐ 5 times ☐ 6 times ☐ 7 times ☐ 8 times ☐ 9 or more times

46. The last time you partied/socialized, how many alcoholic drinks did you consume? State your best estimate.

47. On average, how many times a month do you have contact* with your parents?
**contact is communication via mail, phone conversation, instant message, in person etc.*

Thank you for your participation!

For more information regarding alcohol use and abuse, please contact:

University Health Center Substance Abuse Program 301-314-8126	CESAR (Center for Substance Abuse Research) 301-403-8329
University Counseling Center 301-314-7651	Alcohol Hotline 1-800- ALCOHOL
Al-Anon 202-822-1334	Mental Health Services, University Health Center 301-314-8106

4

Appendix B

UNIVERSITY OF MARYLAND

2100 Lee Building
College Park, Maryland
301.405.4212 FAX 301.3

INSTITUTIONAL REVIEW BOARD
Reference: IRB HSR Identification Number 04-0008

January 1, 2004

MEMORANDUM

Notice of Results of Final Review by IRB on HSR Application

TO: Dr. Susan Komives
Ms. Rebecca Zonica
Department of Counseling & Personnel Services

FROM: Dr. Phylis Moser-Veillon, Co-Chairperson
Dr. Marc Rogers, Co-Chairperson
Institutional Review Board

PROJECT ENTITLED:
"The Relationship Between Family Communication Environment and Student Drinking Behaviors"

The Institutional Review Board (IRB) concurs with the departmental Human Subjects Review Committee's (HSRC's) preliminary review of the application concerning the above referenced project. The IRB has approved the application and the research involving human subjects described therein. We ask that any future communications with our office regarding this research reference the IRB HSR identification number indicated above.

We also ask that you not make any changes to the approved protocol without firs notifying and obtaining the approval of the IRB. Also, please report any deviations from the approved protocol to the Chairperson of your departmental HSRC. If you have any questions or concerns, please do not hesitate to contact either of us at irb@deans.umd.edu. Thank you.

ADDITIONAL INFORMATION REGARDING IRB/HSRC APPROVALS

EXPIRATION OF IRB APPROVAL—Approval of non-exempt projects expires one year after the official date of IRB approval; approval of exempt projects expires three years after that date. If y expect to be collecting or analyzing data after the expiration of IRB approval, please contact the HSRC Chairperson in your department about submitting a renewal application. **[PLEASE NOTE If you are not collecting data from human subjects and any on-going data analysis does no increase the risk to subjects, a renewal application would not be necessary.]**

STUDENT RESEARCHERS—Unless otherwise requested, the IRB will send copies of approval paperwork to the supervising faculty researcher [or advisor] of a project. We ask that such persons pass on that paperwork or a copy to any student researchers working on that project. That paperwork may be needed by students in order to apply for graduation. **PLEASE BE ADVISED THAT THE IRB MAY NOT BE ABLE TO PROVIDE COPIES OF THAT PAPERWORK, particularly if several years have passed since the date of the original approval.**

Enclosures (where appropriate), will include stamped copy of informed consent forms included in applicatio and any copies of the application not needed by the IRB; copies of this memorandum and any consent forn to be sent to the Chairperson of the Human Subjects Review Committee

Appendix C

INFORMED CONSENT FORM

The Relationship Between Students' Perceptions of Their Family Communication Environment and Their Alcohol Consumption Behaviors

---

The purpose of this research is to measure the relationship between students' perceptions of their family communication environment and their alcohol consumption behaviors. The procedures include the completion of a survey that your resident assistant gave to you along with this form.

By signing this form, you confirm that you are over 18 year of age and wish to participate in this program of research being conducted by Susan R. Komives in the Department of Counseling and Personnel Services at the University of Maryland, College Park. You understand that all information collected in this study is confidential to the extent permitted by law and that the data that you provide will be grouped with data others provide for reporting and presentation and that my name will not be used. It is clear to you that there are no risks associated with this investigation.

