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Social and Individual-Level Identities and College Male Alcohol Use Behaviors: Examining the Utility of Protective Behavioral Strategies

Robert Bearden Whitley

SOCIAL AND INDIVIDUAL-LEVEL IDENTITIES AND COLLEGE MALE
ALCOHOL USE BEHAVIORS: EXAMINING THE UTIILITY OF PROTECTIVE
BEHAVIORAL STRATEGIES

by

Robert B. Whitley, M.S.

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Approved by:

Dr. Michael Madson, Committee Chair
Dr. Byron Zamboanga
Dr. Richard Mohn
Dr. Bonnie Nicholson

_____	_____	_____
Dr. Michael Madson	Dr. Sara Jordan	Dr. Karen S. Coats
Committee Chair	Director of School	Dean of the Graduate School

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ABSTRACT

Recent literature has consistently identified conformity to traditional masculine norms as motivating hazardous drinking behaviors of college men. Given the high prevalence of hazardous drinking among college men and the particular negative consequences that emerge secondary to it, additional research is needed in this area to better identify possible intervention targets. The present study sought to better elucidate the proximity of male norm conformity to drinking behaviors through including a specific identity factor related to alcohol use: drinking identity. Secondary to this goal, this study also sought to examine how these factors of identity predicted the safe drinking behaviors of college men or lack thereof to possibly identify behavioral intervention targets in the association between norm conformity and hazardous drinking. The study found that conformity to the norms of playboy, power over women, self-reliance, and risk-taking predicted male students more strongly identifying as drinkers which, in turn, predicted a lack of protective behavior and negative alcohol outcomes (i.e., hazardous drinking and negative consequences). The study also found that conformity to the emotional-control norm might also play a protective role through limiting identification as a drinker and promoting protective drinking behaviors. Clinical and research implications are discussed.

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DEDICATION

I would like to dedicate this work first to my parents, Jay and Elizabeth. I consider myself lucky to have grown up in an environment where both my parents supported my passions unconditionally and unwaveringly. I would have never reached this point without your support, love, and patience. I would like to thank my father, Jay, for teaching me the true value of hard-work and humility, and for supporting and encouraging me throughout the long journey of graduate school. I also would like to thank my mother, Elizabeth, for showing me what it means to be a compassionate human who continues to teach me the value in service to others and for always pushing me to be a better man. I would also like to dedicate this to my siblings, Rachel, John, and Caroline and close friends who continue to support me and put up with my nerdy diatribes on psychology.

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CHAPTER I – INTRODUCTION

College Male Alcohol Use

From John "Bluto" Blutarsky of Animal House (Simmons & Reitman, 1978) to

Frank "The Tank" Ricard of Old School (Goldberg, Medjuck, Reitman, & Phillips, 2003)

the image of the heavy drinking college man appears to be a long-standing archetype

within the culture of the United States. Data has consistently suggested that college males

(i.e., 18-25) are at the highest risk for engagement in hazardous drinking nationwide

(National Institute on Alcohol Abuse and Alcoholism; NIAAA, 2015; Schulenberg,

Johnston, O'Malley, Bachman, Miech, & Patrick, 2018). This includes exceeding low

risk drinking guidelines of four daily and/or 14 weekly drinks or regular engagement in

heavy episodic drinking (i.e., five or more drinks within a two-hour period, National

Institute on Alcohol Abuse and Alcoholism; NIAAA, 2015). Furthermore, college males

also appear to be at an increased risk for engaging in more extreme binging patterns. In

the national Monitoring the Future annual report is was found that 21% of college males

reported consuming 10 or more drinks in single drinking occasion and 8.5% of college

males reported consuming 15 or more drinks in a single occasion within the past two

weeks (Schulenberg et al., 2018).

As suggested in the most recent Monitoring the Future report, college males are

particularly at risk for engaging in hazardous drinking in comparison to their female

counterparts and non-college male peers. Furthermore, Kimmel (2008) has noted a trend

in which college males continue to engage in hazardous drinking at similar rates

following graduation which is a cause for concern given that alcohol use generally is

expected to decline with age following college (Jochman & Fromme, 2010). So, while

hazardous drinking among college students is generally regarded as a public health concern (Schulenberg et al., 2018), researchers could benefit from more closely examining the hazardous drinking of college males given the unique association between this specific subpopulation and hazardous drinking.

Furthermore, when examining the rates and nature of alcohol-related negative consequences reported by college males this concern becomes even more apparent. While college females tend to report a greater variety of alcohol-related negative consequences experienced (Ham & Hope, 2003), college males tend to report experiencing more severe alcohol-related negative consequences occurring in greater frequency (Park & Grant, 2005; Hingson, Heeren, Winter, & Wechsler, 2005) suggesting a unique association between college males and alcohol-related negative consequences.

The severity and frequency of reported alcohol-related negative consequences is not only concerning given the individual level impact that hazardous drinking has on college males (e.g., financial consequences, blacking out, missing class, etc.; NIAAA, 2015), but there is also evidence to suggest that college males' hazardous drinking can have a serious impact on their communities. This includes consequences ranging from interpersonal aggression (e.g., getting in physical fights and sexual assault; Testa, Brown, & Wang, 2018) to high-risk sexual behavior (White & Jackson, 2005) to property damage (White, McMorris, Catalano, Fleming, Haggerty, & Abbott, 2006) among others.

Another troubling aspect of college males' experience of alcohol-related negative consequences is that negative consequences such as social consequences (e.g., arguing/fighting with friends) and experiencing blackouts have been shown to predict increases in hazardous drinking for college males (Read, Wardell, and Bachrach, 2013).

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This may be because males often view alcohol use as an appropriate coping mechanism for negative psychological states (Addis & Mahalik, 2003; Groeschel, Wester, & Sedivy, 2010). In fact, increases in alcohol-related negative consequences tend to predict more negative attitudes towards seeking help for alcohol-related problems among males (Groeschel, et al., 2010). This presents a rather unique and paradoxical relationship between college males and alcohol. Not only does hazardous drinking among college males produce unique external negative consequences, but also those same consequences may reinforce future drinking and hinder help seeking thus creating a problematic cycle of negative reinforcement.

This is particularly concerning for clinicians seeking to address college male's hazardous drinking as this may suggest that traditional approaches (i.e., individual or group psychotherapy) may not be effective for college males. One approach for addressing college student hazardous drinking that has proven effective involves the use of alcohol protective behavioral strategies (PBSA; Delva, Smith, Howell, Harrison, Wilke, & Jackson, 2004; Martens, Martin, Hatchett, Fowler, Fleming, Karakashian, & Cimini, 2008). PBSA are a set of self-regulatory behaviors, which individuals can use to help buffer against serious harm or over-consumption related to alcohol use (Martens et al., 2008). PBSA can be further defined by its three subtypes (Martens et al., 2005; Treloar, Martens, & McCarthy, 2015). The strategy subtypes include Stopping/Limiting Drinking strategies (SLD-PBSA, e.g., setting a predetermined limit), Manner of Drinking strategies (MOD-PBSA, e.g., avoiding chugging, or pregamming, etc.), and Serious Harm Reduction (SHR-PBSA, e.g., using a designated driver; Martens et al., 2005; Treloar et al., 2015).

The general trend in PBSA research has consistently highlighted that female college students are more likely to implement PBSA than their male counterparts (Pearson, 2013; LaBrie, Hummer, Kenney, Lac, & Pedersen, 2011; Madson & Zeigler-Hill, 2013). When males do report using PBSA, they tend to report using more SHR-PBSA (Delva et al., 2004; Walters et al., 2007). Currently, little research has explored factors that may explain why college males are much less likely to employ PBSA in comparison to their female peers. Madson and Zeigler-Hill (2013), Madson, Moorer, Zeigler-Hill, Bonnell, and Villarosa (2013), and Moorer, Madson, Mohn and Nicholson (2013) all suggested that the differences noted between males' and females' PBSA use may largely be a factor of gender socialization. In fact, research has highlighted that college males' alcohol-related behaviors (i.e., hazardous drinking and negative consequences) are largely tied to the male gender socialization process (see Courtenay, 2000; Lemle & Mishkind, 1989; Williams & Ricciardelli, 1999).

Male Gender Socialization

Gender Schema Theory (Bem, 1981; Ruble & Stangor, 1986; Martin, Ruble, & Szkrybalo, 2002) explains that early in development, children gain an awareness of their gender identity and begin to organize networks of information, which guide and motivate behavior consistent with their gender identity (Bem, 1981; Martin, Ruble, & Szkrybalo, 2002). Over time, children begin to identify and learn the norms (i.e., implicitly or explicitly stated rules or standards; Abrams, Wetherell, Cochrane, Hogg, & Turner, 1990) associated with their identified gender. These norms are influenced by social factors such as child rearing practices, school environment, media content, and other forms of cultural transmission (Bem, 1981; Martin, Ruble, & Szkrybalo, 2002).

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In the context of the male gender, Mahalik and colleagues (2003) identified 11 traditional male norms through mixed-methods research. More recent research done by Hsu and Iwamoto (2015) has reduced the factor structure of traditional male norms to eight after finding significant overlap between some factors (e.g., primacy of work norm highly overlaps with self-reliance norm). These norms of traditional masculinity include determination to win at all costs (winning), sexual prowess (playboy), controlling one's emotions (emotional control), engagement in risk taking behaviors (risk taking), inclination towards physical aggression (violence), inclination toward independence (self-reliance), controlling women (power over women), and aversion to being seen as homosexual by others (heterosexual self-presentation; Hsu & Iwamoto, 2015).

Subsequent gendered behavior is mediated through two cognitive processes: schema-directed memory of these masculine norms and motivation to be congruent with the norms of the male group (Martin, Fabes, Evans, & Wyman, 1999; Martin, Ruble, & Szkrybalo, 2002). This motivation to be congruent with gender norms is referred to as conformity (i.e., the tendency one has to change their values, beliefs, attitudes, and behaviors to match those of a social group; Cialdini & Goldstein, 2004; Tajfel & Tuner, 1984; 2004). Within the context of the male gender group, conformity is explained through the lens of Precarious Manhood Thesis.

The Precarious Manhood Thesis – which is an extension of Social Identity Theory (Tajfel & Turner, 1984; 2004) – has demonstrated through repeated experimental manipulation that membership in the male social group is a tenuous, achieved status (Funk & Werhun, 2011; Schmitt & Branscombe, 2001; Vandello, Bosson, Cohen, Burnaford, & Weaver, 2008; Vandello & Bosson, 2013). Males who do not conform to

the group norms and do not behave in typically masculine ways run the risk of losing their masculine status and may experience subsequent rejection from the group (Schmitt & Branscombe, 2001; Vandello & Bosson, 2013; Winegard, Winegard, & Geary, 2014). Thus, males seeking to remain as part of the male group will conform to the male group norms in the context of other males. As a result, these males then seek to engage in behaviors, which allow for the public demonstration of this masculinity with the goal of either conserving or asserting their status as masculine (Vandello & Bosson, 2013).

