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The Relationship Between Resistance to Conformity and College Students' Alcohol Use, Alcohol-related Consequences Experienced, and PBS Use

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The University of Southern Mississippi

THE RELATIONSHIP BETWEEN RESISTANCE TO CONFORMITY AND
COLLEGE STUDENTS' ALCOHOL USE, ALCOHOL-RELATED CONSEQUENCES
EXPERIENCED, AND PBS USE

by

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A Thesis

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ABSTRACT

College students' alcohol use has reached alarming heights in the past 25 years and shows no signs of slowing; experiencing alcohol-related negative consequences is on the rise for this demographic. Protective behavioral strategies (PBS) can help prevent negative consequences. This study sought to determine if relationships existed between resistance to conformity and college students' alcohol consumption, alcohol-related negative consequences experienced, and PBS use. Data were collected via online surveys from students at a Southeastern mid-sized university. As hypothesized, resistance to conformity had negative relationships with alcohol consumption ($r = -.094, p = .05$) and number of alcohol-related negative consequences experienced ($r = -.195, p = .01$). As hypothesized, resistance to conformity was positively related with PBS use ($r = .120, p = .01$). Discrepancies among classification of drinkers, practical applications and potential future research are discussed.

Definition of Key Terms

- 1) Heavy episodic drinking: Consuming five or more drinks for men and four or more drinks for women within a two-hour period with the intent to become intoxicated or raise the blood alcohol content to .08.
- 2) Alcohol-related negative consequences: Results of engaging in drinking that cause harm academically, legally, or physically.
- 3) Protective behavioral strategies (PBS): Behavioral actions taken to decrease the likelihood of experiencing alcohol-related negative consequences (Martens et al., 2004).
- 4) Conformity: Intentional effort put forth in order to bring one's behavior or beliefs into congruence with the wider whole.
- 5) Peer influence: the extent to which peers encourage or discourage a particular behavior

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Chapter 1: Introduction

Alcohol use and abuse by college students are issues that have become particularly salient within the past 25 years. Hingson, Zha, and Weitzman (2009) found that 44.7% of college students aged 18-24 reported engaging in heavy episodic drinking, which involves having at least 4 or more drinks in a two hour period for women and 5 or more drinks in a two hour period for men. A positive relationship exists between engaging in heavy episodic drinking and experiencing a plethora of alcohol-related negative consequences (Weschler et al., 1994). These alcohol-related negative consequences manifest in various ways. Among college students aged 18-24, 3.3 million reportedly drove while under the influence and 1,825 died from alcohol-related injuries in the year 2005 (Hingson, Zha, & Weitzman, 2009). In 2001, 599,000 students were unintentionally injured due to their alcohol use. Furthermore, 646,000 students were assaulted and 97,000 students were victims of sexual assault by another student who was under the influence of alcohol in 2001 (Hinston, Zha, & Weitzman, 2009). College students who drink can avoid alcohol-related negative consequences by employing protective behavioral strategies (PBS). These strategies include using a designated driver or avoiding drinking games. Martens et al. (2004) demonstrated an inverse relationship between the use of PBS while drinking and subsequent experience of alcohol-related negative consequences.

Many factors relate to the drinking behavior of college students. One such factor is peer influence, the extent to which peers encourage or discourage a particular behavior, which surrounds alcohol use. The effects of peer influence on an individual's actions are well documented. For instance, Asch (1951) found that 33% of participants in his study

answered a high proportion of questions incorrectly, indicating the same answer as a group of unanimously erroneous individuals who had answered before the participants. This stands in contrast to the 2% of participants who answered questions incorrectly in the control group that was not exposed to the opinions of others. Goldberg (1954) later determined that conformity to perceived norms of others results from the realization by individuals that a group norm exists that is different from their personal belief. The severity of degree of difference between a personal belief and the group norm also plays a role in whether conformity occurs in a given situation. The results from these initial studies support the idea that peer influence can impact the actions of others and has opened the door for researchers to investigate specific situations in which peer influence may play a role in the choices that individuals make.

The social tendency towards conformity becomes alarming when one considers the perceived norms of alcohol use held by college students. College students consistently overestimate descriptive norms such as the quantity of alcohol that others drink (Perkins, Haines, & Rice, 2005) and the frequency with which others experience alcohol-related negative consequences (Lee, Geisner, Patrick, & Neighbors, 2010). They also tend to underestimate how often other students use PBS while drinking (Benton, Glider, Downey, & Benton, 2008).

However, not all college students are so prone to conformity. Referring back to the Asch experiment, 25% of participants never conformed to the erroneous group. A more recent study revealed that college students who scored low on measures of public self-consciousness may be more resistant to peer pressure to drink (Crawford & Novak, 2007). Until now, the personality trait of resistance to conformity has not been studied in

the context of behaviors related to alcohol use among college students. This study proposes to investigate whether a relationship exists between college students' resistance to conformity and their alcohol consumption, number of alcohol-related negative consequences experienced, and PBS use. The three hypotheses of this study are 1) A negative relationship will exist between resistance to conformity and amount of alcohol consumed, 2) A negative relationship will exist between resistance to conformity and experiencing alcohol-related negative consequences and 3) A positive relationship will exist between resistance to conformity and use of PBS.

Definition of Terms

- 1) Heavy episodic drinking: Consuming five or more drinks for men and four or more drinks for women within a two-hour period with the intent to become intoxicated or raise the blood alcohol content to .08.
- 2) Alcohol-related negative consequences: Results of engaging in drinking that cause academic, legal, or physical harm.
- 3) Protective behavioral strategies (PBS): Behavioral actions taken to decrease the likelihood of experiencing alcohol-related negative consequences (Martens et al., 2004).
- 4) Norm perception: Interpretation of the normal practices and beliefs of a reference group
- 5) Conformity: Intentional effort put forth in order to bring one's behavior or beliefs into congruence with the wider whole.
- 6) Descriptive norms: Perceptions of how others are actually behaving in a given social situation.

