THE MEDIATING EFFECT OF PARENTAL COMMUNICATION REGARDING ALCOHOL-RELATED CONSEQUENCES ON COLLEGE STUDENT BINGE DRINKING

A Thesis
Presented to the
Faculty of
San Diego State University

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts
in
Psychology

by
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Fall 2010
SAN DIEGO STATE UNIVERSITY

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ABSTRACT OF THE THESIS

The Mediating Effect of Parental Communication Regarding Alcohol Related Consequences on College Student Binge Drinking
by
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Heavy alcohol use by college students is a major concern in today’s society. Alcohol consumption and alcohol-related problems are thought to be the one of the most significant concerns on college campuses in the United States. Young adults aged 18-24 years show the highest rates of alcohol use and also have the greatest percentage of problem drinkers, and the rates of binge drinking are higher among college students than for individuals in the same age range who do not attend college. Between 75%-90% of college students drink alcohol, and more than half report heavy or binge drinking. Binge drinking may lead to the experiencing of many negative consequences such as missing class, interpersonal conflict, and even death. In order to prevent or reduce binge drinking among college students, it is important to know the risk and protective factors for binge drinking.

Previous research has shown that peers’ attitudes and behaviors regarding alcohol are related to one’s own alcohol consumption. In particular, the influence of same-age peers’ behavior regarding alcohol use has been well documented. Contrary to the assumption that parents no longer exert any influence over their college-aged child’s alcohol use behavior, previous research has found that parent factors may represent an important protective influence on late adolescent drinking. Parents may continue to influence their children’s behavior regarding alcohol use via communication about expectancies, setting limits, and the transmission of values. However, there may be variation in the nature and substance of the parent-child communication about alcohol. Therefore, it is important to examine the nature and content of parent-child communication regarding alcohol use.

The aim of the current study was to examine the effects of parental communication on college student binge drinking. The various consequences of binge drinking may be the most salient factors involving the student’s decision to engage in binge drinking during college. Thus, it was hypothesized that expectations regarding the physical, social, legal and academic consequences of binge drinking will mediate the relationship between parental communication and binge drinking. These hypotheses were tested using 761 undergraduate students from a large, public university in the Southwest who completed an online survey assessing drinking behavior, including how often the participants talked to their parents about alcohol use and whether or not these communications included discussions about the consequences of heavy drinking. The findings revealed that frequent communication between parents and students actually increases the likelihood of binge drinking episodes. The indirect relationship between communication and binge drinking via communication about the consequences of heavy drinking failed to reach significance.
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CHAPTER 1

INTRODUCTION

Heavy alcohol use by college students is a major concern in today’s society. In fact, alcohol consumption and alcohol-related problems are thought to be one of the most significant concerns on college campuses in the United States (Turrisi, 1999). The patterns of alcohol use and misuse by this population have received a great deal of attention recently, due in part to the increased media coverage of the recent deaths of university students (Knight et al., 2002; Vik, Carrello, Tate, & Field, 2000). In 2005, an estimated 500,000 injuries and more than 1,800 US college student deaths were alcohol-related, which represents a 3% increase per 100,000 from 1998 (Hingson, Zha, & Weitzman, 2009). In fact, alcohol-related accidents are the leading cause of death in young adults ages 17-24 (Ham & Hope, 2003). Alcohol-related college student deaths include deaths by acute alcohol poisoning, accidental falls, drowning, car accidents, fires, and hypothermia resulting from exposure (Ham & Hope, 2003). Although there has been an increased public awareness of the dangers of heavy drinking by college students, drinking rates among college students remain high.

Studies conducted over the past several decades have revealed that a high proportion of college students tend to be binge drinkers. While people of all ages can have alcohol use problems, young adults aged 18-24 years show the highest rates of alcohol use and also have the greatest percentage of problem drinkers. Many young people view late adolescence and early adulthood as a time when drinking is normal, common, and accepted (Schulenberg & Maggs, 2002). In some ways, drinking is quite common and accepted among people in this age group. Approximately 75%-90% of college students drink alcohol, and 47%-76% of college men and 30%-55% of college women report heavy drinking (Vik et al., 2000). Heavy, or binge, drinking is defined as five or more drinks for men and four or more drinks for women in one sitting at least once during the past 2 weeks (Knight et al., 2002; Wechsler, Dowdall, Davenport, & Rimm, 1995). Heavy drinking and the associated risky behaviors typically peak during late adolescence and early adulthood, and this developmental period is
a time when the initiation and escalation of heavy drinking may set the stage for lifelong problems with alcohol (Schulenberg & Maggs, 2002).

