

DISSERTATION

COMBINING PERSONALITY AND MASCULINITY IN PERCEPTIONS OF ALCOHOL
USE

Submitted by

John Jurica

Department of Psychology

In partial fulfillment of the requirements

For the Degree of Doctor of Philosophy

Colorado State University

Fort Collins, Colorado

Spring 2018

Doctoral Committee:

Advisor: Bryan Dik

Co-Advisor: Mark Prince

Ernest Chavez

Jen Harman

Lisa Miller

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ABSTRACT

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Alcohol consumption and alcohol consequences among men in college are significant health concerns, making it important to examine how psychosocial and biological variables surrounding masculine gender norms may play a role in alcohol-related behaviors. Men's conformity to certain masculine norms in the United States is a predictor of alcohol use and alcohol-related problems. Sensation seeking, which occurs at higher levels among men, is a personality trait related to increased alcohol consumption and increased risk-taking behavior, which also occurs at high levels among men. Despite theoretical overlap between these personality-based and psychosocial variables, they have not been empirically compared. Based on evidence from peer influences and masculinity, it is possible that individuals that endorse traditional masculine norms may experience peer norms among close friends that promote and encourage dangerous drinking behaviors. Quantitative methods were employed to explore endorsement of traditional masculine norms, personality variables with known relationships with alcohol-related outcomes, peer norms for alcohol use and alcohol-related outcomes. Qualitative methods were utilized to explore the ways in which participants view drinking and drinking behaviors in the context of masculinity and male peers. Results suggested that there are significant relationships between sensation seeking and several subscales of the Conformity to Masculine Norms Inventory (CMNI), most notably risk taking ($r = .77$). Results of several path analyses suggested that risk taking and sensation seeking predict alcohol consumption and

alcohol consequences via descriptive norms for alcohol use. Relevant themes from the qualitative analysis included *posturing, no effect, consumption habits, sources of influence, and drinking and responsibility*. Quantitative and Qualitative results provided evidence of a relationship between peer norms for alcohol use and masculinity. Quantitative results show relationships between several subscales of the CMNI and injunctive and descriptive norms for alcohol use among close friends. These results also suggest that higher endorsement of risk taking and sensation seeking is related to increased perceptions of peer alcohol use, which in turn predicts alcohol consumption and alcohol problems. Qualitative results also provide evidence of a connection between masculinity and alcohol consumption as well as masculinity and risky behaviors while drinking. The qualitative results also provide evidence of context-specific behaviors and specific mechanisms through which masculine norms and peer influences impact alcohol behaviors. These findings advance research aimed at understanding relationships between masculinity, sensation seeking, peer norms, and alcohol-related behaviors. Implications for treatment and prevent, limitations, and directions for future research are discussed.

DEDICATION

To everyone who helped make this possible, especially members of the Jurica clan.

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INTRODUCTION

It is well documented that alcohol use and abuse is a growing health problem among college students that poses health and safety risks for both individuals consuming alcohol and for individuals in the college environment (Hingson, Zha, & Weitzman, 2009). Alcohol consumption among male college students, in particular, is a rapidly increasing health concern. Forty-three percent of males in college self-report at least one binge drinking episode in the past 30 days (Johnston, O'Malley, Bachman, & Schulenberg, 2011). Compared to women, men drink more often and men report a greater number of heavy-drinking days (Seo & Li, 2009), and experience more alcohol-related problems, such as driving under the influence of alcohol, violence, destruction of property, and public displays of risk-taking while drinking (Hingson, et al., 2009). Men also tend to engage in more overtly dangerous and destructive behaviors surrounding alcohol consumption (Borsari, Murphy & Barnett, 2007). Therefore, increasing understanding of the predictors and correlates of alcohol consumption and alcohol-related problems among college-aged men, as well as the mechanisms through which these events occur, is important for students, educators, administrators, and counselors.