Masculinity and Alcohol Use

Alcohol use appears to be one such behavior through which males can assert their masculinity in a public domain (Lemle & Mishkind, 1989; Williams & Ricciardelli, 1999). Broadly speaking, drinking alcohol is largely a male dominated activity in the United States (Capraro, 2000). Furthermore, Peralta (2007) indicated that the ability to consume and tolerate large quantities of alcohol is generally regarded as representing one's level of masculinity. Males who are unable to consume or tolerate large amounts of alcohol without adverse effects are generally perceived as weaker or more feminine (Gough & Edwards, 1998). Males who desire to appear masculine have been observed monitoring the drinking rates of their male peers as well as attempting to match or exceed their drinking as a means of asserting their own masculinity (Visser & McDonnell, 2012; Visser & Smith, 2007). Consistent with Gender Schema Theory and Precarious Manhood Thesis, it appears that the extent to which males engage in traditionally masculine behavioral displays is influenced by the extent to which they conform to traditional masculine norms.

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Strong empirical support has identified conformity to traditional masculine norms as a predictor of greater hazardous drinking within college male samples. Specifically, conformity to the norms of playboy, risk-taking, winning, and violence are predictive of hazardous drinking within the college male population (Iwamoto et al., 2011; Iwamoto, Lejuez et al., 2014; Wells et al., 2013; Zamboanga et al., 2016). In addition, some studies have found the norms of heterosexual self-presentation and power over women to predict hazardous drinking (e.g., Iwamoto & Smiler, 2013; Zamboanga et al., 2016). In relation to alcohol-related negative consequences, the norms of playboy and risk-taking have consistently emerged as predictors (Iwamoto, Cheng, Lee, Takamatsu, & Gordon, 2011; Iwamoto, Corbin, Lejuez, & MacPherson, 2014; Wells et al., 2014; Zamboanga, Iwamoto, Pesigan, & Tomaso, 2015). In addition, Iwamoto (2011) also found that self-reliance, primacy of work, and power over women were significant predictors of alcohol-related negative consequences. Given these findings, studying the relationship of PBS to these traditional male norms is likely important in better understanding the lack of PBS use among college males.

In addition, researchers concerned with further understanding the unique nature of college males' hazardous drinking should consider the male gender within the larger context of identity development. From a broad perspective, identity theorists recognize the variable nature of identity (see Thoits and Virshup, 1997) and the contrast between individual and social identity (Brewer & Roccas, 2001; Hogg, 2003; Thoits & Virshup, 1997). As such Lindgren, Ramirez, Namaky, Olin, and Teachman (2016b) argue that it is important for researchers to examine the relationships between differing identity domains in college alcohol research.

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Drinking identity, or the tendency one has to view and equate their personal identity as that of a drinker, has been strongly linked with frequency of hazardous drinking and alcohol-related negative consequences (Lindgren, Neighbors, Gasser, Ramirez, & Cvencek, 2017). Even when compared to other well-established cognitive predictors of college student alcohol use (i.e., alcohol expectancies, drinking norms, drinking motives) drinking identity is a more robust and consistent predictor of drinking outcomes (DiBello, Miller, Young, Neighbors, & Lindgren, 2018; Lindgren, Foster, Westgate, & Neighbors, 2013a; Lindgren, Ramirez, Olin, & Neighbors, 2016a).

Also, considering that an individual's perceptions of their own identity may act to inform the situational decision-making process (Hagger, Anderson, Kyriakaki, & Darkings, 2007) developing a deeper understanding of the interplay between social and individual identities could prove useful in identifying targets for prevention and intervention efforts to address male college student drinking (e.g., social norming campaigns versus individualized approaches). Therefore, drinking identity may also help to explain the association between masculine norm conformity, PBS, and alcohol-related outcomes.

To date, only one known study has examined the relationship between conformity to traditional male norms, PBSA, and alcohol-related outcomes (see Whitley, Madson, and Zeigler-Hill, 2018). The results from this study suggested that conformity to the norm of heterosexual self-presentation may enhance college males' PBSA use. Broadly, this study suggested that there may be value in further exploring the unique interplay of conformity to traditional masculine norms and PBSA. A logical next step is to further explore this relationship by examining mediational effects of PBSA at the subfactor level

as well as including an additional cognitive predictor (drinking identity) in the relationship between male gender norm adherence and alcohol outcomes. In doing so we may be able to identify more nuanced reasons as to why college males implement less PBSA and identify potential targets for interventions aimed at increasing PBSA use among college male populations. This study will attempt to answer the following questions.

Question 1

To what extent is the association between drinking identity and alcohol-related outcomes (i.e., hazardous drinking and alcohol-related negative consequences) mediated by PBSA strategies (i.e., MOD, SLD, SHR) among college males?

Hypothesis 1a: It is anticipated that MOD-PBSA and SLD-PBSA will mediate the association between drinking identity and hazardous alcohol use such that college males reporting stronger drinking identity will report less use of MOD-PBSA and SLD-PBSA and greater hazardous drinking (per Pearson et al., 2013; Martens et al., 2005; Martens et al., 2009).

Hypothesis 1b: It is anticipated that SHR-PBSA will mediate the association between drinking identity and alcohol-related negative consequences such that college males reporting weaker drinking identity will report greater use of SHR-PBSA and less alcohol-related negative consequences (per Delva et al., 2004; Walters et al., 2007).

Question 2

To what extent is the association between conformity to masculine norms (i.e., winning, risk-taking, playboy, heterosexual self-presentation, power over women, self-reliance, violence, and emotional control) and alcohol-related outcomes (i.e., hazardous

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drinking and alcohol-related negative consequences) sequentially mediated by drinking identity and PBSA strategies (i.e., MOD, SLD, SHR) among college males?

Hypothesis 2a: It is anticipated that drinking identity and MOD-PBSA as well as SLD-PBSA will sequentially mediate the relationship between conformity to masculine norms and hazardous alcohol use such that college males with stronger conformity to the masculine norms of winning, risk-taking, playboy, violence, heterosexual self-presentation and power over women will report stronger drinking identity, less MOD-PBSA use, less SLD-PBSA and more hazardous drinking (per Iwamoto et al., 2011; Iwamoto, Lejuez et al., 2014; Wells et al., 2013; Zamboanga et al., 2016).

Hypothesis 2b: It is anticipated that drinking identity and MOD-PBSA as well as SLD-PBSA will sequentially mediate the relationship between conformity to masculine norms and hazardous alcohol use such that college males with stronger conformity to the masculine norms of heterosexual self-presentation, emotional control, and self-reliance will report weaker drinking identity, more MOD-PBSA and SLD-PBSA use and less hazardous drinking (per Liu & Iwamoto, 2007; Whitley et al., 2018).

Hypothesis 2c: It is anticipated that drinking identity and SHR-PBSA will sequentially mediate the relationship between conformity to masculine norms and alcohol-related negative consequences such that college males with greater conformity to the masculine norms of winning, risk-taking, playboy, violence, and power over women will report stronger drinking identity, less SHR-PBSA use, and more alcohol-related negative consequences (per Iwamoto, 2011; Iwamoto et al., 2014; Wells et al., 2014; Zamboanga et al., 2015).

Hypothesis 2d: It is anticipated that drinking identity and SHR-PBSA will sequentially mediate the relationship between conformity to masculine norms and alcohol-related negative consequences such that college males with greater conformity to the masculine norms of heterosexual self-presentation, self-reliance, and emotional control will report weaker drinking identity, more SHR-PBSA use, and less alcohol-related negative consequences (per Whitley et al., 2018).

CHAPTER II – METHODOLOGY

The current study utilized a national sample of 599 college males between 18 and 25 years of age ($M = 22.52$, $SD = 2.02$) who reported current full-time enrollment at a college/university and reported physically attending classes on campus. Further, participants had to report alcohol consumption within the past 30 days. Additional demographic information is presented in Table 1. Participants were recruited through Amazon Mechanical Turk (MTurk) and was restricted to participants living in the United States. MTurk data has been shown to be a reliable and valid method of data collection for substance using populations (Kim & Hodgins, 2017). To ensure data integrity, only participants with a Human Intelligence Task (HIT) approval rate of at least 95% for all MTurk work were eligible to participant (Zamboanga, Audley, Olthuis, Blumenthal, Tomaso, Bui, & Borsari, 2017). Furthermore, measures were taken to prevent participants from completing the survey multiple times by using an HTML script from http://uniqueturker.myleott.com/ which, assigns each participant a unique identifier number and restricts access to the survey following completion. Lastly, random responding was identified using both a Long String Index (LSI; Costa & McCrae, 2008) as well as an analysis of participants who spent less time completing the survey compared to 95% of the sample. Random responding was identified with an LSI cutoff score of greater than nine (per Desimone & Harms, 2018). Participants were compensated $0.50 given they completed at least 75% of the survey and passed the validity checks.

The study description on Amazon MTurk was clearly outlined and eligibility requirements were provided to participants. Participants electing to participate were provided a link to Qualtrics, a secure online survey system, and directed to the study's

screening questionnaire and informed consent page. After providing consent and being

screened for eligibility, participants completed the demographics questionnaire first and

then all other measures were presented in a random order to reduce order effects. Five

thousand one hundred and thirty-two individuals initially responded to the survey link

provided on MTurk. Of those individuals 1,349 either did not meet the age requirement.

Of those individuals, 617 reported living outside the US, 219 denied college enrollment,

and 112 denied taking classes in person. Lastly, 1,367 denied alcohol use, 16 did not

provide consent, and 1,046 identified as female. Finally, an additional 367 were removed

for completing less than 75% of the survey and 143 were removed for having a

Longstring Index (LSI) which exceeded the cutoff of 9 suggesting careless responding.

The remaining sample consisted of 599 (M = 22.52, SD = 2.02) traditionally aged college

males (i.e., 18-25). Due to coding error, 308 cases did not have race data. However, the

remaining sample was 57.4% White, 8.6% African American/Black, 15.8 % Asian

American, 1.4% Eastern Indian American, 0.3% Middle Eastern American, 5.2%

Multiracial, 7.2% Native American, and 4.1% Other. Of those 78.1% identified as

heterosexual/straight, 5.5% identified as gay, 13.0% identified as Bisexual, and 2.7%

selected "prefer not to answer."