However, college students are thought to represent a group of individuals who have unique drinking patterns, different risk factors, and different concerns relating to problematic drinking than the population as a whole (Ham & Hope, 2003), which may be important when looking at risk factors for this population. For example, previous research found that college student drinkers differ from individuals of the same age group that do not attend college. The drinking rate of 18-22 year olds that attend college has been found to be higher than the drinking rate of individuals in the same age group who do not attend college (Ham & Hope, 2003; Hingson, Heeren, Winter, & Wechsler, 2005). In fact, it has been shown that, during high school, college-bound students have lower rates of alcohol use than their noncollege-bound peers, but this trend reverses after high school graduation. In the years immediately following high school, college students actually have higher rates of alcohol use and frequent heavy drinking than their same-age peers who are not in college (Schulenberg & Maggs, 2002).

In addition, college students engage in other forms of risky drinking, such as frequent and heavy alcohol use, high levels of intoxication, and heavy episodic drinking at a much higher rate than those in the same age group who are not attending college (Molnar, Busseri, Perrier, & Sadava, 2009). Prior research suggests that the environmental factors common to college campus settings, such as low prices and easy accessibility to alcohol, may contribute to these differences (Wechsler, Lee, Nelson, & Kuo, 2002). Heavy drinking during college appears to be normative, and prior research suggests that consumption rates among college students have remained relatively stable since the 1970’s (Hingson et al., 2005; Vik et al., 2000).

Clearly, binge drinking is a serious problem on U.S. college campuses. Alcohol is the most commonly misused substance on campuses, so the need for empirically-based prevention and intervention programs is essential (Mastrolo, Mallett, Ray, & Turrisi, 2008). In order to prevent or reduce binge drinking among college students, it is imperative to know the risk and protective factors for binge drinking. Turrisi, Padilla, and Wiersma (2000) have proposed several models that are aimed at explaining the drinking tendencies of college students. Model 1 maintains that college student drinking behaviors can be largely attributed
to situational and normative influences. Previous research in this area has found that peers and social activity heavily influence drinking behaviors. Model 2 proposes that the patterns of college student drinking can be partially attributed to the weakening of parental control as students leave the family home for college (Turrisi et al., 2000).

It is often assumed that the environment and peer pressure are important influences in college students’ binge drinking behavior. In fact, for college-aged individuals, research on the risk and protective factors for alcohol use has focused almost exclusively on the influence of same-aged peers (Wood, Read, Mitchell, & Brand, 2004). According to developmental theory, late adolescence is a time of growing independence and a changing conceptualization of role relationships, which is a normal part of the socialization experience. During childhood and early adolescence, the majority of an individual’s socialization takes place within the context of the immediate family. During late adolescence, individuals begin to assert their own independence and the extra-familiar socialization processes become more incorporated into their sense of self. It is during this period that the relative influences of parents versus peers shift, with peers becoming increasingly more influential (Wood et al., 2004). Previous research has shown that peers’ attitudes and behaviors regarding alcohol are related to one’s own alcohol consumption (Ham & Hope, 2003).