Many studies provide evidence for the sex differences in alcohol consumption, dangerous drinking behaviors, and alcohol-related problems. However, significantly fewer studies have been conducted focusing on how the specific expectations and attitudes surrounding masculinity in United States' culture may affect these health-related problems. In other words, the specific sociocultural reasons why men might be encouraged to engage in risk-taking behaviors or excessive alcohol use are largely ignored (Courtenay, 2009). These specific reasons are related to self-identified gender rather than biological sex (Courtenay, 2009). Because this issue varies

based on gender, it is imperative to understand the role gender and the influence that gender roles play in this issue. Recognizing how masculine ideologies and adherence to masculine norms through enacting certain behaviors may encourage increased drinking and risk-taking is vital to understanding the problem itself. Recently, there has been increased scholarship in psychology that focuses on relationships between masculinity and alcohol-related behaviors (Wells, Flynn, Tremblay, Dumas, Miller, & Graham, 2014; Iwamoto, Corbin, Lejuez, & MacPherson, 2014), though there are still significant gaps in our understanding of this issue.

Sensation seeking is a personality trait that occurs at higher levels among men than women and is related to a variety of health problems, including increased alcohol consumption and increased risk-taking behavior (Zuckerman, 2014). Research in this area comes from a biological perspective that focuses on sex differences, emphasizing personality traits, behavioral genetics, and neurocognitive processes to explain the cognitive mechanisms involved in sensation seeking and to elucidate why individuals might endorse high levels of sensation seeking. Men consistently endorse significantly higher levels of sensation seeking than women (Hittner & Swickert, 2006; Roberti, 2004). This sex difference warrants an exploration of the possibility that gender norms may be related to or influence this phenomenon.

Impulsivity and poor impulse control have also been implicated in poor health decisions, alcohol use, and alcohol-related problems. Impulsivity is related to the development of executive function and involves the ability to plan ahead or delay gratifications (Cross, Copping & Campbell, 2011). Impulsivity has been implicated as a predictive factor for risky substance use by itself, and it has been combined with sensation seeking to create a predictive model of risky behavior and substance use (Steinberg, Albert, Cauffman, Banich, Graham, & Woolard,

2008). Given the implication of impulsivity as a predictive factor, an exploration of impulsivity in the context of traits that may relate to alcohol use and alcohol-related problems is warranted.

Peer norms for alcohol use also play a significant role in the prediction of alcohol-related behaviors (Borsari & Carey, 2001). Peer norms may be particularly important for college-aged when viewed from a developmental perspective, as emerging adulthood (Arnett, 2011), which comprises the traditional college-aged student, is an important part of identity development that may include exposure to different environments or peers (LaFontana & Cillessen, 2010).

Perceptions of norms provide a framework from which college students compare their drinking behaviors to their peers' behaviors (Cialdini & Trost, 1999). This framework contributes to social comparison and a variety of pressures to conform to the perceptions of other college students, ranging from the "average" college student to people with whom an individual interacts frequently, such as close friends (Neighbors, O'Connor, Lewis, Chawla, Lee, & Fossos, 2008). Salient peer reference groups also have an effect on women and men's perception of normative drinking behaviors as well as drinking attitudes, which in turn is related to drinking behaviors (LaBrie, Hummer, Neighbors & Larimer, 2010). Membership in male-dominated organizations, such as fraternities (McCabe, Schulenberg, Johnston, O'Malley, Bachman & Kloska, 2005) and athletic teams (Tewksbury, Higgins & Mustaine, 2008) is related to an increased likelihood of alcohol-related problems. Some of this research has suggested that socialization in these organizations and the social pressures in these groups is related to alcohol consumption (McCabe et al., 2005).