Table 1

Demographic Characteristics of Overall Sample (N = 599)

Demographic	N	%	*Demographic*	N	%
Region of US			Type of University		
Northeast – New England	52	8.7	Public/State	387	66.3
Northeast – Mid Atlantic	113	18.9	Private	168	28.0
Southeast	99	16.5	Liberal Arts College	20	3.3
Southwest	41	6.8	Religious Affiliated	9	1.5

Table 1 (continued)

South Atlantic	75	12.5	Student Body Size		
Midwest – East North	28	4.7	Less than 2,000	49	8.2
Midwest – West North	33	5.5	2,000-5,000	118	19.7
West – Mountain	71	11.9	5,000-10,000	132	22.0
West – Pacific	87	14.5	10,000-15,000	87	14.5
Fraternity Membership			15,000-20,000	80	13.4
Yes	253	42.2	20,000-30,000	56	9.3
No	345	57.6	More than 30,000	76	12.7

Measures

Demographic Questionnaire

Participants completed a brief demographic questionnaire examining the participant's sex, race, sexual orientation, Greek status, year in school, among other factors.

Conformity to Masculine Norms

Conformity to masculine norms was measured using the 29-item version of the Conformity to Masculine Norms Inventory (Hsu & Iwamoto, 2014). The CMNI-29 (Hsu & Iwamoto, 2014) which is a self-report measure that examines conformity to traditional masculine norms across eight separate domains. These domains include winning (e.g., "I don't mind losing", reverse scored), risk-taking (e.g., "I enjoy taking risks"), emotional control (e.g., "I tend to share my feelings", reverse scored), power over women (e.g., "things tend to be better when men are in charge"), playboy (e.g., "I would feel good if I had many sexual partners"), self-reliance (e.g., "I hate asking for help"), heterosexual presentation (e.g., "It would be awful if people thought I was gay"), and violence (e.g.,

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"violence is almost never justified", reverse scored). Participants are asked to indicate the degree to which the items accurately describe their own behaviors, feelings and beliefs using a 5-point Likert-type rating system indicating a level of agreement with each statement from 1 (strongly disagree) to 5 (strongly agree). Scores on the CMNI-29 are indicated at the subscale level and higher scores on each respective subscale represents greater conformity to specific traditional masculine norms.

The CMNI-29 has been shown to be a valid measure for college males (Hsu & Iwamoto, 2014; Zamboanga et al., 2016; Kaya, Iwamoto, Brady, Clinton & Grivel, 2018). Internal consistencies for the present sample were acceptable for the power over women ($\alpha = 0.86$), risk-taking ($\alpha = 0.73$), emotional control ($\alpha = 0.82$), winning ($\alpha = 0.77$), heterosexual self-presentation ($\alpha = 0.75$), violence ($\alpha = 0.82$), self-reliance ($\alpha = 0.77$), and playboy ($\alpha = 0.85$) norms.

Hazardous Alcohol Use

Hazardous alcohol use (e.g., frequency, quantity, dependence related symptoms) was examined using the 10-item Alcohol Use Disorders Identification Test – United States version (AUDIT-US; Higgins-Biddle & Babor, 2018). Participants indicated, "How often do you have a drink containing alcohol?", "How often during the past year have you failed to do what was expected of you because of drinking?" and "How often do you have 4 drinks if female/5 drinks if male or more on one occasion?" Items 1 and 3 of the AUDIT-US range from 0 (never) to 6 (daily) and item 2 ranges from 0 (1) to 6 (10 or more). The scores for items 4-8 range from 0 (never) to 4 (daily or almost daily). Items 9 and 10 are scored on a range from 0 (no) to 2 (Yes, but not during the past year) and 4 (Yes, during the past year). The AUDIT-US produces a total score ranging from 0-48 with higher scores

reflecting greater engagement in hazardous drinking. The AUDIT-US has demonstrated specific utility in identify at-risk male college student drinkers (Madson, et al., 2018). The internal consistency of the AUDIT-US with the current sample was within the excellent range ($\alpha = 0.90$).

Alcohol-Related Negative Consequences

Negative consequences was assessed using the 24-item Brief Young Adult Alcohol Consequences Questionnaire (BYAACQ; Kahler, Strong, & Read, 2005). The BYAACQ is a 24-item measure of alcohol-related negative consequences that pertain specifically to college students and asks questions about negative consequences occurring in the past year (e.g., "I have spent too much time drinking", "I have felt very sick to my stomach or thrown up after drinking.", "I have become very rude, obnoxious, or insulting after drinking", etc.). The BYAACQ measures negative consequences using a yes/no dichotomy to which participants respond that a negative consequence did or did not happen to them. The measure produces a total score with a range from 0 to 24 with higher scores representing higher levels of negative consequences. The internal consistency of the BYAACQ with the current sample suggested excellent internal consistency ($\alpha = 0.90$).

Drinking identity

Participants' drinking identity was assessed using the 5-item Alcohol Self-Concept Scale (ASCS; Lindrgren, Neighbors et al., 2013). This measure was adapted from the Smoker Self-Concept Scale (Shadel & Mermelstein, 1996) by Lindgren, Neighbors, and colleagues (2013) to analyze drinking identity. The ASCS measures how much one views their alcohol use as a component of their identity or self-concept.

Individuals indicate their level of agreement with statements (e.g., "Drinking is part of who I am,") on scale ranging from -3 (strongly disagree) to 3 (strongly agree). Scores on the ASCS range from -15 to 15 with higher scores reflecting stronger drinking identity. The reliability estimate for the ASCS with the current sample suggested excellent internal consistency ($\alpha = 0.96$).

Alcohol Protective Behavioral Strategy Use

Participants' PBSA use was assessed using the Protective Behavioral Strategies Scale – 20 (Treloar, Martens, and McCarthy, 2015). Participants respond to items by indicating the extent to which they use certain PBSA when drinking or partying using a Likert type scale ranging from 1 (never) to 6 (always). The PBSS-20 produces both a total score and subscale scores. The three subscales are: Serious Harm Reduction (SHR-PBSA; "use a designated driver"), Manner of Drinking (MOD-PBSA; "avoid drinking games") and Stopping/Limiting Drinking (SLD-PBSA; "alternate alcoholic and nonalcoholic drinks"). Total scores on the PBSS-20 range from 20-120 with higher scores indicating more use of PBSA. Therefore, the PBSS-20 is the preferred measure for this study. The internal consistencies for the SHR-PBSA ($\alpha = 0.88$), SLD-PBSA ($\alpha = 0.82$), and MOD-PBSA ($\alpha = 0.83$) subscales were all within the good range.

CHAPTER III - RESULTS

Means, standard deviations, and intercorrelations are presented in Table 2. In general, participants reported an average AUDIT-US score of 16.65 which greatly exceeds the AUDIT-US the cutoff of 5 for identifying at risk male drinkers (per Madson et al., 2018). Further, the current sample produced an average BYAACQ score of 11.02 suggesting a moderate to high degree of alcohol-related negative consequences. For reference, DeMartini and Carey (2009) observed an average BYAACQ of 7.27 in a sample of college males reporting hazardous drinking. Furthermore, a score of at least 10 suggests some experience of problematic psychosocial consequences (e.g., doing somethings embarrassing/impulsive and/or experiencing impairment work/school performance) whereas a score of at least 15 suggests likely alcohol misuse and possible dependence (Kahler, Strong, & Read, 2005).

The hypotheses were examined in two separate mediation models using a Structural Equation Modeling (SEM) framework. SEM was conducted using the statistical software program Mplus 7.11 (Muthen & Muthen, 2012). Model 1 involved a parallel mediation in which drinking identity served as the independent variable and Model 2 involved a sequential mediation model in which the eight dimensions of traditional male gender norm conformity (i.e., winning, risk-taking, playboy, violence, etc.) served as independent variables. Bootstrapping was used to further correct for possible skewed data (Preacher and Hayes, 2004).

Correlation analyses revealed that the male norms of winning, violence, and emotional control were negatively correlated with all PBSA subtypes and with drinking identity, hazardous drinking and negative consequences. The risk taking and self-reliance

norms were positively correlated with all PBSA subtypes, drinking identity, and alcohol outcomes. The power over women norm was negatively correlated with SHR-PBSA and positively correlated with SLD-PBSA, MOD-PBSA, drinking identity, and alcohol outcomes. The heterosexual self-presentation norm was positively correlated with SLD-PBSA, MOD-PBSA, drinking identity, and alcohol outcomes. The playboy norm was positively correlated with SLD-PBSA, drinking identity, and alcohol outcomes.

Table 2 .
Means, Standard Deviations, and Intercorrelations of Measures

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.Hazardous Drinking	---													
2. ARNC	.59**	---												
3. SHR-PBS	-.08**	-.13**	---											
4. SLD-PBS	.30**	.15**	.47**	---										
5. MOD-PBS	.18**	.03	.48**	.58**	---									
6. Drinking ID	.75**	.53**	-.10*	.29**	.17**	---								
7. WIN	-.33**	-.18**	-.12**	-.25**	-.26**	-.34**	---							
8. RT	.39**	.33**	.10*	.29**	.15**	.37**	-.31**	---						
9. VIO	-.23**	-.13**	-.13**	-.21**	-.29**	-.31**	.34**	-.21**	---					
10. PB	.45**	.44**	-.01	.19**	.07	.48**	-.22**	.43**	-.22**	---				
11. SR	.27**	.18**	.11**	.16**	.20**	.27**	-.16**	.24**	-.24**	.29**	---			
12. POW	.56**	.35**	-.05	.26**	.28**	.58**	-.28**	.39**	-.26**	.42**	.28**	---		
13. HSP	.24**	.17**	.01	.00	.09*	.11*	-.05	.43**	-.11**	.28**	.29**	.43**	---	
14. EMC	-.36**	-.25**	-.09*	-.24**	-.21**	-.38**	-.28**	-.42**	-.30**	-.29**	-.04	-.35**	.061	---
Mean	16.65	11.02	33.34	24.15	17.63	-3.22	5.85	4.98	5.56	4.28	5.05	3.71	8.46	4.37
SD	9.79	6.19	8.81	7.44	6.01	9.04	2.68	2.00	2.95	2.57	2.25	2.66	3.85	2.32

Note: ARNC = alcohol-related negative consequences; WIN = winning; RT = risk-taking; VIO = violence; PB = playboy; SR = self-reliance; POW = power over women; HSP = heterosexual self-presentation; EMC = emotional control. **$p<0.01$, *$p<0.05$

Confirmatory Factor Analysis.

Prior to running analyses with the CMNI-29 a Confirmatory Factor Analysis (CFA) was conducted to ensure appropriate performance of the measure with the current sample. To measure the fit of the measurement tool, the comparative fit index (CFI), Tucker-Lewis index (TLI), and root mean square error of approximation (RMSEA) were utilized. Standards for goodness of fit include a CFI and TLI greater than or equal to 0.90 and RMSEA values less than 0.10 (Quintana & Maxwell, 1999).