Accordingly, there has traditionally been an assumption that parents no longer exert any influence over their child’s behavior once the child has left the family home for college. It is well known that several parent-related factors are associated with adolescent drug and alcohol use. Prior research has shown that adolescents are more likely to smoke, drink alcohol, and use drugs when their parents also engage in these behaviors or when parents communicate that these behaviors are normative. Beyond the simple modeling of behaviors such as parental use of alcohol, parents are also thought to influence their child’s behavior through the conscious communication of both societal and individual expectations for behavior (Latendresse et al., 2008). Research has shown that positive parenting factors, such as communication, warmth and supportiveness, have a protective influence over adolescents’ drug and alcohol use (Macaulay, Griffin, Gronewold, Williams, & Botvin, 2005). However, it is not known whether this pattern continues after adolescence and into adulthood, such as during the transition to college.
Previous research, however, has shown that parent factors may, in fact, represent an important protective influence on late adolescent drinking, even after the child has left for college (Ichiyama et al., 2009; Wood et al., 2004). Numerous studies have shown that parents are very active in the plans of their children as they prepare for college, and that parents do maintain some level of influence even after their children have left for college in a number of domains, such as academic, social, emotional, financial and health information (Abar & Turrisi, 2008; Turrisi, Jaccard, Taki, Dunnam, & Grimes, 2001). The relationship between parents and their adult children continues to be important, especially during times of transition. The transition from living at home to going to college, often called emerging adulthood, may be one such time (Padilla-Walker, Nelson, Madsen, & Barry, 2008). Most emerging adults report positive changes in their relationship with their parents, including increased communication and openness and greater respect for parents (Padilla-Walker et al., 2008). Because of this, the influence of parents on their college-age children may have an important impact on the student’s alcohol use behavior in college and may reflect an area where more research is needed.

Parents are thought to influence their college-aged child’s behavior through a number of mechanisms. Some examples of these are nurturance and monitoring, parental attitudes and behaviors regarding alcohol use, parental permissiveness, and parental communication. For example, Wood et al. (2004) found that parental monitoring and disapproval of heavy alcohol use were negatively associated with binge drinking episodes such that higher levels of perceived monitoring and disapproval were associated with lower levels of binge drinking. Parent-child communication is thought to be a fundamental aspect of this influence in that parents directly express to their children their concerns and feelings regarding alcohol use and their expectations for their child’s behavior (Ennett, Bauman, Foshee, Pemberton, & Hicks, 2001). It has been suggested that parents continue to directly influence their children’s behavior regarding alcohol use via communication about expectancies, setting limits, and the transmission of values (Abar & Turrisi, 2008).

There is, however, a general lack of research on parent-child communication about alcohol use. This may reflect an assumption that parents are universally opposed to alcohol and drug use and that communication in that area is generally one-dimensional. Even though previous research has confirmed that most parents are opposed to substance use, there may
be variation in the nature and substance of the parent-child communication in this area (Ennett et al., 2001). The discussions could range from generally talking about the negative consequences of use, to working through how best to handle a situation where one is pressured to use, to giving explicit rules for use. Therefore, it is important to look at the nature and content of parent-child communication regarding alcohol, especially given the immense and serious consequences of binge drinking.

According to the Social Development Model (Catalano, Kosterman, Hawkins, Newcomb, & Abbott, 1996), the communication between adolescents and their parents creates a relationship bond. When this bond is positive, it may protect adolescents from engaging in risky behaviors. There is some prior research supporting the idea that positive communication between parents and adolescents serves as a protective factor against risky behaviors. For example, some studies have shown that adolescents who have frequent, positive, and open communication with their parents are less likely to use drugs (Boone & Lefkowitz, 2007). There have even been several media campaigns urging parents to talk to their children about drugs and alcohol (e.g., parents are the “anti-drug”) (Boone & Lefkowitz, 2007). However, these media campaigns do not make it clear what specifically the parents should talk to their children about. Parents may need more explicit advice and direction regarding what they talk to their children about. Because parents do continue to influence their children during college, and college is a time of risky drinking behavior (Turrisi, 1999), the focus and content of these communications is extremely important.