- 7) Peer influence: the extent to which peers encourage or discourage a particular behavior

Delimitations

This scope of this study will include only the following:

- 1) College students aged 18-24 enrolled at one mid-sized Southeastern university who participate in research in exchange for extra class credit within the psychology department.
- 2) Of the above, those who have had at least one alcoholic drink in the past thirty days.

Limitations

This study is limited by its use of self-reported measures to assess students' drinking behavior. Though participants will be assured of their anonymity and confidentiality in participating in this research, participant honesty cannot be guaranteed. Additionally, the results of this study may not be generalizable as data were only collected from one mid-sized, public university in the Southeastern region of the United States. Data collected from private colleges with religious affiliations or those in other regions of the country may yield different results.

Assumptions

Data will be evaluated under the assumption that participants answered honestly, fully understood the meaning of each question, attempted to take all measures seriously, and answered to the best of their abilities.

Justification

This study is being conducted in order to assess if relationships exist between students' resistance to conformity and the amount of alcohol consumed, alcohol-related negative consequences experienced, and protective behavioral strategies used. This study will be a contribution to the existing literature and knowledge of college alcohol use because previous studies have not examined possible relationships between resistance to conformity and alcohol use. In addition, research indicates that risky drinking behavior among college students has consistently risen in recent years. From 1999-2005, the number of students who engaged in heavy episodic drinking rose from 3.8 million to 5.2 million, and the number who drove while under the influence also rose from 2.4 million to 3.4 million (Hingson, Zha, & Weitzman, 2009). Information gathered from this study may serve as a stepping stone towards helping educators and health professionals predict which students may be more prone to engaging in risky drinking behaviors and how to best formulate and implement education/prevention programs with regards to personality characteristics. With such procedures in place, it may be possible to slow the statistical climb of risky drinking behaviors and negative consequences experienced among college students.

Chapter Two: Literature Review

The popular perception of the college experience features an environment ripe with the opportunity for students to socialize, test limits, indulge in irresponsibility, and explore a much wider world. For many students, experimentation with alcohol is also considered a central tenet of the social aspect of the college experience. Within the past twenty-five years, such experimentation has been an increasing concern amongst researchers and those affiliated with the university community (Ham & Hope, 2003; Hingson, Heeren, Winter, & Weschler, 2005; Hingson, Zha, & Heitzmann, 2009; O'Malley & Johnston, 2002; Weschler, Davenport, Dowdall, & Moeykens, 1994; Weschler, et al., 2002). In response, researchers sought to empirically evaluate the issue of alcohol use among college students. Such studies have produced startling results in terms of the numbers of college students who drink, the comparison to their non-college peers, the quantity of alcohol they consume, and the negative consequences they experience due to their alcohol consumption.

The National Institute on Alcohol Abuse and Alcoholism (NIAAA) recently compiled research into a "Statistical Snapshot of College Drinking." According to the NIAAA (2007), four in five college students consume alcoholic beverages. Nearly 60% of students who drink alcohol are between the ages of 18-20 and fall below the legal drinking age of 21 in the United States. Researchers have also identified an intriguing trend concerning the drinking habits of those transitioning from high school to college. High school students bound for college drank less in high school than their peers who were not on track to attend college (O'Malley & Johnston, 2002). Nevertheless, upon entering the college environment, college students significantly surpassed the level of

alcohol consumption of their non-college-attending peers. (O'Malley & Johnston, 2002). This relationship did not exist for other forms of drug use such as tobacco, marijuana, and cocaine. Whether due to easy access, permissive attitudes towards this substance, or a multitude of other possibilities, alcohol seems to be the intoxicant of choice for college students.

Much of what is known about the landscape of college drinking is the result of the Harvard School of Public Health College Alcohol Survey (CAS). Researchers used this survey to collect data from 14,000 students at 120 four-year colleges in 1993, 1997, 1999, and 2001 in order to compose a nationally representative sample. After reporting that two in five (44%) of college students engage in heavy episodic drinking (Weschler, et al., 1994), the issue gained national prominence. Previously referred to as binge drinking, heavy episodic drinking is defined as five or more drinks for men and four or more drinks for women within a two-hour period (Weschler, et al., 1994). Despite increased prevention measures specifically designed to quell heavy episodic drinking, this statistic has remained stubbornly stable over time (Ham & Hope, 2003; Hingson, Zha, & Weitzman, 2009; Weschler, et al., 2002).

Unfortunately, problematic drinking extends beyond specific instances of heavy episodic drinking; frequent intoxication throughout the month is also significantly experienced by college students. According to Weschler and colleagues (2002), 23% of students reported drinking on 10 or more occasions in a typical month, and 29% claim to drink to the point of intoxication three or more times in a typical month. In addition, some college students may qualify for a clinical diagnosis based upon their use of alcohol according to the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition

(DSM-IV-TR; American Psychiatric Association, 2000). For instance, approximately one in three college students and three in five frequent heavy episodic drinkers meet the criteria for a diagnosis of alcohol abuse while one in 17 college students and one in five frequent heavy episodic drinking are eligible for the more serious diagnosis of alcohol dependence (NIAAA, 2007).

Student attitudes and perceptions towards alcohol use lend some explanation to the persistent nature of this public health crisis. Among college students who consume alcohol, nearly one in two rated drinking to get drunk as an important reason for drinking (Wechsler, et al., 2002). Aside from valuing alcohol in such a way as to encourage excessive consumption, many students maintain perceptions about their alcohol use that are not concurrent with reality. As few as 13% of frequent heavy episodic drinkers considered their drinking to be problematic (Wechsler, et al., 2002). Possibly due to such perceptions, less than three percent of frequent heavy episodic drinkers ever sought treatment for alcohol-related issues (Wechsler, et al., 2002). Regardless of what students believe, heavy episodic drinking is associated with suffering more alcohol-related negative consequences. In fact, researchers have determined that students engaging in frequent heavy episodic drinking are 25 times more likely to experience five or more alcohol-related negative consequences than those who do not engage in frequent heavy episodic drinking (Wechsler, et al., 1994).