The current study has several purposes. A primary purpose of this study is to combine biological and sociocultural factors when exploring alcohol consumption and alcohol-related problems. The study examines alcohol consumption and alcohol-related problems by combining

explanations generated from personality traits that have documented relationships to alcohol (impulsivity and sensation-seeking) with a sociocultural variable (conformity to traditional masculine norms) that also has known connections with alcohol. Despite their disparate conceptual origins and theoretical underpinnings, these variables have relationships with similar criterion variables and have several theoretical justifications for being related to one another. To the author's knowledge, no research has previously explored relationships between these theoretically distinct variables. This would allow for greater understanding of men's engagement in risky health behaviors. Another purpose of this study is to examine the impact of peer norms for alcohol use using a reference group that is likely important to the individual respondent. Finally, this study qualitatively examines the role of both perceptions of manhood and male peer influences on alcohol use and alcohol-related behaviors. This document will review relevant background material to provide a theoretical justification for relationships between these variables and the utility of their combined predictive power for alcohol use and alcohol-related problems.

Conceptual Approaches to Gender and Masculinity

Research in psychology on gender identity and masculine orientations has historically followed two tracks, the trait approach (e.g. Bem, 1977) and the normative approach (Thompson & Pleck 1995; Thompson & Bennett, 2015). The trait approach is based on the perspective that an idealized version of masculinity exists and attempts to measure how much an individual exemplifies this idealized masculinity. This approach assumes that the constructs of masculinity and femininity are unchanging and that the researchers or scholars defining the construct have properly identified what makes someone or something "masculine" or "feminine." Conversely, the normative approach emphasizes the cultural norms that dictate masculinity and femininity

and argues that there is no single standard for ideal masculinity, and the norms are subject to fluctuations. It views masculinity as a culturally driven ideology that provides rules and suggestions for gender relations, beliefs, and attitudes (Thompson and Pleck, 1995). The dynamic nature of masculinity espoused by this approach suggests that masculine norms vary across regions, era, and specific intersectionalities of identity.

Similar to the trait versus normative approach is the essentialist versus the constructivist approach to gender. The essentialist approach suggests that gender differences reflect internal biological attributes held by women and men. For example, in the essentialist view, the fact that men tend to be more risk-taking and aggressive than women would be interpreted primarily or exclusively as a biological or psychological phenomenon related to either men's different hormones (higher levels of testosterone) or differing personality traits (higher levels of sensation-seeking personality traits; Angier, 1999; Thompson and Pleck, 1995). This approach argues that gender, which reflects the typical behaviors characterized by men and women, is the same as sex, which is the biological differences between women and men. This argument has often been used to uphold and justify patriarchal culture in which men hold more power than women by arguing that the societal structure in which men hold most positions of power (e.g. political positions) is a reflection of immutable biological characteristics rather than malleable social structures.

The constructivist approach perceives gender as socio-politically constructed through culture and therefore constantly changing, which is similar to the normative approach. Gender is not a static reality or a reflection of internal psychological traits (Courtenay, 2000a). It is "a set of socially constructed relationships which are produced and reproduced through people's actions" (Gerson and Peiss, 1985, p. 327). Gender is enacted recurrently in our social interactions with others, and it is perpetuated through shared meanings and actions. Gender

“may be invoked as a practice through which masculinities (and men and women) are differentiated from one another” (Messerschmidt, 1993, p.85). Individuals are encouraged to adhere to stereotypes surrounding attitudes and behaviors, and many frequently adopt dominant norms of femininity and masculinity (Eagly, 1983), which generates a self-fulfilling prophecy that can make socially constructed behavior seem biological in nature (Crawford, 1995). Most, if not all, of our interactions play a role in creating, building, and reconstructing gender, including our use of language (Crawford, 1995), our values, and approach to work (Connell & Messerschmidt, 2005), sex (Vance, 1995), sports (Messner & Sabo, 1994), and crime (Messerschmidt, 1993). Alcohol consumption is no exception to the effects of this phenomenon, as men’s and women’s perceptions of use and their ways of consuming alcohol are gendered in nature (De Visser & McDonnell, 2012). An important component of the constructivist approach is that individuals are not passive consumers of the cultural norms. They are active contributors to them, and their interactions place them into a gendered category. According to Courtenay (2009), this is a central aspect of social constructionism theory. Social interactions in which individuals engage, as well as the contexts and institutions in which they interact, provide different opportunities to demonstrate their gender.