Interestingly, a study by Turrisi, Wiersma, and Hughes (2000) found that parent-teen communications are related to teen drinking behaviors and beliefs relevant to the experience of binge drinking consequences. Individuals who hold more positive beliefs toward drinking tend to drink more frequently and more heavily than those who hold more negative beliefs about the use of alcohol (Turrisi, Wiersma, et al., 2000). Positive parent-teen communication about alcohol use may lead to parents instilling specific drinking-related beliefs that could reduce the probability of them experiencing the negative consequences associated with binge drinking in college (Turrisi, Wiersma, et al., 2000). Binge drinking often leads to the experiencing of negative consequences, some of which, as described above, can be deadly. Although many college students “mature out” of risky drinking behaviors in their late 20’s, the serious consequences of heavy alcohol consumption among students have been well-
established (Molnar et al., 2009). Binge drinking has been found to have a number of consequences for college students. Heavy alcohol use has been associated with risky sexual behaviors, such as unplanned or unprotected sexual intercourse, driving under the influence, legal problems, physical illness, fights, property damage, interpersonal problems, vandalism, and even unintentional injury or death (Molnar et al., 2009; Vik et al., 2000). Heavy drinking is also associated with social and interpersonal problems, such as arguing with friends and academic difficulties (Doumas, Turrisi, Coll, & Haralson, 2007). While there are many consequences of heavy drinking by college students, the consequences tend to cluster around four main areas: social, legal, physical, and academic.

As mentioned above, there are many social consequences of binge drinking for college students, such as arguing with friends, forgetting where they were or what they did, or doing something socially or physically embarrassing (Mallett, Bachrach, & Turrisi, 2009). Legal consequences include being arrested for underage drinking, fights, drunken driving, or destroying or damaging property. Examples of physical consequences for binge drinking include accidental injuries, fights, sexual or physical assaults, blacking out, hangovers, and vomiting. Finally, academic consequences include missing class because of drinking or being hungover, failing tests or quizzes as a result of drinking, or even being expelled from college. Previous research has shown that frequent heavy drinkers are at a greater risk for experiencing any of these negative consequences of drinking (Ray, Turrisi, Abar, & Peters, 2009), and individuals who experience a consequence are at risk of experiencing the same consequence in the future (Mallett, Lee, Neighbors, Larimer, & Turrisi, 2006). Clearly, the consequences of binge drinking are serious and can even be deadly. It is important to look at the risk and protective factors related to the experiencing of such consequences. It may be possible that parental communication about consequences could serve as a protective factor not only for binge drinking in general but also for the experiencing of such consequences.

Previous research has suggested that parental attitudes and communication regarding drinking may continue to influence behavioral choices and the experience of negative consequences even in college. One study found that students whose parents had spoken to them about alcohol before college showed significantly less drinking and tendencies towards drinking than students whose parents did not talk to them about alcohol (LaBrie, Hummer, Neighbors, & Larimer, 2010). In addition, Wood et al. (2004) found that parental behaviors
and attitudes regarding drinking were directly associated with late adolescent alcohol use and problems, which lends support to the idea that parents continue to influence their late adolescents’ decisions regarding alcohol use. The findings from the Wood et al. (2004) study suggest that preventative efforts involving parents should attempt to facilitate communication between parents and children regarding acceptable levels of drinking and the consequences of heavy or binge drinking.

Because of these findings, it was hypothesized that parental communication regarding alcohol use will have an effect of college student binge drinking. However, because the specific types of communication and parental attitudes towards drinking may not be known, the nature of this relationship was unknown. However, it was hypothesized that as the frequency of parental communication regarding alcohol use increases, binge drinking by the child would decrease. In addition, because the various consequences of binge drinking may be the most salient factors involving the student’s decision to engage in binge drinking during college, it was hypothesized that communication regarding the consequences of binge drinking would mediate the relationship between parental communication and binge drinking. In other words, students whose parents have specifically talked to them about the social, legal, physical, and academic consequences of drinking alcohol should exhibit lower rates of binge drinking than those whose parents did not.

Because binge drinking is such a dangerous activity that is commonplace among young people, particularly college students, it is important to know both the risk and protective factors for this behavior. It was hoped that the results of this study can be used to further inform prevention and intervention strategies for college students and other young people with binge drinking problems. In addition, the results of this study may be used to offer guidance to parents as to how to lower their child’s risk for developing alcohol use problems.
CHAPTER 2