All items on the CMNI-29 were included in the model within their specified latent factors. Also, the latent factors were allowed to correlate across the model. The model demonstrated good fit to the current sample, χ^2 (349, $N = 599$) = 991.7, $p < 0.001$, CFI = 0.91, TLI = 0.89, and RMSEA = 0.06, 90% CI [0.05, 0.06]. Next, the individual item loadings were assessed to ensure adequacy of fit with the specified latent factors. Individual item loadings can be found in Table 3. Items of the latent factors of playboy, self-reliance, violence, winning, emotional control, risk-taking, and power over women all demonstrated adequate fit with item loadings ranging from 0.58 to 0.83. Items 1 ("Being thought of as gay is not a bad thing.") and 3 ("It would not bother me at all if someone thought I was gay.") of the heterosexual self-presentation factor had poor loadings (0.13 and 0.16 respectively). Still, these items were retained because they significantly loaded onto the factor.

Table 3 .
Individual CFA item loadings for each factor of the CMNI-29

Playboy	Estimate	Standard Error
If I could, I would frequently change sexual partners	0.83	0.019
I would feel good if I had many sexual partners	0.81	0.019
It would be enjoyable to date more than one person at a time	0.79	0.021
Self-Reliance		
I hate asking for help	0.73	0.028
I never ask for help	0.71	0.029
It bothers me to ask for help	0.74	0.028
Violence		
I believe that violence is never justified	0.74	0.024
I am disgusted by any kind of violence	0.77	0.023
Violence is almost never justified	0.74	0.024
No matter what the situation I would never act violently	0.67	0.028
Heterosexual Self-Presentation		
Being thought of as gay is not a bad thing	0.16	0.043
I would be furious if someone thought I was gay	0.82	0.018
It would not bother me at all if someone thought I was gay	0.13	0.044
It would be awful if people thought I was gay	0.82	0.019
I would feel uncomfortable if someone thought I was gay	0.70	0.025
I try to avoid being perceived as gay	0.69	0.025
Winning		
Winning is not my first priority	0.58	0.033
I don't mind losing	0.72	0.027
More often than not losing does not bother me	0.78	0.025
Winning is not important to me	0.63	0.031
Emotional Control		
I bring up my feelings when talking to others	0.71	0.025
I like to talk about my feelings	0.82	0.021
I tend to share my feelings	0.79	0.022
Risk-Taking		
I enjoy taking risks	0.65	0.034
I take risks	0.64	0.035
I frequently put myself in risky situations	0.74	0.031
Power Over Women		
Women should be subservient to men	0.80	0.019
Things tend to be better when men are in charge	0.83	0.018
I love it when men are in charge of women	0.82	0.018

Note: All revere scored items were recoded prior to running the CFA.

Hypothesis/Model 1

Global fit statistics. The current study involved a parallel mediation model utilizing a structural equation model framework to explore the mediating role of PBSA subtypes on the association between drinking identity and alcohol outcomes (hypothesis 1a). The global fit statistics for model 1 can be described as just-identified suggesting that the number of free parameters is equal to the number of known values (i.e., the model has zero degrees of freedom). This allows for parameter estimates of the current model to be interpreted, but not global fit statistics (Muthen & Muthen, 2007).

Model 1 Mediation. The first model examined the mediating role of PBSA subtypes in the relationship between drinking identity and alcohol outcomes. It was predicted that MOD-PBSA and SLD-PBSA would mediate the association such that greater drinking identity would predict less use of the aforementioned PBSA types and, in turn, predict greater hazardous drinking (1a). Second, it was predicted that SHR-PBSA would mediate the association such that weaker drinking identity would predict greater PBS-SHRA and less hazardous drinking (1b).

For model 1 a significant total effect of drinking identity on hazardous drinking (c = 0.75, $p < 0.001$) and negative consequences (c = 0.53, $p < 0.001$) emerged. After including PBS subtypes in the model, the effect of drinking identity on hazardous drinking was reduced and remained significant (c' = 0.05, $p < 0.001$) suggesting partial mediation. Although the total effect of drinking identity on negative consequences was significant, once PBSA subtypes were included in the model the direct effect became non-significant (c' = 0.02, $p = 0.29$).

There was a significant mediational effect of SLD-PBSA on the association between drinking identity and hazardous drinking, but the directionality of the pathways was not as predicted. A significant mediational effect emerged such that stronger drinker identity predicted greater SLD-PBS ($\beta = 0.29$; 95% CI [0.21, 0.36]) which predicted greater hazardous drinking ($\beta = 0.11$; 95% CI [0.04, 0.18]). A significant mediational effect of SHR-PBSA on the drinking identity and hazardous drinking association emerged. The effect occurred such that greater drinking identity predicted less SHR-PBSA ($\beta = -0.10$; 95% CI [-0.18, -0.02]) which predicted greater hazardous drinking ($\beta = -0.07$; 95% CI [-0.14, -0.01]) and greater alcohol-related negative consequences ($\beta = -0.08$; 95% CI [-0.17, 0.01]). While the specific pathway from SHR-PBSA to alcohol-related negative consequences was non-significant, the specific indirect effect (path a*b) was significant suggesting partial mediation. The total (c), direct (c'), and indirect parameter estimates (i.e., standardized betas) for the effect of drinking identity on hazardous drinking are shown in Tables 4

Table 4 .
Summary of total, total indirect, direct, specific indirect effects of Drinking Identity on Hazardous Drinking.

	Estimate	Standard Error	95% CI
Total	**0.75****	**0.02**	**0.75, 0.87**
Total Indirect	**0.05****	**0.01**	**0.02, 0.08**
Direct	**0.71****	**0.02**	**0.66, 0.75**
Specific Indirect			
SHR-PBS	**0.01***	**0.01**	**0.01, 0.02**
SLD-PBS	**0.03****	**0.01**	**0.01, 0.07**
MOD-PBS	0.01	0.01	-0.01, 0.02

Note: Significant effects meeting traditional significance values are represented in bold text. * = $p < .05$, ** = $p < .01$

Hypothesis 1b (i.e., SHR-PBSA will mediate the association between drinking

identity and alcohol-related negative consequences) was not supported. The total (c),

direct (c'), and indirect parameter estimates (i.e., standardized betas) for the effect of

drinking identity on alcohol-related negative consequences are shown in Tables 5..

Table 5 .
*Summary of total, total indirect, direct, specific indirect effects of Drinking
Identity on Alcohol-Related Negative Consequences.*

	Estimate	Standard Error	95% CI
Total	**0.53****	**0.03**	**0.32, 0.41**
Total Indirect	0.02	0.02	-0.01, 0.03
Direct	**0.52****	**0.04**	**0.30, 0.41**
Specific Indirect			
SHR-PBS	**0.01***	**0.01**	**0.001, 0.02**
SLD-PBS	0.02	0.02	-0.01, 0.03
MOD-PBS	-0.01	0.01	-0.02, 0.004

Note: Significant effects meeting traditional significance values are represented in bold text. $* = p < .05$, $** = p < .01$
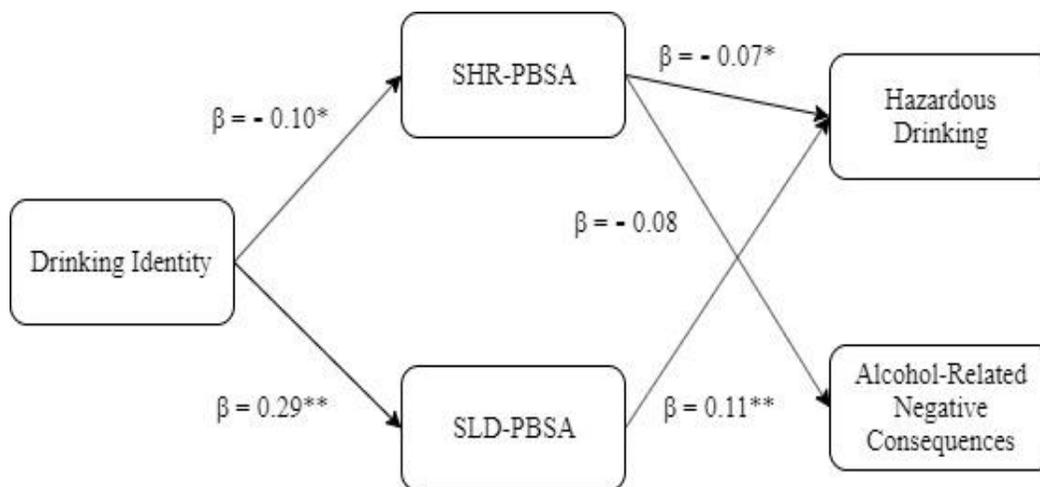

Figure 1. *Observed mediation model of model 1. $* = p < .05$, $** = p < .01$*

Hypothesis/Model 2

Global fit statistics. The second model in the study involved a sequential

mediation model utilizing a structural equation model framework to explore the

mediating role of drinking identity and PBS subtypes on the association between

traditional male norms and alcohol outcomes. Error terms for conceptually similar

variables in the present model were allowed to correlate which allowed for greater

confidence of the findings through elimination of shared variance (see Muthen &

Muthen, 2007). The model demonstrated good fit to the current sample, χ^2 (24, $N = 599$)

= 145.34, $p < 0.001$, CFI = 0.94, TLI = 0.83, and RMSEA = 0.09, (90% CI [0.08, 0.12]).

Hazardous Drinking

Hypothesis 2a anticipated that drinking identity, MOD-PBSA, and SLD-PBSA

would sequentially mediate the association between masculine norms (i.e., winning, risk-

taking, playboy, violence, and power over women) and hazardous drinking such that

there would be increased hazardous drinking. Hypothesis 2a was not supported; however,

significant sequential mediations did emerge on the association between masculine norms

and hazardous drinking. Hypothesis 2b predicted that drinking identity, SLD-PBSA, and

MOD-PBSA would sequentially mediation the relationship between masculine norms

(i.e., emotional-control, heterosexual self-presentation, and self-reliance) and hazardous

drinking such that conformity to these norms would end up predicting less hazardous

drinking. Hypothesis 2b was partially supported. For hazardous drinking a significant

total effect of playboy (c = 0.20, $p < .001$), self-reliance (c = 0.09, $p < .001$), winning (c =

-0.13, $p < .001$), emotional control (c = -0.12, $p < .001$), and power over women (c =

0.35, $p < .001$) emerged. After including drinking identity and PBS subtypes in the model

the effect of these norms was reduced and remained significant for all associations

suggesting partial mediation (see Table 6 for estimates).

Table 6

Summary of total and direct effects of Male Norms on Hazardous Drinking.