Both the trait approach and the essentialist approach fail to acknowledge the impact of social and cultural contexts on human functioning, ignoring historical evidence that masculine ideologies fluctuate. Analysis of how standards of gender and masculinity have changed across time elucidates this reality. For example, the cultural conception of the idealized male body has changed over time, as the ideal male body in parts of the 19th century was much thinner and less muscular than it is now (Kimmel, 1995). Because the trait and essential approaches are inflexible by nature, they are less capable of identifying key factors in the performance of

gender-based expectations as they fluctuate. This limitation has several noteworthy negative ramifications.

When looking at men's models of health, ignoring the cultural impact of health-related beliefs and behaviors, including alcohol use, makes it difficult to explore the possibility of altering these behaviors. Trait and essentialist perspectives assume that the behaviors which reduce men's life span (substance use, risk-taking behaviors, violence) are intrinsic to the male sex and are therefore unchangeable, thereby ignoring the possibility of social learning. If these behaviors are viewed as unchangeable when they are actually malleable, then men's health will suffer unnecessarily. Behaviors and attitudes that reflect traditional femininity and masculinity are related to various health advantages and risks (Courtenay, 2000a). Health-related beliefs and engagement in health behaviors situate an individual in a gendered category (female or male) which can have a significant impact on well-being and longevity. From a social justice perspective, inflexible perspectives of masculinity reflect the subjective biases of a particular group or a particular epoch without acknowledging the subjective nature of every perspective. This inflexibility can lead to silencing or devaluing perspectives that diverge from the dominant perspective.

As a result, the current study focuses on the normative and constructivist approaches to masculinity that acknowledge and emphasize the importance of culture on cognition, emotion, behavior, and interpersonal interaction. Although the study primarily utilizes this theoretical approach, it incorporates biological and trait approaches to explaining behaviors. The normative approach has been used in most of the recent research on masculine ideologies in psychology, as noted in a recent review of psychological measures of masculine ideologies (Thompson & Bennett, 2015).

What are masculine ideologies? There is a grouping of mandates and regulations surrounding masculinity found in the United States and some parts of Europe. This grouping of attitudes, beliefs, and structural norms is known as traditional masculinity (Thompson & Pleck, 1995), or hegemonic masculinity (Connell & Messerschmidt, 2005). These normative attitudes, beliefs, and behaviors for men have been constructed by middle and upper class heterosexual white males and impact all men in United States society through the participation of subordinate groups (Connell & Messerschmidt, 2005). However, there are still differences between individuals based on age, ethnic background, family culture, geographic region, and other factors that may affect an individual's understanding of masculinity, which is reflected in comparisons of adherence to masculinity among individuals from differing cultural backgrounds and with different identities (Vogel, Heimerdinger-Edwards, Hammer & Hubbard, 2011). Both the perception of the particular standards of masculinity and the amount of adherence to these perceptions varies on an individual basis.

There are many theoretically and empirically based perspectives on what constitutes masculine ideologies. Despite some differences in understanding or categorization across different perspectives, there is striking similarity between researcher's understandings of masculinity. There are high levels of agreement in the United States about what behaviors or attitudes are considered feminine or masculine in nature (Williams & Best, 1990; Golombok & Fivush, 1994). A recent critical review on measures of masculine ideologies (Thompson & Bennett, 2015) suggests that there is significant overlap between the way hegemonic masculinity is conceptualized and operationalized in psychology and psychological measurement. One important distinction in current research is the difference between first-wave scales, which assume the presence of a single hegemonic version of masculinity, and second-wave approaches

that attempt to operationalize more nuanced masculinities associated with different groups (ex. Machismo and masculinity among Mexican-American men). Because the current study focuses on college-aged males who predominantly identify as middle class and white, which coincides with first wave conceptualizations of masculinity, this study utilizes the first-wave conceptualization of masculine ideologies.