METHODS

PARTICIPANTS

The participants for the current study were taken from a larger study. The parent study consisted of a web-based survey at a large, public university in Southern California. The survey has been conducted every semester since fall of 2005. Each semester, the web survey, called the Health and Lifestyle survey, is sent to a random sample of undergraduate students at San Diego State University (SDSU). The purpose of the parent study is to identify factors related to alcohol use by students. A sample of 5250 undergraduate students was randomly selected from the registrar’s list of undergraduate students at SDSU. Any student who was registered as an undergraduate and at least 18 years old could have been selected for this survey. A total of 761 (14.50%) students completed the survey. This response rate is consistent with others using a web-based survey (Abar, Abar, & Turrisi, 2009). Web-based surveys are a modern alternative to paper surveys that appeal to college students, are cost-effective, and provide valid and reliable results (Nelson, Xuan, Lee, Weitzman, & Wechsler, 2009). Due to missing data, however, a total of 639 participants were used for this study. These 639 were able to be used due to using full information maximum likelihood procedures for data missing at random (Schafer & Graham, 2002).

The ages of the participants ranged from 18.02 to 57.50 years (M = 22.83). Roughly 56.1% of the sample was female (n = 344). The majority of the participants self-identified as White/Caucasian (69.8%, n = 385), 23.1% identified as Hispanic/Latino (n = 138), 10.8% identified as Filipino (n = 60) and 5.9% identified as African American (n = 33).

PROCEDURE

As described above, 5250 undergraduate students were randomly selected from the registrar’s list of registered students. Potential participants were contacted via email regarding the opportunity to participate in the survey. The survey took approximately 30 to 40 minutes to complete. In the first week of November 2009, each of the students received an
email invitation to participate with a link to the web-based survey. The survey was hosted by DATSTAT. A reminder email was sent to all potential participants one week later. The survey could be started any time after the invitation to participate was sent and it did not have to be completed at one sitting; students could stop in the middle and finish the survey at a later time. An additional two reminder emails were sent to students that started but did not complete the survey two weeks after the initial invitation. These reminder emails were sent one week apart.

When students clicked on the link to the survey, they were prompted to enter their SDSU student identification number (RED ID) to ensure that the student invited was the student taking the survey. Once the students entered their ID, an informed consent form appeared. Only when students gave their informed consent online could they begin the survey. Participants who completed the survey were entered into a drawing to win one of 33 prizes as an incentive for completion. Participants were initially told that the odds of winning a prize were 1 in 32. However, given the number of participants that completed the survey, the actual odds of winning were approximately 1 in 20. Incentives or prizes were 1 Apple iTouch, 1 iPod Shuffle, 1 $25 Amazon gift certificate, and 30 $5 Amazon gift certificates.

**VARIABLES**

The following variables were used in this study.

**Demographics**

Age was determined by subtracting the participant’s birth date provided by the registrar from the date the survey was started. Ethnicity and gender were also provided by the registrar.

**Parental Communication**

Participants reported how often the participant talked to his or her parents/guardians about alcohol use. Participants responded on a 5-point Likert-type scale ranging from 1 (never) to 5 (very often).

**Consequences**

Participants were also asked if their parents had talked to them about specific consequences for drinking. The question was phrased: “Do your parents ever talk to you
about: (a) physical consequences of drinking, (b) social consequences of drinking, (c) legal consequences of drinking, (d) academic consequences of drinking.” Participants answered yes, no, or decline to answer for each option.

**Dependent Variable: Binge Drinking**

Alcohol consumption can be measured in a variety of ways. For the purposes of this study, binge drinking was measured using a single self-reported variable: past two-week heavy episodic drinking. Heavy episodic drinking is defined as having 5 or more (4 or more for women) standard size drinks on one occasion. A standard drink is defined at 12 ounces of beer or wine cooler, 5 ounces of wine, or 1.5 ounces of hard liquor, such as vodka, gin, or whiskey (National Institute on Alcohol Abuse and Alcoholism, 2010), and this definition was given to participants during the survey. Because of the difference in consumption level needed to qualify as binge drinking for men and women (Wechsler et al., 1995), the question was asked separately for each gender. For men, the question was, “How many times in the past 2 weeks did you have 5 or more drinks on one occasion?” For women, 4 drinks was substituted for 5. This item has been used multiple times in college populations (e.g., Nelson et al., 2009). Self-reported drinking quantity items have been shown to be valid, reliable, and uncorrelated with social desirability tendencies in the college student drinking literature (Turrisi, Wiersma et al., 2000).