Please refer any questions or comments to:

Dr. Susan R. Komives 3234D Benjamin Building University of Maryland College Park, MD 20742	or	Rebecca L. Zonies 1111 Annapolis Hall University of Maryland College Park, MD 20742

If you have questions about your rights as a research subject or wish to report a research-related injury, please contact:

Institutional Review Board Office
University of Maryland
College Park, MD 20742
irb@deans.umd.edu
301-405-4212

Your signature verifies that you have read and understand the previously mentioned information and wish to participate in the research.

_____
Participants Name (Please Print)

_____ _____
Participants Signature Date

References

Astin, A. (1993). What *matters in college?: Four critical years revisited*. San Francisco: Jossey-Bass.

Baer, J.S. (2002). Student factors: Understanding individual variation in college drinking. *Journal of Studies on Alcohol, 14*, 40-53.

Barnes, G.M. (1984). Adolescent alcohol abuse and other problem behaviors: Their relationship and common parental influences. *Journal of Youth and Adolescence, 13*, 339-347

Barnes, G.M., Farrell, M.P., & Cairnes, A. (1986). Parental socialization factors and adolescent drinking behaviors. *Journal of Marriage and the Family, 48*, 27-36.

Barnes, G.M. & Farrell, M.P., (1992). Parental support and control as predictors of adolescent drinking, delinquency, and related problem behaviors. *Journal of Marriage and the Family, 54*, 763-776.

Barnett, L.A., Far, J.M., Mauss, A.L., Miller, J.A. (1990). Changing perceptions of peer norms as a drinking reduction program for college students. *Journal of College Student Development, 31*, 39-45.

Baumrind, D. (1991). The influence of parenting style on adolescent competence and substance abuse. *Journal of Early Adolescence, 11*, 56-95.

Biglan, A., Duncan, T.E., Ary, D.V., & Smolkowski, K. (1995). Peer and parental influences on adolescent tobacco use. *Journal of Behavioral Medicine, 18*, 315-329.

Booth-Butterfield, M. & Sidelinger, R. (1998). The influence of family communication

on the college-aged children: Openness, attitudes and actions about sex and alcohol. *Communication Quarterly, 46*, 295-308.

Brody, G. H., Flor, D. L., Hollett-Wright, N., & McCoy, J. K. (1998). Children's development of alcohol use norms: Contributions of parent and sibling norms, children's temperaments, and parent-child discussions. *Journal of Family Psychology, 12*, 209-219.

Capraro, R.L. (2000). Why college men drink: Alcohol, adventure, and the paradox of masculinity. *Journal of American College Health, 48*, 307-316.

Caughlin, J.P. (2003). Family communication standards: What counts as excellent family communication and how are such standards associated with family satisfaction. *Human Communication Research, 29*, 5-40.

Centers for Disease Control and Prevention. (1997). Youth risk behavior surveillance: National college health risk behavior survey-united states. *Morbidity and Mortality Weekly Report, 46*, 1-57.

Chickering, A.W. & Reisser, L. (1993). *Education and identity* (2nd ed.). San Francisco: Jossey-Bass.

Deakin, S. & Cohen, E. (1986). Alcohol attitudes and behaviors of freshman and their parents. *Journal of College Student Personnel, 27*,490-495.

DeJong, W. & Langford, L.M. (2002). A typology for campus-based alcohol prevention: Moving toward environmental management strategies. *Journal of Studies on Alcohol, 14*, 140-147.

DeJong, W., Vince-Williams, C., Colthurst, T., Cretella, M., Gilbreath, M. Rosati, M., &

Zweig, K. (1998). *Environmental management: A comprehensive strategy for reducing alcohol and other drug use on college campuses.* Newton, MA: The Higher Education Center for Alcohol and Other Drug Prevention.

Dowdall, G.W. & Wechsler, H., (2002). Studying college alcohol use: Widening the lens, sharpening the focus. *Journal of Studies on Alcohol, 14*, 14-22.

Eccles, J.S., Midgley, C., Wigfield, A., Buchanan, C.M., Reuman, D.F., & MacIver, D. (1998) Development during adolescence: The impact of stage-environment fit on young adolescents' experiences in schools and in families. *American Psychologist, 48*, 90-101.