Dimensions of first wave masculinity. According to David and Brannon (1976) there are four aspects of masculinity norms: 1) "No sissy stuff," meaning that men are required to avoid and reject any beliefs or behaviors that are characterized as "feminine" in nature; 2) "the big wheel," requiring men to pursue success and achievement; 3) "the sturdy oak," demanding that men should be strong and not show weakness, characterizing displays of vulnerability as weakness; and 4) "give 'em hell," suggesting that men ought to be aggressive and accepting of violence in the pursuit of adventure. These domains were used to create a measure of masculine ideologies.

Although they have been modified slightly, these domains seem to still be relevant. The most noteworthy additions in more recent scales revolve around dominating women and sexually marginalized groups. The Conformity to Masculine Norms Inventory (CMNI; Mahalik, Locke, Ludlow, Diemer, Scott, Gottfried, & Freitas, 2003), which has been updated using a shortened form (Parent & Moradi, 2009, 2011) conceptualizes masculine ideologies with similar domains. They include "Emotional Control," which comprises suppression of emotions; "Winning," which encompasses a mentality of winning at all costs; "Violence," characterized by a willingness to use physical violence or threat of violence to address problems; "Risk Taking," which includes a tendency to engage in physically and emotionally dangerous behaviors; "Self-Reliance," which is a tendency to refrain from help-seeking behaviors; "Power Over Women," which is a belief

that men should be in charge of women; “Playboy,” which is an interest in multiple or non-committed sexual relationships with emotional distance one’s sex partners; “Primacy of Work,” which places work as a central focus of life; and “Heterosexual Self-Presentation,” which is an aversion to being perceived as gay or identifying as gay. The Male Role Norms Inventory (MRNI; Levant & Fischer, 1998), which is a widely used measure of masculine ideologies (Thompson & Bennet, 2015) has similar domains: Avoidance of Femininity, Fear and Hatred of Homosexuals, Extreme Self-Reliance, Aggression, Dominance, Non-relational Sexuality, and Restrictive Emotionality. It is important to note that one significant difference between these groups is that the MRNI-R does not have a specific element that includes risk taking while the CMNI does. Recent studies examining masculinity and alcohol use have generally used the CMNI (Liu & Iwamoto, 2007; Wells et al., 2014, Iwamoto et al., 2014). In addition, the risk-taking subscale in the CMNI conceptually relates more directly to sensation seeking and to dangerous behaviors characterized by high sensation seeking and high impulsivity that are present in theoretical conceptualizations of masculinity, making it more appropriate for this study.

There are several shortcomings of current masculinity scales, one of which is that they may not measure individual’s actual behaviors. Research surrounding other psychosocial constructs, such as racism, suggest that self-report measures do not necessarily relate to people’s behaviors or implicit emotional responses (Hofmann, Gawronski, Gschwendner, Le, & Schmitt, 2005). Measures of masculinity ideologies may be assessing for people’s awareness of masculine ideologies or their overt agreement of masculinity without assessing their behavioral or emotional responses to masculine ideologies. For example, an individual may endorse the statement that men should be leaders in society but behaviorally support gender equality in

leadership roles. Because it is difficult to evaluate the nuances of masculinity ideology found in any particular individual, inclusion of qualitative approaches may be important to determine individual differences in perceptions of masculine ideologies and adherence to these ideologies (Cuthbert, 2015; Thompson and Bennet, 2015).