Total	Estimate (β)	Standard Error	95% CI
Playboy	**0.20****	**0.04**	**0.12, 0.27**
Self-Reliance	**0.09****	**0.03**	**0.02, 0.15**
Violence	0.01	0.04	-0.06, 0.08
Heterosexual Self-Presentation	-0.02	0.03	-0.09, 0.06
Winning	**-0.13****	**0.04**	**-0.20, -0.05**
Emotional Control	**-0.12****	**0.04**	**-0.19, -0.05**
Risk-Taking	0.05	0.04	-0.03, 0.13
Power over Women	**0.35****	**0.04**	**0.27, 0.43**
Direct			
Playboy	0.06	0.03	-0.01, 0.13
Self-Reliance	0.05	0.03	-0.00, 0.11
Violence	0.06	0.03	-0.01, 0.12
Heterosexual Self-Presentation	-0.01	0.03	-0.06, 0.05
Winning	**-0.06***	**0.03**	**-0.13,-0.01**
Emotional Control	-0.04	0.03	-0.10, 0.02
Risk-Taking	0.04	0.03	-0.02, 0.10
Power over Women	**0.13****	**0.04**	**0.06, 0.20**

Note: Significant effects meeting traditional significance values are represented in bold text. $* = p < .05$, $** = p < .01$

Main effects on hazardous drinking emerged for self-reliance, winning, and power over women. The relationships suggested that conformity to the norms of self-reliance (β = 0.05; 95% CI [0.002, 0.11]) and power over women (β = 0.13; 95% CI [0.06, 0.20]) predicted greater hazardous drinking whereas greater adherence to the winning norm (β = -0.06; 95% CI [-0.13, -0.003]) predicted less hazardous drinking. When all mediators were accounted for in the model a significant sequential mediational effect emerged for the power over women, self-reliance, winning, emotional control, and playboy norms.

With regard to drinking identity, the playboy (β = 0.22; 95% CI [0.15, 0.30]), power over women (β = 0.37; 95% CI [0.30, 0.45]), and self-reliance (β = 0.06; 95% CI [-0.01, 0.13]) norms predicted stronger drinking identity. From there, sequential

pathways from the aforementioned masculine norms (i.e., playboy, power over women, and self-reliance) to hazardous drinking emerged through drinking identity and SLD-PBSA. Analyses revealed that greater drinking identity (as predicted by these norms) was predictive of greater SLD-PBSA use ($\beta = 0.29$; 95% CI [0.21, 0.37]) which predicted greater hazardous drinking ($\beta = 0.09$; 95% CI [0.02, 0.16]). Two additional sequential pathways for power over women and risk-taking ($\beta = 0.00$; 95% CI [0.00, 0.01]) norm emerged through drinking identity and SHR-PBSA. The relationship emerged such that conformity to the power over women and risk-taking norm predicted greater drinking identity, less SHR-PBSA use ($\beta = -0.10$; 95% CI [-0.18, -0.02]) which predicted greater hazardous drinking ($\beta = -0.07$; 95% CI [-0.13, -0.01]).

Furthermore, conformity to the emotional control ($\beta = -0.12$; 95% CI [-0.20, -0.04]) and winning ($\beta = -0.11$; 95% CI [-0.19, -0.02]) norms predicted weaker drinking identity which predicted decreased SLD-PBSA use ($\beta = 0.29$; 95% CI [0.21, 0.37]), and less hazardous drinking ($\beta = 0.09$; 95% CI [-0.13, -0.01]). An additional sequential pathway emerged for the emotional control norm such that there was weaker drinking identity, increased SHR-PBSA use ($\beta = -0.10$; 95% CI [-0.18, -0.02]), and less hazardous drinking ($\beta = -0.07$; 95% CI [-0.13, -0.01]). A significant sequential mediation also emerged for the heterosexual self-presentation norm such that conformity to this norm predicted weaker drinking identity ($\beta = -0.02$; 95% CI [-0.10, 0.06]), less MOD-PBSA use ($\beta = 0.17$; 95% CI [0.08, 0.25]), and increased hazardous drinking ($\beta = -0.01$; 95% CI [-0.07, 0.06]). Parameter estimates for total indirect and specific indirect effects are located in Table 7.

Table 7 .

Summary of total indirect and specific indirect effects of Male Norms on Hazardous Drinking.

Total Indirect	Estimate (β)	Standard Error	95% CI
Playboy	**0.13****	**0.03**	**0.09, 0.19**
Self-Reliance	0.04	0.02	-0.01, 0.08
Violence	**-0.05****	**0.02**	**-0.09, -0.01**
Heterosexual Self-Presentation	-0.01	0.02	-0.06, 0.03
Winning	**-0.07****	**0.03**	**-0.12, -0.01**
Emotional Control	**-0.08****	**0.02**	**-0.12, -0.03**
Risk-Taking	0.01	0.02	-0.04, 0.05
Power Over Women	**0.22****	**0.03**	**0.17, 0.28**
Specific Indirect			
Playboy			
Drinking Identity	**0.127****	**0.024**	**0.082, 0.176**
Drinking Identity×SHR-PBS	**0.002****	**0.001**	**0.000, 0.005**
Drinking Identity×SLD-PBS	**0.006****	**0.003**	**0.001, 0.013**
Drinking Identity×MOD-PBS	0.000	0.001	-0.003, 0.002
Self-Reliance			
Drinking Identity	0.035	0.020	-0.005, 0.074
Drinking Identity×SHR-PBS	**0.000****	**0.000**	**0.000, 0.002**
Drinking Identity×SLD-PBS	**0.002***	**0.001**	**0.000, 0.005**
Drinking Identity×MOD-PBS	0.000	0.000	-0.001, 0.001
Violence			
Drinking Identity	**-0.045****	**0.022**	**-0.088, -0.002**
Drinking Identity×SHR-PBS	-0.001	0.000	-0.002, 0.000
Drinking Identity×SLD-PBS	-0.002	0.001	-0.007, 0.000
Drinking Identity×MOD-PBS	0.000	0.000	-0.001, 0.001
Heterosexual Self-Presentation			
Drinking Identity	-0.011	0.020	-0.056, 0.033
Drinking Identity×SHR-PBS	0.000	0.000	-0.001, 0.001
Drinking Identity×SLD-PBS	0.000	0.001	-0.004, 0.001
Drinking Identity×MOD-PBS	**0.000***	**0.000**	**0.000, 0.001**
Winning			
Drinking Identity	**-0.063****	**0.025**	**-0.114, -0.014**
Drinking Identity×SHR-PBS	-0.001	0.001	-0.003, 0.000
Drinking Identity×SLD-PBS	**-0.003****	**0.002**	**-0.008, -0.001**
Drinking Identity×MOD-PBS	0.000	0.001	-0.001, 0.002
Emotional Control			
Drinking Identity	**-0.072****	**0.023**	**-0.117, -0.028**
Drinking Identity×SHR-PBS	**-0.001**	**0.001**	**-0.003, -0.001**
Drinking Identity×SLD-PBS	**-0.003****	**0.002**	**-0.008, -0.001**
Drinking Identity×MOD-PBS	0.000	0.001	-0.001, 0.002
Risk-Taking			

Table 7 (continued)

Drinking Identity	0.006	0.022	-0.037, 0.049
Drinking Identity×SHR-PBS	**0.000***	**0.000**	**0.000, 0.001**
Drinking Identity×SLD-PBS	0.000	0.001	-0.002, 0.003
Drinking Identity×MOD-PBS	0.000	0.000	-0.001, 0.000
Power Over Women			
Drinking Identity	**0.211****	**0.026**	**0.162, 0.266**
Drinking Identity×SHR-PBS	**0.003****	**0.002**	**0.000, 0.008**
Drinking Identity×SLD-PBS	**0.010****	**0.005**	**0.002, 0.020**
Drinking Identity×MOD-PBS	0.000	0.002	-0.005, 0.004

Note: Significant effects meeting traditional significance values are represented in bold text. * = $p < .05$, ** = $p < .01$

Alcohol-Related Negative Consequences

Hypothesis 2c anticipated that drinking identity and SHR-PBSA would sequentially mediate the association between masculine norms (i.e., winning, risk-taking, playboy, violence, and power over women) and alcohol-related negative consequences such that there would be increased negative consequences. Hypothesis 2d predicted that drinking identity and SHR-PBSA would sequentially mediation the relationship between masculine norms (i.e., heterosexual self-presentation, self-reliance, and emotional control) and alcohol-related negative consequences such that conformity to these norms would end up predicting less negative consequences. Both hypotheses were not supported.

Main Effects emerged on alcohol-related negative consequences for playboy ($\beta = 0.20$; 95% CI [0.12, 0.29]) and risk-taking ($\beta = 0.11$; 95% CI [0.03, 0.19]) such that conformity to theses norms predicted greater alcohol-related negative consequences. For alcohol-related negative consequences a significant total effect of playboy (c = 0.30, $p < .001$), self-reliance (c = 0.03, $p < .001$), and power over women (c = 0.15, $p < .001$)

emerged. After including drinking identity and PBSA subtypes in the model, the effect of these norms was reduced and remained significant for all associations suggesting partial mediation (see Table 8 for estimates).

Table 8 .
Summary of total and direct effects of Male Norms on Alcohol-Related Negative Consequences.

Total	Estimate (β)	Standard Error	95% CI
Playboy	**0.30****	**0.04**	**0.21, 0.38**
Self-Reliance	0.03	0.01	-0.01, 0.06
Violence	0.03	0.04	-0.06, 0.11
Heterosexual Self-Presentation	-0.01	0.04	-0.04, 0.02
Winning	-0.04	0.04	-0.12, 0.05
Emotional Control	-0.07	0.04	-0.15, 0.01
Risk-Taking	**0.11***	**0.04**	**0.03, 0.20**
Power over Women	**0.15****	**0.05**	**0.06, 0.24**
Direct			
Playboy	**0.20****	**0.04**	**0.12, 0.29**
Self-Reliance	0.02	0.04	-0.06, 0.10
Violence	0.06	0.04	-0.02, 0.13
Heterosexual Self-Presentation	-0.01	0.04	-0.08, 0.07
Winning	0.01	0.04	-0.07, 0.08
Emotional Control	-0.02	0.04	-0.09, 0.06
Risk-Taking	**0.11****	**0.04**	**0.02, 0.18**
Power over Women	-0.01	0.05	-0.10, 0.09

Note: Significant effects meeting traditional significance values are represented in bold text. $* = p < .05$, $** = p < .01$

A significant sequential mediation effect at the 95% confidence interval emerged such that stronger conformity to the playboy, self-reliance, and power over women norms predicted greater drinking identity (β = 0.23; 95% CI [0.15, 0.30]), less SHR-PBSA use (β = -0.10; 95% CI [-0.18, -0.02]) which predicted greater alcohol-related negative consequences (β = -0.09; 95% CI [-0.18, -0.01]). An additional sequential pathway emerged for the heterosexual self-presentation norm such that conformity to this norm predicted weaker drinking identity (β = -0.02; 95% CI [-0.10, 0.06]), less MOD-PBSA (β

= 0.17; 95% CI [0.08, 0.25]), and more alcohol-related negative consequences (β = -0.02;

95% CI [-0.12, 0.07]). Specific parameter estimates can be found in Table 9.

Table 9 .
Summary of total indirect and specific indirect effects of Male Norms on Alcohol-Related Negative Consequences.