Alcohol-related negative consequences can impact the lives of college students in a number of ways, including academically, judicially, and physically. Vik, Carello, Tate, and Field (2000) found that the seriousness of consequences experienced tends to progress over time. Relatively trivial consequences like missing class or feeling

embarrassed in a public situation due to one's drinking may ultimately lead to much more grievous problems such as driving while intoxicated, being seriously injured, or even dying. Furthermore, these consequences have the potential to continually affect students throughout their lives long after the original incident has taken place. Poor academic performance due to drinking can affect students' abilities to graduate, attend graduate school, or find meaningful employment. Judicial records related to alcohol use may similarly be viewed negatively on an employment application. Of utmost importance, bodily injuries sustained due to alcohol use could potentially handicap students for a lifetime.

Academic achievement is often one of the first areas of students' lives where excessive alcohol use begins to take a toll. About 25% of students report that alcohol use has negatively affected their academic records (NIAAA, 2007). Most frequently, this was due to missing class or examinations, poor performance on tests and projects, and falling behind in schoolwork (NIAAA, 2007). Student grade averages have also been found to be inversely related to the number of drinks consumed per week. Data collected through the Core Drug and Alcohol Survey (CORE) administered by the U.S. Department of Education showed that "A" average students typically consumed an average of 3.4 drinks per week while "D" and "F" average students consumed an average of 9.8 drinks per week (Perkins, 2002). Likewise, the data concerning academic consequences stemming from heavy episodic drinking are rather straightforward. Students who engaged in heavy episodic drinking two or more times within a two-week period had significantly lower grades than peers who did not engage in heavy episodic drinking (Pascarella et al., 2007). The status of heavy episodic drinker appeared to outweigh all other considerations

including time spent studying, pre-college academic achievement, and work responsibilities; even when these and other factors were controlled for, the association between heavy episodic drinking and lower grades remained.

In addition to academic struggles, college drinkers also suffered judicial consequences or committed crimes due to the influence of alcohol. The NIAAA (2007) reported that about 110,000 students were arrested for alcohol-related charges like public intoxication among other violations per year. Approximately five percent of students had also had been in trouble with campus police or disciplined by a campus administrative body due to their drinking (NIAAA, 2007). Drinking students were also involved in crimes that had an impact upon other people. In terms of sexual violence, data collected from CORE produced results of 12% of male drinkers and 4% of female drinkers admitting to knowingly taking advantage of someone sexually. Moreover, 1.4% of students had been arrested for driving under the influence (Perkins, 2002). However, far more people drive under the influence than are arrested for doing so. Based on students' self-reported behavior collected via national surveys, an estimated 3.3 million students drove under the influence in 2005 (Hingson, Zha, & Weitzman, 2009). The victims of crimes such as these must also be considered among the affected. Nearly half (46%) of the people who died in crashes involving college students who were driving under the influence were persons other than the drinking driver (Hingson et al., 2005). Similarly disturbing is the fact that approximately 700,000 students have been physically assaulted and approximately 97,000 students have been sexually assaulted by another student who had been drinking (NIAAA, 2007).

Beyond the damage caused to society by college drinkers lies the damage

unintentionally inflicted upon their own bodies due to their drinking. Perkins (2002), citing data collected by Weschler and colleagues from the CORE survey, reported that 27% of drinkers report experiencing a blackout or memory loss due to their alcohol consumption. Such failures of cognition can lead to dangerous situations. For example, the NIAAA (2007) estimated that 400,000 students had unprotected sex while under the influence and more than 100,000 were too intoxicated to remember if they had consented. Furthermore, 599,000 students have sustained physical injuries due to their alcohol use. Most troubling, between 1.2 and 1.5% of students attempted suicide and around 1,825 students died from unintentional injuries stemming from alcohol use. Indeed, alcohol-related negative consequences pose significant risks to college students. Despite increased prevention efforts, such consequences have proven difficult to exterminate or even reduce among this population. Little to no change has been reported in the numbers of injuries and sexual assaults reported in recent years (Hingson, Zha, & Weitzmann, 2009). Worse, Hingson and colleagues (2009) reported an increase in the number of heavy episodic drinkers and students who drove under the influence between 2001 and 2005. Such concerning data as these underscores both the severity and widespread diffusion of the consequences of college alcohol use. Thus, further investigation into factors that influence the composite drinking behavior of students is warranted.

Two such important factors may be students' level of conformity, the degree to which they consciously change or alter their behavior to better align with perceived norms of their environment, and, alternately, their resistance to conformity. O'Malley and Johnston's (2002) report stating that college students consume more alcohol than their peers who do not attend college suggests that the college environment may play a role in

students' consumption patterns. Consistently, actions of groups cannot be considered independent of the societal context in which they occurred. Social animals, including humans, have evolved to form societies in which norms develop and social influence over others exists in order to form a cohesive group (Lachlen, Janik, & Slater, 2004).

Therefore, humans may be programmed to conform to the society in which they live to some degree, but some are more likely to conform in certain situations while others may be more resistant to conformity.

The phenomenon of social conformity has long intrigued researchers. Recent studies have endeavored to define motives for social conformity and factors that influence people to conform in various situations. Pool and Schwegler (2007) recently published a study supporting their tripartite model of general motives for norm conformity. According to the authors of this study, people are motivated to conform to fulfill needs of accuracy, self-related approval, and/or other-related approval. Accuracy refers to the desire to act in an appropriate manner in a public setting (Pool and Schwegler, 2007). Self-related approval is defined as a boost in self-esteem or positive self-evaluation experienced by people who perceive themselves to have acted in accordance with a group to which they wish to belong. Other-related approval refers to the desire to fulfill behavior expectations of others in the situation and the avoidance of ostracism. Depending on the specific situation, individuals may conform based upon a combination of these motivations (Pool & Schwegler, 2007).