Ennett, S. T., Bauman, K. E., Foshee, V. A., Pemberton, M., & Hicks, K. A. (2001). Parent-child communication about adolescent tobacco and alcohol use: What do parents say and does it affect youth behavior. *Journal of Marriage and the Family*, *63* (1), 48-62.

Fishbein, M. & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research.* Reading, MA: Addison-Wesley.

Fitzpatrick, C. & Potczniak, M. (1999). *Misperceptions of college drinking norms: An exploratory study of gender and grade level differences*. (Report No. HE032595). Albany, NY: U.S. Department of Education's Annual National Meeting on Alcohol, Other Drug, and Violence Prevention. (ERIC Document Reproduction Service No. ED435372).

Fitzpatrick, M.A. & Ritchie, L.D. (1994). Communication schemata within the family: Multiple perspectives on family interaction. *Human Communication Research, 20*, 275-301.

Fitzpatrick, M.A., Marshall, L.J., Leutwiler, T.J. & Krcmar, M. (1996). The effect of family communication environments on children's social behavior during middle childhood. *Communication Research, 23*, 379-406.

Galambos, N. L., & Ehrenberg, M. F. (1997). The family as health risk and opportunity: A focus on divorce and working families. In J. Schulenberg, J. L. Maggs, & K. Hurrelmann (Eds.), *Health risks and developmental transitions during adolescence* (pp. 139-160). New York: Cambridge University Press

Gfroerer, J.C., Greenblatt, J.C. & Wright, D.A. (1997). Substance use in the U.S. college age population: Differences according to educational status and living arrangement. *American Journal of Public Health, 87*, 62-65.

Hingston, R.W., Heereen, T., Zakocs, R. C., Kopstein, A., & Wechsler, H. (2002). Magnitude of alcohol-related mortality and morbidity among U.S. college students ages 18-24. *Journal of Studies on Alcohol, 63*, 136-144.

Johannessen, K., Collins, C., Mills-Novoa, B., Glider, P. (1999). *A practical guide to alcohol abuse prevention: A campus case study in implementing social norms and environmental management approaches.* Tucson: Campus Health Service, The University of Arizona.

Johnston, L.D., O'Malley, & Bachman, J.G. (2000). *National survey results on drug use from the monitoring the future study*. (NIH Publications No. 00-4803). Bethesda, MD: Department of Health and Human Services).

Jung, J. (1995). Parent-child closeness affects the similarity of drinking levels between parents and their college-age children. *Addictive Behaviors, 20*, 61-67.

Kenny, M.E. (1990). College seniors' perceptions of parental attachments: The value and

stability of family ties. *Journal of College Student Development*, *31*, 39-46.

Korcuska, J.S. & Thombs, D.L. (2003). Gender role conflict and sex specific drinking norms: Relationship to alcohol use in undergraduate women and men. *Journal of College Student Development*, *44*, 204-216.

Kushner, M. & Sher, K.J. (1993). Comorbidity of alcohol and anxiety disorders among college students: Effects of gender and family history of alcoholism. *Addictive Behaviors*, 18, 81-90.

Kuther, T. L. & Timoshin, A. (2003). A comparison of social cognitive and psychosocial predictors of alcohol use by college students. J*ournal of College Student Development*, 44(2), 143-154.

Lamborn, S.D., Mounts, N.S., Steinberg, L., & Dornbusch, S.M. (1991). Patterns of competence and adjustment among adolescents from authoritative, authoritarian, indulgent, and neglectful families. *Child Development*, 62, 1049-1065.

Lewin, K. (1936). *Principles of typological psychology*. New York: McGraw-Hill.

Manning, T.M. (1991). Perceived family environment as a predictor of drug and alcohol usage among offspring. *Journal of Health Education*, *22*, 144-149.

McLeod, J.M. & Chaffee, S.H. (1972). The construction of social reality. In J. Tedeschi (Eds.). *The social influence process* (pp. 50-59). Chicago: Aldine-Atherton.