Total Indirect	Estimate (β)	Standard Error	95% CI
Playboy	**0.09****	**0.02**	**0.06, 0.14**
Self-Reliance	0.03	0.02	-0.01, 0.06
Violence	**-0.03****	**0.02**	**-0.07, -0.01**
Heterosexual Self-Presentation	-0.01	0.04	-0.04, 0.02
Winning	**-0.05****	**0.04**	**-0.09, -0.01**
Emotional Control	**-0.05****	**0.04**	**-0.09, -0.02**
Risk-Taking	0.01	0.02	-0.03, 0.04
Power Over Women	**0.15****	**0.03**	**0.10, 0.21**
Specific Indirect			
Playboy			
Drinking Identity	**0.089****	**0.020**	**0.053, 0.131**
Drinking Identity×SHR-PBS	**0.002****	**0.002**	**0.000, 0.006**
Drinking Identity×SLD-PBS	0.002	0.003	-0.004, 0.009
Drinking Identity×MOD-PBS	-0.001	0.002	-0.005, 0.003
Self-Reliance			
Drinking Identity	0.025	0.014	-0.003, 0.054
Drinking Identity×SHR-PBS	**0.001****	**0.001**	**0.000, 0.002**
Drinking Identity×SLD-PBS	0.000	0.001	-0.001, 0.004
Drinking Identity×MOD-PBS	0.000	0.001	-0.002, 0.001
Violence			
Drinking Identity	**-0.031****	**0.017**	**-0.067, -0.002**
Drinking Identity×SHR-PBS	-0.001	0.001	-0.003, 0.000
Drinking Identity×SLD-PBS	-0.001	0.001	-0.004, 0.001
Drinking Identity×MOD-PBS	0.000	0.001	-0.001, 0.003
Heterosexual Self-Presentation			
Drinking Identity	-0.007	0.014	-0.039, 0.023
Drinking Identity×SHR-PBS	0.001	0.001	-0.002, 0.000
Drinking Identity×SLD-PBS	0.000	0.001	-0.003, 0.001
Drinking Identity×MOD-PBS	**0.000***	**0.001**	**0.000, 0.001**
Winning			
Drinking Identity	**-0.044****	**0.019**	**-0.085, -0.011**
Drinking Identity×SHR-PBS	-0.001	0.001	-0.004, 0.000
Drinking Identity×SLD-PBS	-0.001	0.002	-0.005, 0.002
Drinking Identity×MOD-PBS	0.000	0.001	-0.001, 0.003
Emotional Control			
Drinking Identity	**-0.050****	**0.017**	**-0.088,-0.019**

Table 9 (continued)

Drinking Identity×SHR-PBS	-0.001	0.001	-0.004, 0.000
Drinking Identity×SLD-PBS	-0.001	0.002	-0.005, 0.003
Drinking Identity×MOD-PBS	0.000	0.001	-0.001, 0.003
Risk-Taking			
Drinking Identity	0.004	0.015	-0.027, 0.035
Drinking Identity×SHR-PBS	0.000	0.000	-0.001, 0.001
Drinking Identity×SLD-PBS	0.000	0.001	-0.001, 0.002
Drinking Identity×MOD-PBS	0.000	0.000	-0.001, 0.001
Power Over Women			
Drinking Identity	**0.148****	**0.027**	**0.098, 0.205**
Drinking Identity×SHR-PBS	**0.003****	**0.002**	**0.000, 0.010**
Drinking Identity×SLD-PBS	0.003	0.006	-0.008, 0.004
Drinking Identity×MOD-PBS	-0.001	0.003	-0.008, 0.004

Note: Significant effects meeting traditional significance values are represented in bold text. $* = p < .05, ** = p < .01$
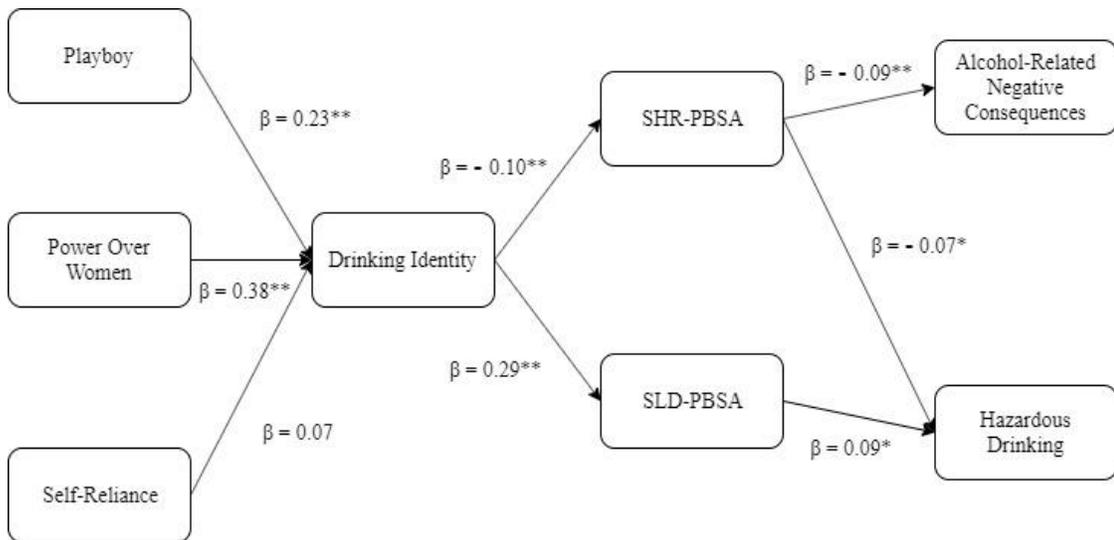

Figure 2. *Observed sequential mediation model for male norms predicting greater hazardous drinking and alcohol-related negative consequences. $* = p < .05, ** = p < .01$*
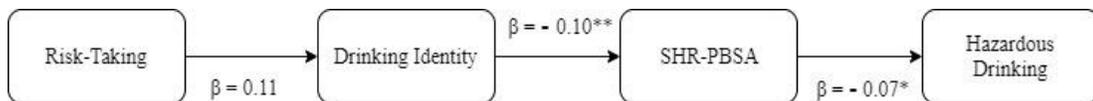

Figure 3. *Observed sequential mediation model for the risk-taking norm predicting greater hazardous drinking. $* = p < .05, ** = p < .01$*

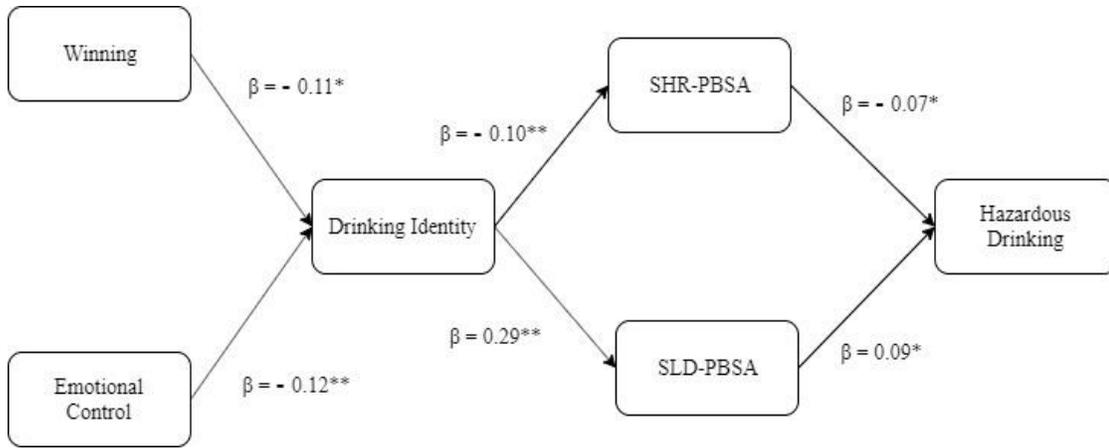Figure 4. Observed sequential mediation model for male norms predicting less hazardous drinking including only significant pathways. * = p < .05, ** = p < .01
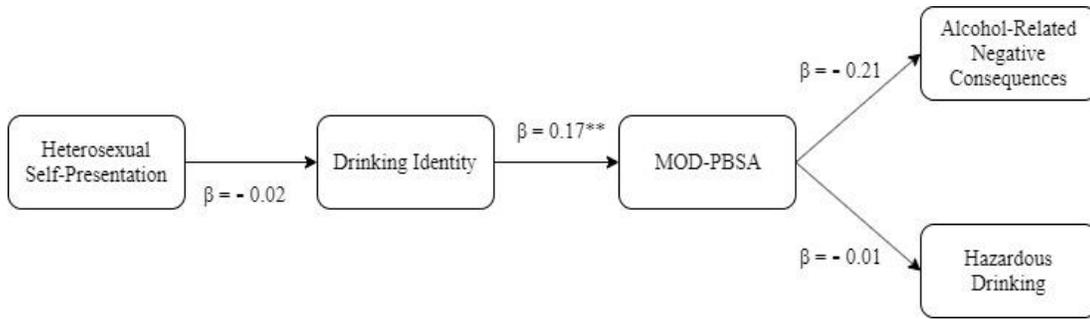

Figure 5. *Observed sequential mediation model for the heterosexual self-presentation norm. * = p < .05, ** = p < .01*

CHAPTER IV – DISCUSSION

College males are at the highest risk for engaging in hazardous drinking

nationwide (NIAAA, 2015; Schulenberg et al., 2018). This is not only concerning given

the individual level impact that hazardous drinking has on college males (e.g., financial

consequences, blacking out, missing class, etc.; NIAAA, 2015), but also the impact that

the subsequent negative consequences may have on the communities in which these

students find themselves (White & Jackson, 2005; White et al., 2008). One approach for

addressing college student hazardous drinking that has proven effective involves the use

of PBSA (Delva et al., 2004). However, college males tend to report less PBSA than their

female counterparts (Pearson, 2013). It appears that a large factor that might explain this

association is gender socialization (see Madson & Zeigler-Hill, 2013). This study

examined the relationship between gender socialization and the alcohol use behaviors of

college men and how drinking identity and PBSA mediated these associations.

Hypotheses 1/Model 1

The first hypothesis (1a) predicted that the positive association between drinking

identity and hazardous alcohol would be mediated by MOD-PBSA and SLD-PBSA was

partially supported. SLD-PBSA did mediate the association, but the directionality was

not as predicted. The findings that drinking identity was positively related to SLD-PBSA,

which predicted greater hazardous drinking was not anticipated. This may suggest a

paradoxical effect of SLD-PBSA use for college males with high drinking identity.

Perhaps males in this sample with higher drinking identity are in fact setting a limit on

their drinking but are still exceeding what would be considered safe by national standards

(5 or more drinks in two hours; see NIAAA, 2015) given the heavy drinking of the

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current sample and prevalence of extreme binge drinking among college males (i.e.,

drinking 10-15 drinks in a single occasion; Schulenberg et al., 2018).