While people tend to be motivated to conform in certain situations due to these social desires, the existence of discrepancies cannot be denied. In the landmark conformity study conducted by Asch (1951), 33% of participants consistently conformed

to a unanimously erroneous group composed of individuals who were actually accomplices of the experimenter while 75% of participants conformed at least once. However, 25% of participants never conformed despite being confronted with a unanimous group in opposition to their perspective. Personal factors may explain why some people tend to conform more than others. In a 1982 study, Santee and Maslach found that high self-esteem and a focus on personal identity over social identity were inversely related to conformity while public self-consciousness, social anxiety, and shyness were directly related to conformity. Similarly, students who participated in an activity designed to increase their intrinsic self-esteem conformed less during a subsequent rating experiment than students who did not participate in the intrinsic self-esteem activity (Ardnt, Schimel, Greenberg, & Pyszczynski, 2002). This evidence suggests that certain personality traits may impact whether a person tends to conform or not regardless of situational factors.

Recently, researchers have explored the idea that a perceived consensus of an attitude or behavior of an identity group may affect influence over individual's attitudes or behaviors and make them more likely to conform (Crandall, Eshleman, & O'Brien, 2002; Stangor, Sechrist, & Jost, 2001). This hypothesis has been supported when examining the effects of perceived consensus on the expression of prejudiced behavior. Crandall, Eshleman, and O'Brien (2002) measured a near-perfect correlation ($r = .96$) between the degree to which people feel that their prejudices are normal according to group standards and the likelihood of them expressing these prejudices. Similarly, participants who felt that their prejudices were in line with the social norm also expressed that it was acceptable to discriminate against people who fell into these prejudiced

categories. Stangor, Sechrist, and Jost (2001) showed that the expression of personal attitudes could be altered by providing information about the social consensus to the attitude in question. Students in their study changed their original attitudes towards African-Americans to rate theirs more positively when they learned that other students had given a higher rating of their feelings towards African-Americans. This was replicated with students rating their attitudes towards African-Americans more negatively after they learned that others had given low ratings (Stangor, Sechrist, & Jost, 2001). Clearly, consensus of an idea within a social environment can affect the expression of personal attitudes and behaviors. This idea is quite relevant to the culture of alcohol consumption present in the college environment and its translation into individual attitudes and behaviors. Unfortunately, the social norms held by college students in relation to alcohol are often incorrect and inconsistent with reality.

College students regularly overestimate the permissiveness of attitudes towards alcohol use and the behaviors that follow. Using data collected from 130 universities nationwide (N= 76,145), Perkins, Haines, and Rice (2005) found that 80% of students overestimated the amount of alcohol consumed by their peers at schools where abstaining was the actual norm. Additionally, 60% of students overestimated the amount of alcohol consumed by their peers at schools where up to seven drinks was the actual norm (Perkins, Haines, & Rice, 2005). Furthermore, students have been shown to not only overestimate the frequency with which others experience negative consequences, but also underestimate how seriously others viewed experiencing these consequences (Lee, Geisner, Patrick, & Neighbors, 2010). The impact of such misperceived norms can be devastating; numerous researchers have demonstrated that perception of the campus norm

is the most powerful predictor of alcohol personally consumed by individual students in comparison with all other demographic variables and the actual campus norm (Neighbors, Lee, Lewis, Fossos, & Larimer, 2007; Perkins, Haines, & Rice, 2005; Weschler et al., 1994). Misperceptions concerning harm reductions techniques used while drinking also abound. Benton, Downey, Gilder, and Benton (2008) reported that students, especially women, tend to underestimate how often their peers use PBS while drinking. However, they also discovered that students who did perceive PBS use to be high on their campus were more likely to use the strategies themselves. This is a positive finding because PBS use is a simple way for college students to reduce harm to themselves and others while drinking (Martens et al., 2004).

PBS are a relatively new approach to confronting the problems of college alcohol use, but they have thus far shown quite a bit of promise. PBS have been defined by Martens et al. (2004) as “behaviors that individuals can engage in while drinking alcohol in order to limit negative-alcohol related consequences (p. 390).” Examples of PBS are using a designated driver, alternating alcoholic and non-alcoholic drinks, and avoiding drinking games. In 2004, Martens and colleagues highlighted that an inverse relationship existed between use of PBS and amount of alcohol-related negative consequences experienced. Delva and colleagues (2004) also identified the same inverse relationship between PBS use and alcohol-related negative consequences, but noted a gender difference. Females were found to use PBS more than males, and the magnitude of the relationship between PBS use and avoidance of alcohol-related negative consequences was stronger for females. This same gender difference was found by Walters, Roudsari, Vader and Harris (2007), who also identified that heavy episodic drinkers were less likely

to use PBS.

Researchers have attempted to explain these findings. Delva et al. (2004) noted that females tend to feel more vulnerable to alcohol-related negative consequences like sexual assault and, therefore, feel a greater need to protect themselves. Females also tend to drink and socialize in groups that may reinforce using PBS through gender norms. Conversely, male gender norms may regard using PBS as a display of weakness or lack of masculinity. Thus, males may feel social pressure to resist using PBS (Delva, et al., 2004). Walters et al. (2007) determined that many forms of PBS involve limiting drinking such as setting a drinking limit, drinking slowly, or avoiding drinking games. This fact may help explain why heavy drinkers were less likely to use PBS.

However, Haines, Barker, and Rice (2006) report that PBS use is actually quite widespread among college students with 73% of students regularly using at least one protective strategy while 64% of students regularly employ two or more protective strategies. They also identified that students who used a high number of strategies experienced a further reduction of harm (Haines, Barker, & Rice, 2006). In addition, 50% of students reported sometimes practicing situational abstinence from alcohol in a social setting (Haines, Barker, & Rice, 2006).