**Strategy of Analysis**

Descriptive statistics and biserial correlations were calculated for all variables (see Table 1). Structural equation modeling in Mplus (Muthén & Muthén, 1998-2008) was used to test the research questions and relationship among variables for each of the four models as depicted in Figures 1-4, as well as a baseline model. In these models, binge drinking was the outcome variable, the frequency of parental communication was thought to predict binge drinking, and discussions of each of the four types of consequences was thought to mediate the relationship between frequency of communication and number of reported instances on binge drinking in a two-week time period. To establish model fit, the chi-square test statistic was used. All reported numbers are unstandardized.
Table 1. Means, Standard Deviations, and Correlations for All Model Variables

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<tr>
<th></th>
<th>M</th>
<th>SD</th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>6.</th>
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<tr>
<td>1. Frequency of Parental Communication</td>
<td>2.76</td>
<td>1.13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2. Communication on Physical Consequences</td>
<td>352*</td>
<td>45.3*</td>
<td>.409</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Communication on Legal Consequences</td>
<td>382*</td>
<td>59.4*</td>
<td>.447</td>
<td>.786</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Communication on Social Consequences</td>
<td>348*</td>
<td>45.7*</td>
<td>.441</td>
<td>.824</td>
<td>.447</td>
<td>.786</td>
<td>.842</td>
<td></td>
</tr>
<tr>
<td>5. Communication on Academic Consequences</td>
<td>363*</td>
<td>47.7*</td>
<td>.455</td>
<td>.831</td>
<td>.893</td>
<td>.865</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Number of Binge Drinking Episodes</td>
<td>1.12</td>
<td>1.765</td>
<td>.108</td>
<td>-.057</td>
<td>-.021</td>
<td>-.041</td>
<td>-.030</td>
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</table>

Note: Items marked * refer to frequency and percent, respectively, of answers marked “yes” for that variable.

Figure 1. Conceptual model relating frequency of parent-child communication to binge drinking via communication about the social consequences of heavy alcohol use.
Figure 2. Conceptual model relating frequency of parent-child communication to binge drinking via communication about the physical consequences of heavy alcohol use.

Figure 3. Conceptual model relating frequency of parent-child communication to binge drinking via communication about the legal consequences of heavy alcohol use.
Figure 4. Conceptual model relating frequency of parent-child communication to binge drinking via communication about the academic consequences of heavy alcohol use.
CHAPTER 3

RESULTS

In order to test the mediators, we first ran the baseline model that included only the direct path from frequency of parental communication to binge drinking episodes. The model did not fit well statistically ($\chi^2 (1, N = 639) = 5.02, p = .03$). The direct path from frequency of communication to binge drinking was positive and significant ($\beta = .15, p = .025$), which suggests that as the frequency of communication with parents about drinking alcohol increases, the number of times the child reports binge drinking in the previous two weeks is also likely to increase. This is not in the expected direction given the results found in previous research, but lends support to the hypothesis that the content of the communications is important in lowering binge drinking. In addition, it is important to note that $R^2 = .012$, which means that only 1.2% of the variance in binge drinking is accounted for by these models. This $R^2$ value remains the same for all models tested.