Gendered social learning theory. Social norms are implicit and explicit rules and regulations that dictate and guide social behavior (Cialdini & Trost, 1999). The gendered social learning theory (Addis, Mansfield, Dyzsek, 2010) provides a theoretical model for understanding and researching masculinity in psychology. It is based on operant conditioning and relies on reinforcement contingencies, which is a relationship between an individual's behavior and the subsequent consequences that will influence the probability of the behavior occurring in the future. When applied to men and masculinity, it suggests that men are taught to adhere to certain norms in their environment. This occurs when they experience social rewards when they act in accord with these norms while being punished when they deviate from these norms. When this theory is applied to alcohol, masculine norms would theoretically impact consumption and alcohol behaviors based on shared rituals and meanings associated with alcohol consumption that are socially reinforced.

The theory (Addis et al., 2010) also asserts that there is a complex relationship between behaviors and consequences that relies heavily on context and environmental cues. This assertion deviates from other conceptualizations of reinforcement contingency and in understandings of gendered learning because these models often assume a simplistic relationship between behaviors and consequences that ignores context. For example, men may be taught that emotional expression, such as crying, is discouraged through being ostracized when crying in most situations. However, crying after losing an important athletic team event may lead to

positive consequences, such as greater team connectedness between players on the team, which would then lead to reinforcement of this behavior. It is also possible that gender norms may relate to participation in different contextual settings. For example, a recent study provided evidence that adherence to masculine norms may influence drinking game participation and drinking game behaviors (Zamboanga, Iwamoto, Pesigan, & Tomaso, 2015). Gendered learning theory helps explain the ways in which masculine ideologies impact behavioral differences between women and men as well as variation in behaviors across contexts.

Applying gendered learning to masculinity and alcohol suggests a potential relationship between endorsement of masculine norms and the social groups men enter. It is possible that individual's specific internalization and endorsement of masculine norms would be associated with their likelihood of self-selecting into groups that involve certain kinds of peers. This self-selection may account for some of the previously established relationship between endorsement of masculine norms and drinking behaviors, as individuals may seek out certain contexts or peers that reward their perspectives and behaviors. Peer influences are strong predictors of alcohol-related outcomes (Borsari & Carey, 2001)

Masculinity, risky behaviors, and health outcomes. Risk taking is a key part of masculinity in the United States and Western Europe. From a young age, boys are encouraged to seek rewards and to minimize the perception of risk associated with reward-seeking behaviors (Hooks, 2004). As a result, men are more likely to engage in risky behaviors (Connell & Messerschmidt, 2005). Risk taking behavior and feeling invincible are central to the construction and embodiment of local (European American) masculinities (Kimmel 2004; Kimmel & Messner 1992). In addition, acknowledgement of danger or risk is seen as weakness and is often avoided. One mechanism through which this occurs is through the rejection of traits

considered stereotypically feminine. Men's risk-taking is one means of proving difference from women, who are taught submissiveness and safety (Courtenay, 2009). David and Brannon's (1976) "Give 'em hell" element of masculinity reflects a willingness to engage in dangerous activities. In agreement with this, several studies provide evidence that adherence to traditional masculine ideologies is related to heightened levels of health-risk behaviors that increase the possibility of injury and death. The studies have found evidence for increased levels of aggressive driving, risky sexual behaviors, avoidance of medical treatment, and engagement in physical violence (Santana, Raj, Decker, La Marche, & Silverman, 2006; Courtenay, 2000b; Mahalik, Lagan & Morrison, 2006; Steers, 2010). An extensive review of health behaviors suggested that men from a variety of ages are more likely than women to engage in more than 30 behaviors that constitute health risks by heightening risks of injury, disease, and death (Courtenay, 2000b). Recent research has focused on identifying elements of masculinity associated with poor health behaviors and developing interventions intended to challenge aspects of masculine socialization that are related to these poor health behaviors. One such intervention is gender-transformative interventions, which are intended to challenge and shift gender roles towards being more equitable for men and women (Dworkin, Treves-Kagan & Lippman, 2013). They have been effectively employed in response to reduce risky sexual behaviors in men, to encourage HIV prevention, and to reduce men's sexual and physical violence against women see Dworkin et al., 2013 for a review). Alcohol consumption and alcohol-related problems are one of the many health concerns that have been addressed by exploring and challenging the effects of traditional male socialization, and relationships between masculinity and alcohol are a primary focus in the current study.