Howard, Griffin, Boekeloo, Lake, and Bellows (2007) conducted a similar study and used focus groups to identify the drinking behavior of and use of PBS by college freshmen. Using data collected from these groups, Howard and colleagues (2007) concluded that freshmen students are aware of protective strategies and regularly employ them. One important strategy used frequently by participants was the identification of a sober person within the group who could be the designated driver or help others maintain

previously set drinking limits. Participants also reported that they were willing to help others reduce harm in such ways (Howard et al., 2007). Other strategies reported included having a plan for the night (knowing how much one planned to drink and how one would return home), going out and staying with a coed group of friends, and eating before drinking (Howard et al., 2007). Within the focus groups, the discussion of ways to refuse drinks led to the deviation of the original topic to discussing peer pressure to drink. Men admitted that other men usually encourage them to drink large amounts of alcohol and rarely tell a friend to stop drinking. Women also felt strong pressure to drink, particularly while attending fraternity parties (Howard, et al., 2007).

The results of previous studies have led researchers to suggest that whenever college students interact with alcohol, both direct peer pressure and indirect social norms have an impact upon the various decisions they make regarding alcohol consumption and PBS use and the consequences that result from these decisions (Howard et al., 2007; Lee et al., 2010; Neighbors et al., 2007; Perkins, Haines, & Rice, 2005). Although many studies have evaluated the effect of social norms upon college students' individual behaviors related to alcohol use, the relationship between resistance to conformity to such norms and subsequent behaviors like consuming alcohol, experiencing alcohol-related negative consequences, and using PBS has yet to be explored. A study examining the interaction of these variables would be a valuable contribution to the literature. As levels of heavy episodic drinking among college students remain stubbornly high and rising and frequency of experiencing negative consequences similarly stagnates or rises (Hingson, Zha, & Weitzmann, 2009), study into this matter is both pertinent and relevant. The dire misperception of social norms pertaining to college alcohol use (Benton et al., 2008;

Neighbors et al., 2010; Perkins et al., 2005; Weschler et al., 1994) further warrants this type of study. For these reasons, this study seeks to determine the degree to which a relationship exists between students' resistance to conformity and their alcohol consumption, number of alcohol-related negative consequences experienced, and PBS use. The hypotheses of this study are as follows: 1) A negative relationship will exist between resistance to conformity and amount of alcohol consumed, 2) A negative relationship will exist between resistance of conformity and experiencing alcohol-related negative consequences and 3) A positive relationship will exist between resistance to conformity and use of PBS.

Chapter Three: Methods

This study sought to determine the relationship between college students' resistance to conformity and their alcohol consumption, number of alcohol-related negative consequences experienced, and PBS use. Data collection occurred over the Internet via self-reported surveys of undergraduates at a mid-sized Southeastern university. Data were analyzed using bivariate correlations to determine the relationship between the independent variable, resistance to conformity, and the dependent variables, alcohol consumption, number of alcohol-related negative consequences experienced, and PBS use.

Operational Definitions

- 1) Conformity was defined as the degree to which others seek to bring their expressed behaviors or beliefs into congruence with the perceived norms of the wider whole. Conformity exists on a continuum and was measured using the Resistance to Peer Influence (RPI) scale.
- 2) Alcohol consumption was defined as the number of standard drinks that one consumes in the period of one month and was measured using the Daily Drinking Questionnaire (DDQ).
- 3) Alcohol-related negative consequences were defined as resultants of drinking alcohol that cause academic, judicial, or bodily harm. Number of alcohol-related negative consequences experienced was measured using the Young Adult Alcohol Consequences Questionnaire (YAACQ).
- 4) PBS use was defined as the amount of behavioral strategies employed in order to reduce harm related to alcohol use. PBS use was measured using the Protective

Behavioral Strategies Scale (PBSS).

Instrumentation

Demographic Questionnaire. The demographic questionnaire collected information about the participants' age, gender, ethnicity, living arrangements, employment status, academic year, and enrollment status. This data was collected via multiple choice and open-ended questions. This questionnaire takes approximately five minutes to complete.

Daily Drinking Questionnaire (DDQ). The DDQ is a shortened version of the Drinking Practices Questionnaire (DPQ), which is designed to measure volume, quantity, and frequency of alcohol consumption. A modified version of the DDQ was primarily used in this study to measure students' average alcohol consumption over the past thirty days. In order to assess this, students filled out the DDQ by estimating the number of standard drinks they consumed on each day of a typical week of the past month (Collins, Parks, & Marlatt, 1985). To facilitate this, the DDQ provides students with information describing how much of each type of alcohol (beer, wine, and spirits) constitutes a standard drink. In this study, the final number represented the variable of alcohol consumption. Collins and colleagues (1985) define light drinkers as those who drink less than four drinks a week or do not drink at all, moderate drinkers as those who consume between four to eleven drinks per week, and heavy drinkers as those who have an average of more than twelve drinks per week. The DDQ is frequently used to measure college students' drinking practices, and it can usually be completed in about three minutes. Collins, Parks, & Marlatt (1985) demonstrated the validity of the DDQ by comparing data collected from the DDQ to data collected by the DPQ. The data proved to be

significantly correlated, which suggests validity between these two measures. The validity of the DDQ has also been documented by Martens and colleagues (2005).

Brief Young Adult Alcohol Consequences Questionnaire (BYAACQ).

Developed by Kahler, Strong, and Read in 2005, the BYAACQ is a 24-item measure which quantifies both the general amount of alcohol-related negative consequences experienced and the specific categories into which these consequences fall. Specific domains of consequences as defined by the BYAACQ are (a) social/interpersonal, (b) academic/occupational, (c) risky behavior, (d) impaired control, (e) poor self-care, (f) diminished self-perception, (g) blackout drinking, and (h) physiological dependence (Read, Merrill, Kahler, & Strong, 2007). BYAACQ evaluates such consequences on a dichotomous scale. Respondents indicated “yes/no” in regards to whether they experienced each individual consequence within the past year. These eight domains were then evaluated to produce one total score indicative of overall consequences experienced. Higher scores indicate a higher number of negative consequences were experienced while lower scores indicate that a lower number of negative consequences were experienced. This total score was used in this study to define the number of negative consequences experienced by participants. Read and colleagues (2007) found the BYAACQ to demonstrate strong internal validity, test-retest reliability, and concurrent and predictive validity.