After testing the baseline model, we tested the four mediation models individually, using communication about the legal, physical, social, and academic consequences of drinking alcohol as the mediators. When using the legal consequences of drinking alcohol as a mediator, the model did not fit well statistically ($\chi^2 (3, N = 639) = 161.08, p < .001$). Again, the direct path from frequency of parental communication to binge drinking was positive and significant ($\beta = .17, p = .04$). In addition, the direct path from frequency of parental communication to communication about the legal consequences of drinking alcohol was positive and significant ($\beta = .56, p < .001$), meaning that as the frequency of communication increased, the likelihood that participants talked about the legal consequences of alcohol also increased. However, the direct path from communication about the legal consequences of alcohol use to binge drinking was not significant ($\beta = -.034, p = .711$) and neither was the indirect path from frequency of communication to binge drinking via legal consequences ($\beta = -.02, p = .711$). These results suggest that communication about the legal consequences of drinking alcohol does not mediate the relationship between frequency of parental communication and binge drinking episodes.
The next model tested used communication about the physical consequences of drinking alcohol as the mediator. This model did not fit well statistically ($\chi^2 (3, N = 639) = 133.19, p < .001$). Again, the direct path from frequency of parental communication to binge drinking was positive and significant ($\beta = .20, p = .02$). In addition, the direct path from frequency of parental communication to communication about the physical consequences of drinking alcohol was positive and significant ($\beta = .48, p < .001$), meaning that as the frequency of communication increased, the likelihood that participants talked about the physical consequences of alcohol also increased. However, the direct path from communication about the physical consequences of alcohol use to binge drinking was not significant ($\beta = -.09, p = .368$) and neither was the indirect path from frequency of communication to binge drinking via discussion of the physical consequences ($\beta = -.05, p = .369$). These results suggest that communication about the physical consequences of drinking alcohol does not mediate the relationship between frequency of parental communication and binge drinking episodes.

The third model tested used discussions of the social consequences of heavy alcohol use as a mediator. This model did not fit well statistically ($\chi^2 (3, N = 639) = 144.94, p < .001$). Again, the direct path from frequency of parental communication to binge drinking was positive and significant ($\beta = .19, p = .02$). In addition, the direct path from frequency of parental communication to communication about the social consequences of drinking alcohol was positive and significant ($\beta = .53, p < .001$), meaning that as the frequency of communication increased, the likelihood that participants talked about the social consequences of alcohol also increased. However, the direct path from communication about the social consequences of alcohol use to binge drinking was not significant ($\beta = -.07, p = .433$) and neither was the indirect path from frequency of communication to binge drinking via the social consequences ($\beta = -.04, p = .434$). These results suggest that communication about the social consequences of drinking alcohol does not mediate the relationship between frequency of parental communication and number of binge drinking episodes.

The final model was tested using the academic consequences of drinking alcohol as a mediator. The model did not fit well statistically ($\chi^2 (3, N = 638) = 156.65, p < .001$). Again, the direct path from frequency of parental communication to binge drinking was positive and significant ($\beta = .19, p = .03$). In addition, the direct path from frequency of parental
communication to communication about the academic consequences of drinking alcohol was positive and significant ($\beta = .57, p < .001$), meaning that as the frequency of communication increased, the likelihood that participants talked about the academic consequences of alcohol use also increased. However, the direct path from communication about the academic consequences of alcohol use to binge drinking was not significant ($\beta = -.05, p = .568$) and neither was the indirect path from frequency of communication to binge drinking via academic consequences ($\beta = -.03, p = .569$). These results suggest that communication about the academic consequences of drinking alcohol does not mediate the relationship between frequency of parental communication and binge drinking episodes.

To further explore this model, we tried running a latent variable model, with the latent variable being composed of each of the four consequence types. All variables in the latent variable were highly correlated with each other (see Table 1). We also tried running the model using gender as moderator. Neither added any significance to the model and were not further explored.
CHAPTER 4

CONCLUSION

DISCUSSION

The current study aimed to explain what aspects of the parent-child communication about alcohol might lead to a reduction in binge drinking. Specifically, this study hypothesized that conversations about the negative consequences of heavy drinking, centered around four domains, might mediate the relationship between the frequency of parental communication about alcohol use in general and the number of binge drinking episodes reported in a two-week period.

The results of the analysis showed a significant relationship between the frequency of parental communication about alcohol and the occurrence of binge drinking episodes by the child. Interestingly, this relationship was positive, meaning that as the frequency of communication increased, the number of binge drinking episodes in the past two weeks that the participant reported also increased. While this may seem contrary to previous research (Turrisi, Wiersma, et al., 2000), the direction of this relationship was not known, which was one of the purposes of this study. Without knowing the content of the parent-child alcohol conversation, it is certainly possible that the communication may lead to higher amounts of alcohol use. It may also be that the children of parents who talked to them about alcohol frequently underwent some sort of reactionary effect, thereby making them more likely to binge drink. The positive nature of this relationship may also reflect an idea that adolescents and college students who are more “high risk” binge drinkers or have already gotten in trouble, either with their parents or the authorities, may have talked with their parents more frequently about binge drinking.