More on Multicollinearity (n.d). Retrieved May 22, 2004. from http://econ.ucsd.edu/~rramanat/MoreonMC.pdf

National Institutes of Alcohol Abuse and Alcoholism. (2002). *High-risk drinking in college: What we know and what we need to learn.* Washington, DC: U.S. Government Printing Office.

National Institutes of Alcohol Abuse and Alcoholism. (2002). *What parents need to know about college drinking.* (NIH Publication No. 02-5015). Washington, DC: U.S. Government Printing Office.

National Institutes of Alcohol Abuse and Alcoholism. (2002). *Reducing alcohol problems on campus: A guide to planning and evaluation*. (NIH Publication No. 02-5011). Washington, DC: U.S. Government Printing Office.

National Institutes of Alcohol Abuse and Alcoholism. (2002). *A call to action, changing the culture of drinking at U.S. colleges*. (NIH Publication No. 02-5010). Washington, DC: U.S. Government Printing Office.

Neter, J., Wasserman, W., Kunter, M. (1990). *Applied linear statistical models* (3rd ed.) Homewood, Il: Irwin.

Norusis, M.J. (2002). SPSS 11.0: Guide to data analysis. Upper Saddle River, NJ: Prentice Hall.

O'Malley, P.M. & Johnston, L.D. (2002). Epidemiology of alcohol and other drug use Among American college students. *Journal of Studies on Alcohol, 14*, 23-39.

Owens, S.G., Roth, D., & Schmelkin, L.P. (2001). *Alcohol use among university students: Incidence, reasons, and effects. (*Report No. CG031338). San Francisco, CA: Annual Meeting of the American Psychological Association. (ERIC Document Reproduction Services No. ED458472).

Palmer, C.J., Lohman, G., Gehring, D.D., Carlson, S., & Garrett, O. (2001). Parental notification: A new strategy to reduce alcohol abuse on campus. *NASPA Journal, 38*, 372-385.

Perillo, P. (2002). *The influence of social norms on personal attitudes and perceptions of*

college student drinking behavior: An investigation of substance-free on-campus housing. Unpublished doctoral dissertation. University of Maryland, College Park.

Perkins, H.W. (2002). Surveying the damage: A review of research on consequences of alcohol misuse in college populations. *Journal of Studies on Alcohol*, *14*, 91-100.

Perkins, H.W. & Berkowitz, A.D. (1986). Perceiving the community norms of alcohol use among students: some research implications for campus alcohol education programming. *International Journal of the Addictions*, *21*, 961-976.

Perkins, H, & Berkowitz, D. (1991) Collegiate COAs and alcohol abuse: Problem drinking in relation to assessments of parent and grandparent alcoholism. *Journal of Counseling and Development*, *69*. 237-240.

Perry, W.G. (1981) Cognitive and ethical growth: The making of meaning. In A.W. Chickering & Associates (Eds.). *The modern American college: Responding to the new realities of diverse students in a changing society* (pp. 76-116). San Francisco: Jossey-Bass

Ponton, M.K. & Dean, J.S. (2001). *The survey of alcohol usage and perceptions*. (Report No. HE034144). University of Mississippi. (ERIC Document Reproduction Service No. ED454786).

Presley, C.A., Meilman, P.W., & Leichliter, J.S. (2002). College factors that influence drinking. *Journal of Studies on Alcohol, 14*, 82-90.

Presley, C.A., Meilman, P.W., & Cashin, J.R. (1996). *Alcohol and drugs on American college campuses: Use, consequences, and perceptions of the campus environment.* Core Institute, Southern Illinois University.

Read, J.P., Wood, M.D., Kahler, C.W., & Maddock, J.E. (2003). Examining the role of drinking motives in college student alcohol use and problems. Psychology of *Addictive Behaviors, 17,* 13-23.

Reifman, A., Barnes, G.M., Dintcheff, B.A., Farrell, M.P., Uhteg, L. (1998). Parental and peer influences on the onset of heavier drinking among adolescents. *Journal of Studies on Alcohol, 59,* 311-317.

Reisberg, L. (2002, January 19). 2 years after college started calling home, administrators say alcohol policy works. *Chronicle of Higher Education*, 47, A34.