It is also possible that while college males with high drinking identity may set a

limit on their drinking such as stopping at a predetermined time, the period is still such

that a large quantity can be consumed. For example, a male college student who is under

the legal drinking age might "pregame" (i.e. heavy drinking over a short time-frame prior

to attending an event to get intoxicated, Read, Merrill, & Bytschkow, 2010) before going

in public to avoid ramifications. Furthermore, this finding may highlight a need

comprehensively explore differences in the interpretations of items on the PBSS-20. As

noted in previous studies gender discrepancies in PBSA use between males and females

may be a product of differences in the perceived value in PBSA (see Prince, Carey, &

Maisto, 2013). For example, while a male student might stop drinking at a predetermined

time, that set stop time might still allow for a long period of drinking at a hazardous level

given that self-protection may be less important for the college male. Alternatively, the

PBSS-20 does not account for high-alcohol content drinks (e.g., liquor drinks, "jungle

juice", etc.) which may be considered one drink by students.

Further, there was no mediational effect associated with MOD-PBSA. With the

current sample, drinking identity was associated with increased SLD-PBSA and

increased hazardous drinking. The finding that MOD-PBSA did not mediate the

association was not hypothesized. The most parsimonious explanation may be that MOD-

PBSA might simply lack utility or not be salient for college males. There is evidence that

male students do not typically employ MOD-PBSA (Walters et al., 2007). From the lens

of Precarious Manhood Thesis, it makes sense that MOD-PBSA is not salient for college

men considering the premium placed on demonstration of masculine behavior. Therefore, men may be less inclined to modify the manner in which they drink as this may be perceived as feminine.

For hypothesis (1b) it was expected that the positive association between drinking identity and alcohol-related negative consequences would be mediated by SHR-PBSA. This hypothesis was supported. SHR-PBSA mediated the association between drinking identity and alcohol outcomes (i.e., hazardous drinking and negative consequences) such that college males with higher drinking identity employed significant less SHR-PBSA, which resulted in more hazardous drinking and negative consequences. While past studies have suggested that college males are more inclined to employ SHR-PBSA when they do report using PBSA (e.g., Pearson, 2013; LaBrie et al., 2011), greater drinking identity may limit its utility. This finding is consistent with studies examining PBSA which demonstrate that less SHR-PBSA use is associated with increased negative consequences (e.g., Martens et al., 2005) and extends those findings by identifying that drinking identity may limit its utility. Broadly speaking, the present findings appear to suggest that PBSA may lack utility or even have a reverse effect for college males with greater drinking identity.

Hypotheses 2/Model 2

The second goal of this study was to examine the mediating role of drinking identity and PBSA subtypes on the associations between traditional male norm conformity and alcohol outcomes (i.e., hazardous drinking and alcohol-related negative consequences). It was hypothesized (hypothesis 2a) that stronger drinking identity and a lack of MOD and SLD-PBSA use would mediate the relationship between conformity to

the male norms of winning, risk-taking, playboy, violence, power over women and hazardous drinking. For hypothesis 2c it was predicted that stronger drinking identity and a lack of SHR-PBSA use would mediate the relationship between conformity to the same norms and alcohol-related negative consequences. Given, that the same norms are predicting similar outcomes (i.e., increased hazardous drinking and negative-consequences) in hypotheses 2a & 2c, these results will be discussed together to limit repetition.

Hypotheses 2a and 2c were partially supported, but the directionality of the effects regarding SLD-PBSA were not as hypothesized. Conformity to the playboy, power over women, and self-reliance norms all predicted increases in alcohol outcomes. Conformity to these norms predicted greater drinking identity, more SLD-PBSA and less SHR-PBSA use resulting in more hazardous drinking and alcohol-related negative consequences. Increased SLD-PBSA use was associated with more hazardous drinking whereas less SHR-PBSA use was related to more alcohol-related negative consequences. Also, conformity to the risk-taking norm predicted greater drinking identity, less SHR-PBSA use, and more hazardous drinking, but not alcohol-related negative consequences.

Interestingly two of the four masculine norms that did emerge were both related to females (i.e., playboy and power over women) which may be indicative of context-specific effects. From a Precarious Manhood perspective (per Winegard, Winegard, & Geary, 2014), higher status within the male in-group grants the individual access to resources including sexual partners (Cheng, Tracy, Foulsham, Klingston, & Henrich, 2013). Thus, college males who more highly conform to the playboy and power over women norms may be more inclined to engage in behaviors that are normative in the

college setting and deemed traditionally masculine (i.e., alcohol use) to assert male status in these contexts with the goal of attaining a partner or power. However, this explanation does not account for the effects of risk-taking and self-reliance noted in this study.

Alternatively, the theory of Gender Role Conflict (Pleck, 1995) may offer a more encapsulating explanation. Alcohol use may be used for tension-reduction or "liquid courage" for college males who desire to be self-reliant, take risks (which may include promiscuous sexual behavior), have multiple sexual partners, and/or have power over women. Given that alcohol use is viewed as a normative masculine behavior to reduce tension, males conforming to these norms may be more inclined to identify as a "drinker" and may then improperly employ SLD-PBSA by consuming a large amount over a short-time period as well as limit the use of SHR-PBSA. In fact, Gender Role Conflict has been linked to both alcohol consumption and associated consequences among college males (Williams & Ricciardelli, 1999; Groeschel, Wester, & Sedivy, 2010; Uy, Massoth, & Gottdiener, 2014; Fleming, et al., 2018).

Contrary to the prediction, conformity to the violence and winning norm did not predict sequential effects on the hazardous drinking and alcohol-related negative consequences associations. This was intriguing given past research has identified both norms as predictive of hazardous drinking (see Iwamoto, Lejuez et al., 2014; Wells et al., 2013; Zamboanga et al., 2016). In the present study conformity to these norms was predictive of weaker drinking identity and fewer alcohol outcomes. This does not suggest that conformity to these traits is protective considering that PBSA did not play a significant role in the reduction of alcohol outcomes. Rather the present results suggest that men who strongly desire to win and view violent behavior as normative are less

inclined to develop drinking identity and may engage in less hazardous drinking than

their counterparts in an effort to maintain their status and performance in these domains.

It was also hypothesized (hypotheses 2b & 2d) that weaker drinking identity, and

increased SLD, MOD, and SHR-PBSA use would mediate the negative associations

between the norms of heterosexual self-presentation, emotional control, self-reliance and

alcohol outcomes. Similar to hypotheses 2a and 2c, the results of hypotheses 2b and 2d

will be presented together to limit repetition. These hypotheses (2b and 2d) were partially

supported, but the pathways did not emerge as anticipated. Conformity to the emotional

control and winning norms predicted less drinking identity, decreased SLD-PBSA use,

and less hazardous drinking. Conformity to the emotional control norm also predicted

less drinking identity, increased SHR-PBSA use, and less hazardous drinking. Lastly,

conformity to the heterosexual self-presentation norm predicted weaker drinking identity,

less MOD-PBSA use, but predicted increased hazardous drinking and alcohol-related

negative consequences.

These results may suggest that conformity to the norm of emotional control might

serve to limit hazardous drinking behaviors through limiting drinking identity and

enhancing use of SHR-PBSA as hypothesized. Although the data suggested that the

winning norm was also related to decreases in hazardous drinking, there was no evidence

that this was attributable to PBS use. Partially consistent with the hypothesis (per

Whitley, Madson, & Zeigler-Hill, 2018) and of those speculated by Levant and

Richmond (2007), there appears to be some evidence for the protective value of

conformity to the emotional control norm. It may be the case that males who desire to

retain control of their emotions do not engage in hazardous levels of alcohol use to

prevent any emotional disinhibition that may occur secondary to intoxication and as such are less inclined to develop drinking identity. However, it is of note that no norms associated with PBSA use predicted reductions in alcohol-related negative consequences, which is arguably the more concerning aspect of college male drinking. However, it should be considered that the measure of hazardous drinking used (i.e., AUDIT-US) contains indicators of negative consequences (e.g., blackouts, feelings of guilt after drinking, etc.) albeit less comprehensive than the measure of negative consequences used.

Contrary to the hypothesis, self-reliance did not have a negative effect on the association, but rather predicted increases in hazardous drinking and alcohol-related negative consequences. While this finding was not anticipated by the researcher, there is evidence of conformity to the self-reliance norm predicting increases in alcohol-related negative consequences (see Iwamoto et al., 2011). This study extends this finding by illustrating that the positive association between conformity to the self-reliance norm and alcohol outcomes can be explained by individual identification as a drinker and a lack of protective behavior. Lastly, the findings concerning conformity to the heterosexual self-presentation norm were in opposition to those found in Whitley and colleagues (2018). While conformity to this norm predicted less drinking identity it also predicted less MOD-PBSA use and more alcohol outcomes. Considering the nature of this norm, this finding makes sense. A college male who seeks to present himself as heterosexual is likely to avoid protective strategies which may limit more masculine drinking displays (e.g., chugging beers, taking shots of liquor, playing drinking games, etc.) which in turn will lead to more hazardous drinking and negative consequences. Still, it is interesting that this association was explained by a lack of drinking identity considering that

drinking is a typically masculine behavior (Capraro, 2000). Perhaps for men conforming to this norm, there is more emphasis on displaying the masculine behavior (i.e., hazardous drinking) rather than incorporating into one's individual identity.

In conclusion, this study provides further evidence for the negative impact that drinking identity has on college drinkers and furthers this research by demonstrating that a lack of appropriate PBSA use mediates this association within a college male sample. With regard to male norms, this study offers further evidence that conformity to the playboy, power over women, and self-reliance norms is associated with increased alcohol outcomes and furthers this research by illustrating that this relationship is mediated by drinking identity and a lack of appropriate PBSA use. Furthermore, the present results suggest that conformity to these norms limits SHR-PBSA and may have a paradoxical effect for implementation of SLD-PBSA. Also, this study gives further evidence that conformity to the risk-taking norm is associated with more hazardous drinking and demonstrates that this relationship may be explained by greater drinking identity and a lack of SHR-PBSA use.

Finally, in considering possible protective value associated with conformity to certain male norms, there is marginal support. While the heterosexual self-presentation norm predicted weaker drinking identity it also predicted increased alcohol outcomes through a lack of MOD-PBSA use. Conformity to the winning norm appeared to be somewhat protective for the present sample but that is questionable given that PBSA was not associated with the reduction hazardous drinking (i.e., predicted less SLD-PBSA use). The present study offers support for the potential protective value of the emotional control norm in the context of drinking through enhancing SHR-PBSA use. Broadly,

SLD-PBSA may not be useful for college males and this may be attributable to conformity to the playboy, power over women, self-reliance norms which appears to enhance drinking identity. Consistent with past research on PBSA, SHR-PBSA appears to be the most salient for college men (see Martens et al., 2005). However, the implementation of SHR-PBSA may be hindered by conformity to certain male norms and drinking identity.