Protective Behavioral Strategies Scale (PBSS). The 15-item PBSS, created by Martens and colleagues (2005), was used to assess the degree to which participants employ protective behavioral strategies. This scale contains three subsections of strategies: stopping/limiting drinking, manner of drinking, and serious harm reduction.

Participants evaluated how often they engage in a certain behavior such as “determining not to exceed a set number of drinks” and indicated their frequency of employment with a score ranging from 1 (never) to 6 (always). A total score ranging from 15 – 90 is generated with higher scores signifying more use of PBS while lower scores signify less use of PBS. This total score was used in the present study to represent PBS use. When subjected to psychometric analysis, the PBSS repeatedly displays strong reliability and internal validity (Martens et al., 2005; Martens, Pederson, LaBrie, Ferrier, & Cimini, 2007).

Resistance to Peer Influence Scale (RPI). The RPI, developed by Steinberg and Monahan (2007), was used in this study to determine participants' resistance to conformity. The RPI can be used as a legitimate measure of resistance to conformity because it evaluates whether people tend to go along with the behaviors and attitudes of others, which matches the operational definition of conformity for this study. The RPI contains 10 items, each consisting of a statement and its opposite reflection. For example, one item reads “*Some people think it's more important to be an individual than to fit in with the crowd*” BUT “*Other people think it is more important to fit in with the crowd than to stand out as an individual.*” Participants must decide which statement most describes their way of thinking and then indicate whether the statement is “sort of true for me” or “really true for me.” Responses are assigned a value from 1 - 4, with 1 signifying “really true for me” on the first statement and 4 signifying “really true for me” on its opposite reflection. These responses were then averaged to reveal one total score. Higher scores indicate higher resistance to conformity while lower scores indicate lower resistance to conformity. This total score was used in the present study as a measure of

resistance to conformity. Steinberg and Monahan (2007) found this measure to demonstrate strong internal consistency and reliability. They also tested the validity of this measure by evaluating the correlation between scores obtained from this study and measures of impulse control and antisocial risk taking. The very modest negative correlation ($r = -.22$ with impulse control; $r = -.12$ with antisocial risk taking) between these measures suggests that the RPI does indeed measure resistance to peer influence rather than impulse control or antisocial risk taking and is, thus, a valid instrument.

Procedure

The data used in this study was collected as part of a larger study that gathered data concerning self-esteem, a number of personality factors, and alcohol use behaviors at a mid-sized public university in the Southeastern United States. All participants accessed the questionnaires through the psychology department's on-line research website. Before beginning the questionnaires, participants filled out an online informed consent form and used their student ID number and signatures. The informed consent form clearly stated that participants had the right to withdraw from research at any time and without penalty. The questionnaires were presented in the following order: DDQ, PBSS, YAACQ, and RPI. They were presented in this order because they logically follow one another. These questionnaires were intermixed among numerous other self-esteem, alcohol, and personality measures. Once participants completed the survey, they were informed of the researcher's contact information and instructed to contact the researcher should they experience any distress related to their participation in the study. The questionnaires took approximately 45 minutes-1 hour to complete, and students received two extra credit points upon completion.

Data Analysis

For all three of the hypotheses of this study, data were analyzed using the Pearson product-moment correlation coefficient. Bivariate correlations were used to measure the strength of the relationship between two variables. In this case, the relationship between the independent variable of resistance to conformity and the three dependent variables of alcohol consumption, alcohol-related negative consequences experienced, and PBS use was evaluated. This study used correlations instead of linear regression because it is only interested in whether a relationship exists between these variables, not whether the independent variable predicts the dependent variables.

Participants

Participants of this study included both males and females from a mid-sized public Southeastern university. Students generally participated in order to earn extra credit or as an option to satisfy a research participation requirement in their psychology classes. Since students, themselves, chose the projects in which they intend to participate, participant selection was sufficiently randomized. Participants for this study included 797 students from a mid-sized Southeastern university. All participants were between the ages of 18 - 24 with a mean age of 19.60 (SD = 1.57). The majority of participants, 286 (35.9%), were classified as freshman closely followed by 255 (32.0%) sophomores, 155 (19.4%) juniors and 101 (12.7%) seniors. This sample was mostly composed of females (634, 79.5%), White non-Hispanics (456, 57.2%) and African Americans (300, 37.6%). Less than one-fifth of the sample (n = 131, 16.4%) were members of Greek organizations and less than one-tenth of the sample (55, 6.9%) were college athletes. Slightly less than half the sample (338, 42.4%) belonged to a university organization such as band or

academic clubs.

Results

Alcohol Consumption. Participants reported consuming an average of 3.28 (SD = 6.67) drinks per week. The majority of participants ($n = 580$, 73.2%) were light drinkers, followed by medium drinkers ($n = 144$, 18.2%) and heavy drinkers ($n = 68$, 8.5%) according to the classification system designed by Collins, Parks, and Marlatt (1985).

Alcohol-Related Negative Consequences. On average, students experienced an average of 4.64 (SD = 5.64) alcohol-related negative consequences related to alcohol consumption in the past year. As seen in Table 1, the three most frequently reported consequences were experiencing a hangover, feeling sick and throwing up, and saying or doing embarrassing things while drinking.

Protective Behavioral Strategies. Use of PBS while drinking was high, with an average score of 63.77 (SD = 18.31) on the PBSS. As seen in Table 2, students most frequently reported using forms of serious harm reduction such as knowing where their drink has been at all times ($M = 5.35$, SD = 1.35), making sure they went home with a friend ($M = 5.00$, SD = 1.51), and using a designated driver ($M = 4.98$, 1.63).

Resistance to Peer Influence. The average score on the RPI was 2.93 suggesting moderate resistance (SD = .54).