Ritchie, L.D. (1991). Family communication patterns: An epistemic analysis and conceptual reinterpretation. *Communication Research, 18,* 548-565.

Ritchie, L.D. & Fitzpatrick, M.A (1990). Family communications patter: Measuring intrapersonal perceptions of interpersonal relationships. *Communication Research, 17,* 523-544.

Ritchie, L.D. (1988). *Family communication patterns and the flow of information in the family.* Paper presented at the annual meeting of the Association for Education in Journalism and Mass Communication, Portland, OR.

Rollins, B.C. & Tomas, D.L., (1979). Parental support, power, and control techniques in the socialization of children. In W.R. Burr, R. Hill, F.I. Nye, & I.L. Reiss (Eds), *Contemporary theories about the family* (Vol. 1, pp. 317-364). New York: Free Press

Sanford, N. (1967). *Where colleges fail: A study of the student as a person*. San Francisco: Jossey-Bass.

Schulenberg, J.E & Maggs, J.L. (2002). A developmental perspective on alcohol use and

heavy drinking during adolescence and the transition to young adulthood. *Journal of Studies on Alcohol, 14,* 54-70.

Shattuck, T. (1998). *The relationship between parental support and control and intensity of adolescent drinking*. Unpublished doctoral dissertation. University of Maryland, College Park.

Straus, R. and Bacon, S.D. (1953) *Drinking in college*, New Haven, CT: Yale University Press.

Spear, L.P. (2002). The adolescent brain and the college drinker: Biological basis of propensity to use and misuse of alcohol. *Journal of Studies on Alcohol, 14,* 71-81.

Templin, D.P. & Martin, M.J. (1999). The relationship between religious orientation, gender, and drinking patterns among catholic college students. *College Student Journal, 33,* 488-496.

Thombs, D. (1997). Perceptions of parent behavior as correlates of teenage alcohol problems. *American Journal of Health Behavior, 21,* 279-288.

Thombs, D., Beck, K., Mahoney, C., Bromley, M., & Bezon, K. (1994). Social context, sensation seeking, and teen-age alcohol abuse. *Journal of School Health, 64,* 73-79.

Upcraft, M.L. (2002). *Today's first year students and alcohol.* Retrieved April, 27, 2003, from the National Institute on Alcohol Abuse and Alcoholism web site: http://www.collegedrinkingprevention.gov/Reports/upcraft1.aspx.

U.S. Department of Education. (2002) *Family education rights and privacy act.* Retrieved November 5, 2003 from http://www.ed.gov/policy/gen/guid/fpco/ferpa/index.html

Weitzman, E.R., Nelson, T.F., & Wechsler, H. (2003). Taking up binge drinking in college: The influences of person, social group, and environment. *Journal of Adolescent Health, 32,* 26-35.

Weschler, H., Lee, J.E., Kuo, M., Seibring, M., Nelson, T.F., Lee, H. (2002). Trends in college binge drinking during a period of increase prevention efforts. J*ournal of American College Health, 50,* 203-218.

Weschler, H., Lee, J.E., Nelson, T.F., & Kuo, M. (2002). Underage college students' drinking behavior, access to alcohol, and the influence of deterrence policies. *Journal of American College Health, 50,* 223-247.

Wechsler, H., Dowdall, G.W., Davenport, A., & DeJong, W. (2001). Binge drinking on campus: Results of a national study. (U.S. Department of Education Publication No. ED/OPE95-8). Washington, DC: U.S. Government Printing Office.

Wechsler, H., Davenport, A., Dowdall, G., Moeykens, B., & Costillo, S. (1994) Health and behavioral consequences of binge drinking in college: A national survey of students at 140 campuses, *Journal of the American Medical Association,* 272

Wechsler, H. & Kuo, M. (2003). Watering down the drinks: the moderating effect of college demographics on alcohol use of high-risk groups, *American Journal of Public Health, 93,* 1929-1933

Zhang, C., Welte, J., Wieczorek, W.F. (1999). The influence of parental drinking and closeness on adolescent drinking. *Journal of Studies on Alcohol, 60,* 245-251.