Clinical Implications

From a clinical standpoint, the present study appears to suggest that considering numerous components of masculine identity among college males may be highly important in selecting and implementing alcohol-related interventions. First, assessing for drinking identity may be an important component of interventions seeking to reduce harm associated with college males' alcohol use behaviors. Also, given that certain male norms may predict a potential paradoxical effect when employing SLD-PBSA, interventions which seek to enhance SLD-PBSA may produce undesired consequences. Clinicians working with college males will likely benefit from assessment of these multiple facets of social and individual identity in the context of working with alcohol-related problems. Perhaps incorporating measures such as the CMNI-29 as well as the ASCS may benefit clinicians as they work to reduce problematic alcohol use behaviors by identifying these more problematic identity components.

However, as suggested by the Precarious Manhood Thesis (Vandello & Bosson, 2013) and Isenhart (2005), attempting to change the factors which help males achieve status within the social group is contradictory and undesirable for males. Furthermore, given the evidence of negative attitudes toward help-seeking among males with

problematic alcohol use (Groeschel, et al., 2010), this is a difficult problem to address. However, as suggested by Winegard, Winegard, and Geary (2014), as our culture changes traditional notions of masculinity may become less important and alternative avenues for achieving status may become more apparent. Therefore, perhaps approaches, such as those used in the Men's Center Approach (MCA; Shen-Miller, Isaaco, Davies, St. Jean, & Phan, 2013) which seek to adjust the male's self-concept to produce behavioral change may prove effective in addressing alcohol use behaviors and the associated consequences among college males.

An alternate perspective may be that rather than seeking to change the self-concept, clinicians can work to enhance those components of the identity that may be more protective such as enhancing conformity to the emotional control norm. As suggested by Isenhart (2005) in *Treating Substance Abuse in Men*, traditional approaches to treatment may be contradictory to traditional male norms. As a result, using non-confrontational interventions which roll with the male concept such as those used in Motivational Interviewing may be effective in addressing substance use problems among men. Thus, treatment programs which rely on a Motivational Interviewing framework, such as the BASICS program (Dimeff, Baer, Kivlahan, & Marlatt, 1999) may be a preferred option for college males who conform to certain male norms and have high drinking identity. Still, this program will likely benefit by incorporating factors of gender and drinking identity into the treatment approach.

Future Directions & Limitations

Future research would likely benefit from examining additional factors on these associations such as drinking-context and Gender Role Conflict. Furthermore, an

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additional perspective may be that drinking identity may play a moderating role rather than a mediating one (i.e., drinking identity either enhances or weakens PBS use and associated consequences). More broadly, future studies should seek to replicate these findings in order to better generalize. In addition, more stringent research designs (i.e., longitudinal, experimental) would likely strengthen the confidence of accuracy in the inferences made.

While there were numerous advantages to the current study, the findings must be considered within the context of their limitations. First, this study was cross-sectional in nature and as such no causal inferences can be made. Also, given that the study was conducted via Amazon Mechanical Turk, there may have been a self-selection bias which impacted the ultimate makeup of the sample and would explain why the present sample consisted mostly of heavy drinkers. Also, while the sample consisted of primarily white males, it is important to consider alternate definitions of masculinity in males of color which may not been captured in this study. Similarly, the analyses did not take into account possible variance associated with sexual orientation (e.g., those identifying as gay or bisexual) or gender identity (e.g., individuals identifying as transgendered or non-binary) as well as regional norms (i.e., Southeastern US versus Midwestern US). Despite these limitations, the present study makes an important contribution to the extant literature on college male alcohol use behaviors and highlights an on-going need for research in this area.

APPENDIX A – INFORMED CONSENT

PURPOSE: The present study is designed with the goal of examining the alcohol use and health behaviors among college students. Results from this study will aid in developing a better understanding of college student alcohol use and may contribute to the improvement of prevention and intervention programs.

DESCRIPTION OF STUDY: Participation will involve completing several questionnaires and demographic information. Items on the questionnaires will relate to your attitudes, behaviors, feelings, and experiences with alcohol use as a college student. Participation will take approximately 20-30 minutes. The researchers have included quality assurance checks to ensure that participants attend to items carefully and thoughtfully. Should these

ALTERNATIVE PROCEDURES: Your participation in this study is voluntary. It is at your discretion to not answer any question or withdraw at any time. However, failure to complete the questionnaire will result in no compensation.

BENEFITS: This research is being conducted with the goal of developing and adjusting alcohol use prevention and intervention programs for college students. After completion of the questionnaire $0.50 will be deposited into your MTurk account.

RISKS: There are minimal risks associated with this study. However, this study does ask about illegal behavior (e.g., underage drinking). All questions regarding alcohol use are not associated with identifying information

CONFIDENTIALITY: The records of this study will be kept private. You will not be asked to provide your name. Your worker ID (i.e., the 14-character sequences of letters and number used to identify workers) will be protected and is only collected for the purposes of distributing compensation and will not be associated with survey responses. Following the conclusion of data collection for this study, all identifying information will be deleted. This on-line survey has security measures to protect your responses and there are no physical copies of your responses. Findings will be presented in aggregate form with no identifying information to maintain confidentiality and will be kept on a password protected computer. In any sort of report/documentation that may be published from these data no information will be included that will make any entity able to identify you. However, should you desire to contact the requester, your email address will automatically be inserted in the message so the requester can reply to you. Amazon.com inserts the workers' name as well. Thus, it is possible that, in the event you contact the requester, your name and email address will be included.

Future data use may require that researchers outside of those listed as current investigators have access to your data. In all cases, the researchers will complete ethics training as mandated by the University of Southern Mississippi Institutional Review

Board policy. Additionally, data for future use will be de-identified and stored in a secure location to ensure that confidentiality is maintained.

PARTICIPANT ASSURANCE:

Questions concerning the research should be directed to the primary researchers Robert

Whitley and Hallie Jordan (though Mturk website) or the research supervisor, Dr.

Michael Madson at (michael.madson@usm.edu). Any questions or concerns about rights

as a research participant should be directed to the Chair of the Institutional Review Board

at (601) 266-5997.

If you experience distress as a result of your participation in this study, please notify the

primary researchers Hallie Jordan and Robert Whitley (through Mturk website) or the

research supervisor, Dr. Michael Madson (michael.madson@usm.edu). A list of available

agencies that may able to provide services for you are provided below:

- SAMHSA's National Helpline - 1-800-662-HELP (4357)
- National Council on Alcoholism and Drug Dependence - 1 (800) NCA-CALL (622-2255)
- National Institute on Drug Abuse (NIDA) - 1 (800) 662-HELP (4357)
- National Crisis Center - 1-800-273-8255

Consent is hereby given to participate in this study.

APPENDIX B – SCREENING QUESTIONS

How old are you?
- 18
- 19
- 20
- 21
- 22
- 23
- 24
- 25
- Other

Do you currently live in the United States?
- Yes
- No

Are you currently enrolled as a college student?
- Yes
- No

Are you currently attending college courses in person (i.e., you physically go to campus not online only courses)?
- Yes
- No

What is your current academic status?
- Freshman
- Sophomore
- Junior
- Senior
- Graduate Student

What type of college are you currently attending?
- Public 4-year college/university
- Private 4-year college/university
- Junior/community college

Have you consumed alcohol within the past 30 days?
- Yes
- No

APPENDIX C – DEMOGRAPHICS FORM

Instructions: Please answer each question:

How do you identify yourself?
- Male
- Female
- Transgender

How old are you?
- Scale from 18-25

What is your approximate college GPA? If you are a freshman and do not have a college GPA yet, please report your high school GPA.
- Scale from 0-4.0

What is your racial/ethnic identity?
- African American
- Asian American
- Eastern Indian American

- Middle Eastern American
- Multiracial
- Native American
- White (non-Hispanic)
- Other (specify):

Do you identify as Hispanic/Latino/Latina?
- Yes
- No

Are you an international student?
- Yes
- No

What region of the US are you currently attending college?
- Northeast – New England (Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut)
- Northeast – Mid Atlantic (New York, Pennsylvania, New Jersey)
- Southwest (Oklahoma, Texas, Arkansas, Louisiana)
- Southeast (Kentucky, Tennessee, Mississippi, Alabama)
- South Atlantic (Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida)
- Midwest – East North Central (Wisconsin, Michigan, Illinois, Indiana, Ohio)

- Midwest – West North Central (Missouri, North Dakota, South Dakota, Nebraska, Kansas, Minnesota, Iowa)
- West – Mountain (Idaho, Montana, Wyoming, Nevada, Utah, Colorado, Arizona, New Mexico)
- West – Pacific (Alaska, Washington, Oregon, California, Hawaii)

Where do you primarily live while going to school?
- Dorm
- Apartment – on campus
- Apartment – off campus
- Fraternity/Sorority House
- With parents

What type of university do you attend:
- Public/State University
- Private University
- Liberal Arts College
- Religious affiliated school

Please estimate the size of your school:
- Less than 2000 students
- 2000 – 5,000 students
- 5000 – 10,000 students
- 10000 – 15,000
- 15,000 – 20,000
- 20,000 – 30,000
- More than 30,000 students

On a scale of 1 (not at all) to 10 (completely), to what degree is your school considered a "party school?"

Are you a member of a social sorority or fraternity?	YES	NO
Are you a member of a university athletic team?	YES	NO
Do you use marijuana (smoke, eat, etc.)	YES	NO
Do you use illicit drugs other than marijuana (e.g., cocaine, opiates)?	YES	NO
Do you take prescription medication?	YES	NO
Do you take medication not prescribed for you?	YES	NO

FEMALES - In the past year how many times have you had:
4 or more drinks in 2 hours
3 or more drinks in a day
7 or more drinks in a week

MALES - In the past year how many times have you had:

5 or more drinks in 2 hours
4 or more drinks in a day
14 or more drinks in a week

THE UNIVERSITY OF
SOUTHERN
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APPENDIX D – IRB Approval Letter

ORI | Office *of* Research Integrity

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NOTICE OF INSTITUTIONAL REVIEW BOARD ACTION

The project below has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services regulations (45 CFR Part 46), and University Policy to ensure:

- The risks to subjects are minimized and reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered involving risks to subjects must be reported immediately. Problems should be reported to ORI via the Incident template on Cayuse IRB.
- The period of approval is twelve months. An application for renewal must be submitted for projects exceeding twelve months.

PROTOCOL NUMBER: IRB-18-165
PROJECT TITLE: Social and Individual-Level Identities and College Male Alcohol Use Behaviors: Examining the Utility of Protective Behavioral Strategies
SCHOOL/PROGRAM: School of Psychology, Psychology
RESEARCHER(S): Robert Whitley, Michael Madson

IRB COMMITTEE ACTION: Approved
CATEGORY: Expedited

7. Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

PERIOD OF APPROVAL: January 28, 2019 to January 28, 2020

Donald Sacco

Donald Sacco, Ph.D.
Institutional Review Board Chairperson

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