Correlations among Measures. Bivariate correlations were performed to determine the relationship between resistance to conformity and amount of alcohol consumed, number of negative consequences experienced, and use of PBS. A number of statistically significant correlations were found. Consistent with previous research, amount of alcohol consumed was moderately related to experiencing negative

consequences ($r = .44$, $p = .001$). Additionally, a moderate inverse association was found between the use of PBS and experiencing negative consequences ($r = -.385$, $p = .001$). Statistically significant correlations were found between resistance to conformity and the alcohol related variables in this study. Resistance to conformity was negatively correlated with both amount of alcohol consumed ($r = -.094$, $p = .05$) and number of negative consequences experienced ($r = -.195$, $p = .01$). Resistance to conformity was positively correlated with use of PBS ($r = .120$, $p = .01$).

The relationship between resistance to conformity and the alcohol variables was also assessed after dividing the sample into three groups based upon drinking levels: light, moderate, and heavy drinkers. Correlations among these variables were only significant for light drinkers (Table 3). No significant relationships were found to exist among these variables for moderate (Table 4) or heavy drinkers (Table 5)

Discussion

The current study sought to fill a gap in the existing literature by determining if a relationship existed between individuals' resistance to conformity and drinking behavior, including amount of alcohol consumed, frequency of experiencing alcohol-related negative consequences, and use of PBS, among college students. As hypothesized we found that individuals' resistance to conformity was related to their drinking behaviors. It was hypothesized that resistance to conformity would be negatively correlated with amount of alcohol consumed. Our results indicate that a negative correlation does exist between these variables. It was also hypothesized that resistance to conformity would be negatively related to the frequency of experiencing alcohol-related negative consequences. Our results are in accordance with this hypothesis. It was further hypothesized that resistance to conformity would be positively related to PBS use. Our results support this hypothesis. Though the strength of these relationships was weaker than expected, such findings provide a springboard into discussion of the nuances of the practical outcomes of conformity theory.

While we found associations between resistance to conformity and drinking variables, Pool and Schwelger's (2007) theory of norm conformity may offer an explanation as to why these associations were weaker than expected. According to Pool and Schwelger's (2007) tripartite model of general motives for norm conformity, conformity occurs in response to the need for accuracy, self-approval, and other-approval in social settings. That is, conformity to group norms is likely to occur only if individuals within the setting deem it necessary in order to fulfill these needs. Additionally, individuals typically belong to multiple groups, and the norms of these groups may not be

in harmony with one another. For example, though one might be a college student, he or she might also identify as a Baptist or a member of the African-American race. Terry and Hogg (1996) found that perceived norms of a reference group had the most impact on individual members' behavior among those who highly identified with the group versus minimal impact on the behavior of members who reported a low level of identification with the group. Data for the present study was collected from a university in the Southeastern United States, a region known for high levels of religious affiliation, especially evangelical Protestantism, among its residents (Wilson, 1985). The association between religious affiliation and abstaining from alcohol is strong and increases as level of identification with the religious group increases (Michalak, Trocki, & Bond, 2007). This sample was also composed of a high number of African American participants (37.6%). African American college students tend to consume less alcohol and engage in less heavy episodic drinking than white college students (Ernst, Hogan, Vallas, Cook & Fuller, 2009). Furthermore, African American students have been shown to demonstrate higher levels of self-regulatory behavior concerning alcohol use when compared to White students (Ernst, et al, 2009). This indicates that belonging to the African-American race may also function as a protective factor against harmful drinking. The increased tendency towards religiosity among African American students may also play a role in these findings (Ernst et al., 2009). Finally, numerous researchers have determined that the perceived campus norm is the most powerful predictor of individual students' level of alcohol consumption (Lee et al., 2010; Neighbors et al., 2010; Perkins, Haines, & Rice, 2005; Weschler et al., 1994). It is possible that the general perception of level of alcohol consumption at the university from which these data were collected is not particularly

high. Thus, even those students who highly identify with the college student reference group and report low resistance to conformity may be less motivated to drink to excess.

Another intriguing result of this study is the finding that correlations among resistance to conformity and the drinking variables were only statistically significant for light drinkers; relationships were not significant for moderate or heavy drinkers. Motives for drinking may explain this discrepancy. Four motives for drinking have been identified as follows: conformity, coping, enhancement, and social (Cooper, 1994). It may be that students who drink moderate or heavy levels of alcohol are primarily moved to drink by motives other than those presented in Pool and Schwelger's (2007) model of tripartite conformity motives. Therefore, their resistance to conformity would have little relationship to their alcohol consumption, number of negative consequences experienced, and their PBS use. Light drinkers may lack additional motives for drinking beyond social motives and, in turn, be more susceptible to the influence of social pressure to drink if they already possess low resistance to conformity and highly identify with the college student reference group.

Though a strong relationship does not appear to exist between resistance to conformity and the drinking behavior and experiences of these college students, useful information for practical application can be garnered from this study. Researchers have already advocated educating college students on actual college drinking norms (Neighbors et al., 2010; Perkins, Haines, & Rice, 2005) in order to reduce erroneous perceptions of the campus drinking norms and the consequences that arise from holding this flawed view. Based on the results from the present study, it seems such efforts may be more efficient if directed towards light drinkers as opposed to moderate or heavy

drinkers since it appears that conformity motives may be more prominent for drinkers of the light classification. Moderate and heavy drinkers may be best served by intervention based on harm-reduction strategies while focusing primarily on internal motivators of drinking; light drinkers may benefit more from norm-awareness programs with special attention paid to external motivators of drinking.

Furthermore, findings of this study appear to provide additional support for the idea that identifying with certain reference groups may offer a protective factor from harmful drinking behavior while attending college (Ernst, et al., 2009; Terry & Hogg, 1996). It may prove beneficial to emphasize via prevention programs that a wide range of acceptable drinking behavior exists among the subgroups of college students, and one group's endorsement of harmful drinking behaviors does not represent the norms of the entire college student population. For instance, the drinking norms of a social fraternity/sorority may be quite different from an academic fraternity/sorority. This study has supplied additional avenues to the current understanding of social conformity and its relationship to social behaviors; a practical application of this information involves focusing intervention methods that primarily target perception of social norms towards light drinkers and emphasizing the diversity of alcohol-related norms within the student community.