In addition, there was also a significant relationship between the frequency of parental communication about alcohol and discussion of each of the type of consequences of heavy alcohol consumption: physical, social, legal, and academic. This relationship was in the hypothesized direction, i.e., as frequency of parental communication increased, the
likelihood that the participant would answer “yes” to any of the questions regarding these specific types of consequences also increased.

However, the relationship between each of the types of consequences and the number of times that participants reported binge drinking in the last two weeks was not significant. There are several possible explanations for this lack of significance. There may be a measurement problem with the question itself: it is possible that the conversations between college students and their parents regarding the consequences of drinking alcohol occur along a continuum and truncating the responses into a dichotomous variable reduces the variability, thereby reducing the chances for significance. This is the most likely explanation for the lack of significance in any of the mediator models.

It may also be possible that communication about the consequences of heavy alcohol use simply does not mediate the relationship between parental communication and binge drinking episodes. Previous research has suggested that many college aged binge drinkers do not take the consequences of heavy alcohol use seriously, believe that they are exempt from the (i.e., “it won’t happen to me”), or do not experience any of these negative consequences at all. For these individuals, communication with their parents about the negative effects of drinking is unlikely to result in a lowered rate of binge drinking (Mallett et al., 2006; Ray et al., 2009). The tested models accounted for only 1.2% of the variation in binge drinking, so communication about the consequences of binge drinking may not mediate the hypothesized relationship.

It is also possible that there are some other mediators involved in the relationship, as well as moderators. There are likely many variables associated with the relationship between parental communication and college student binge drinking that were not taken into account in this study. For example, the closeness of the parental bond or relationship may be an important protective or risk factor for binge drinking that could affect the nature of the relationship between communication and binge drinking for college students (Boone & Lefkowitz, 2007). This variable was not looked at in the present study and may represent a methodological issue. Additionally, the genders of the parent and of the student were not taken into account in the present study. Boone and Lefkowitz (2007) found that both male and female adolescents were more comfortable talking to their mothers about drugs and alcohol than their fathers, so this is another factor that should be looked at in the future.
It is also possible that gender may moderate the relationship between binge drinking and parental communication in that parental discussion may have more of an impact on one gender over another. Although this was tested here and was not significant, this is likely because of the measurement issues for the parental discussion and consequence questions, and not a reflection of the lack of a relationship.

**DIRECTIONS FOR FUTURE RESEARCH**

While the meditational analyses for this study were not significant, the results can be used to guide further research on both protective and risk factors for college student binge drinking. Because there was a significant relationship between parental communication about alcohol use and binge drinking, parents are shown to have an impact on their child’s drinking behavior. Future research examine other potential mediators in that relationship and test what content in the communication may lead to reduced rates of binge drinking by young adults. In addition, future research should also look at the communication regarding consequences as a scale, with zero equaling no communication about any of the four domains of consequences to four equaling communication about all four domains. This may increase the significance of the overall model.

Future research should also look at the direction of the causality between parental communication and binge drinking. It may be that parents talk to their children more about alcohol use when they suspect or know that their children are already drinking, rather than as a preventative measure. This could explain some of the results seen in this study and should be expanded upon in the future. In addition, it would be interesting to look at the age range of the participants. This study included college students who ranged in age from 18 to over 50. It is unlikely that 50 year olds talked to their parents about alcohol use prior to attending college, so this may have skewed the results. It is possible that significant effects could be seen on a more restricted age range (e.g., 18 to 20 year olds) who have recently left the family home for college and are more likely to have frequent communication with their parents.

Future studies should examine other potential mediators and moderators in the relationship between parental communication and binge drinking, such as those mentioned above. It would also be interesting to look at ethnicity, as different ethnic groups tend to
drink at different rates. Finally, it would also be of interest to look at the timing of such communication between parents and their children as a potential factor in the development of binge drinking behaviors (i.e., in middle school, high school, just prior to college or after the child has already started at college).
REFERENCES