Although our results lend some support about how conformity relates with drinking behaviors, it is also imperative to consider the limitations of this study when interpreting the implications of the results. For example, it was concluded that the weak correlations in this study may have resulted from identification with alternate reference groups rather than the assumed reference group. Taking regional norms into account, one

such reference group considered was that of religious affiliation. However, religious affiliation was not assessed so it is impossible to be sure of the religious makeup of the sample. Additionally, resistance to conformity data for this study was collected via an online questionnaire. Though the measure used has been shown to be a reliable and valid measure of conformity, self-report assessments of resistance to conformity may not necessarily be an accurate measure of resistance in real situations. Performing an experiment which measured resistance to conformity of participants under social pressure may be more realistic and garner more valid data. The makeup of participants is also a limitation of this study. The sample for this study was nearly 80% female, so males were underrepresented. Therefore, the conclusions of this study may be more applicable to female college students and less applicable to college students in general. Finally, data for this project was collected at one university; as perception of campus norms related to drinking will vary among universities, this further limits the generalizability of this study. It is possible that outcomes may have been very different were data collected from a university with a more saturated drinking culture.

The results of this study provide opportunities for additional research. Replication of this study at universities in a different regional area and with a more prominent drinking culture may yield interesting conclusions. However, conformity is an incredibly broad concept, and it would be beneficial to explore more narrowly defined subsets of this aspect of social behavior. Subsequently, it would be constructive to further investigate how individual college students choose the reference group with which they primarily identify and expand upon existing knowledge of how conformity to the values of these various reference groups impacts drinking levels, experiences of alcohol-related

negative consequences, and PBS use. Another area of interest is the drinking behavior of students with a low resistance to conformity who arrive at college without ties to a specifically defined reference group. Such studies would allow researchers a greater understanding of the social influences on the drinking behavior of college students and could lead to a finer utilization of resources designed to lessen those influences that negatively impact the well-being of students. Investigating the associations between resistance to conformity and alcohol variables resulted in further understanding of the dynamics of college alcohol use and highlighted important differences between light drinkers and moderate to heavy drinkers. Additional studies into personality variables and other forces surrounding college students' alcohol use and abuse will assist in defining, understanding, and remedying this public health crisis.

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Table 1. *Means and Standard Deviations for BYAACQ Items.*

BYAACQ Item	Mean	SD
1. I have had an headache the morning after I had been drinking	.48	.50
2. I have taken foolish risks when I have been drinking	.33	.47
3. I've not been able to remember large stretches of time while drinking heavily.	.21	.41
4. The quality of my work or schoolwork has suffered because of my drinking.	.12	.32
5. I have had less energy or felt tired because of my drinking.	.32	.47
6. My drinking has gotten me into sexual situations I later regretted.	.18	.39
7. I have often ended up drinking on nights I planned not to drink	.29	.45
8. My physical appearance has been harmed by my drinking.	.08	.26
9. While drinking, I have said or done embarrassing things.	.40	.49
10. I have felt very sick to my stomach or thrown up after drinking.	.41	.49
11. I have not gone to work or missed classes at school because of drinking, a hangover, or illness caused by drinking.	.20	.40
12. When drinking, I have done impulsive things I regretted later.	.20	.40
13. I have been overweight because of drinking.	.07	.25
14. I have woken up in an unexpected place after heavy drinking.	.10	.30
15. I have spent too much time drinking.	.11	.30
16. I have felt badly about myself because of my drinking.	.13	.33
17. My drinking has created problems between myself and my boyfriend/girlfriend/spouse/parents, or other near relatives	.11	.32
19. I have felt like I needed a drink after I'd gotten up (that is, before breakfast).	.06	.23
20. I have driven a car when I knew I had too much to drink to drive safely.	.17	.38
21. I have often found it difficult to limit how much I drink.	.11	.31
22. I have passed out after drinking.	.16	.37
23. I have become very rude, obnoxious, or insulting after drinking.	.17	.37
24. I have found that I needed larger amount of alcohol to feel any effect, or that I could no longer get high or drunk on the amount that used to get me high or drunk.	.14	.35

N = 781

Table 2. *Means and Standard Deviations of PBSS Items.*

PBSS Item	Mean	SD
1. Use a designated driver	4.98	1.63
2. Determine not to exceed a certain number of drinks	4.37	1.78
3. Alternate alcoholic and nonalcoholic drinks	3.76	1.92
4. Have a friend let you know when you have had enough to drink	4.14	1.90
5. Avoid drinking games	4.08	1.91
6. Leave the party/bar at a predetermined time	4.05	1.81
7. Make sure that you go home with a friend.	5.00	1.51
8. Know where your drink has been at all times.	5.35	1.35
9. Avoid drinking shots of liquor.	3.07	1.73
10. Stop drinking at a predetermined time.	3.83	1.82
11. Drink water while drinking alcohol.	3.51	1.95
12. Put extra ice in your drink.	3.58	1.92
13. Avoid mixing different types of alcohol.	4.17	1.81
14. Drink slowly rather than gulp or chug.	4.40	1.65
15. Avoid trying to “keep up” or “outdrink” others.	4.68	1.65

N=763

Table 3: *Results of Bivariate Correlations for Light Drinkers*

	1	2	3
DDQ	—		
BYAACQ	.205**	—	
PBSS	-.065	-.275**	—
RPI	-.094*	-.217**	.110*

N = 537, * $p < .05$, ** $p < .01$

Table 4: *Results of Bivariate Correlations for Moderate Drinkers*

	1	2	3
DDQ	—		
BYAACQ	.184*	—	
PBSS	.148	-.466**	—
RPI	-.005	-.139	.148

N = 134, * $p < .05$, ** $p < .01$

Table 5: *Results of Bivariate Correlations for Heavy Drinkers*

	1	2	3
DDQ	—		
BYAACQ	.217	—	
PBSS	-.179	-.367**	—
RPI	-.071	.077	-.179

N = 59, * $p < .05$, ** $p < .01$