Connections between masculinity and alcohol. There appear to be significant links between manliness, masculine ideologies, and alcohol. Several qualitative studies provide evidence that the capacity to consume large amounts of alcohol without significant impairment is considered part of “manliness” (Peralta, 2007; De Visser & Smith, 2007). Another study suggests that inability to consume large quantities of alcohol is perceived as weak, homosexual, or womanly, which is something to be avoided (Gough & Edwards, 1998). Several elements of masculine ideologies have strong relationships with alcohol consumption. In particular, the risk taking subscale of the CMNI is related to alcohol related problems, possibly because high levels of alcohol consumption is a risky behavior. Individuals who consciously or unconsciously seek to enact their masculinity through risk-taking may do so with alcohol. Iwamoto et al. (2014) found that the risk-taking subscale of masculine ideologies is related to increased alcohol consumption more highly than most other measures of masculinity. In this study, the “playboy” role also seems to be related to alcohol-related problems because individuals who seek multiple sexual partners are likely to drink more (Iwamoto et al., 2014). The latter finding coincides with Kimmel’s (2008) statement that young men feel that consuming vast quantities of alcohol allows for increased numbers of sexual encounters.

Although adherence to hegemonic masculinity as a whole is linked to alcohol use and alcohol-related problems in quantitative approaches, there is variation in the relationship between masculine ideologies when the masculinity is divided into its conceptual domains. Several aspects of masculinity appear to have inverse relationships with alcohol consumption. Emotional control appears to be a protective factor against binge drinking, as this factor may relate to a desire to remain stable and free from the disinhibiting effects of alcohol. This disinhibiting effect often leads to increases emotional expression and may discourage some men

from consuming alcohol in order to conform to this element of masculinity (Iwamoto et al., 2014). The primacy of work element of traditional masculinity also seems to protect against intoxication and alcohol-related problems, as this value may be related to placing academics or occupational success over alcohol consumption. These protective factors may help explain how some individuals who may identify strongly with traditional masculinity are not at risk for alcohol-related problems. Some studies have suggested that heterosexual presentation has a negative relationship with alcohol consumption (Iwamoto et. al., 2014) while others have found evidence of a positive relationship between heterosexual presentation and alcohol consumption and alcohol related-problems (Wells et. al., 2014). Finally, self-reliance seems to be related to alcohol-related problems (Iwamoto, Cheng, Lee, Takamatsu & Gordon, 2011). While the connection between self-reliance and alcohol-related problems seems less obvious than the relationships between alcohol and other elements of masculinity, self-reliance may lead individuals to avoid help-seeking for their drinking or may lead them to feel like they have to cope with their problems alone, and alcohol may be used as a coping mechanism (Iwamoto et al., 2014). Additional research is needed to determine the mechanisms through which these elements of masculinity impact alcohol consumption and alcohol-related problems. While the full range of masculinity ideologies are assessed, these subscales seem to be more germane to this topic because of their previously established relationships with substance use.

In addition to different masculine ideologies that contribute to different behaviors and beliefs, there are also different avenues through which individuals achieve manhood, which have differing effects on alcohol use and may explain the complexities of the relationships between masculinity and alcohol use. De Visser, Smith, and McDonnell (2009) talk about “trading competencies” in masculinity, which appears to be a protective factor against excessive alcohol

consumption. When individuals feel comfortable or strong in certain areas of their perception of masculinity, they may downplay or resist other areas of masculinity. The concept of “masculine capital” builds on the idea of trading competencies (De Visser & McDonnell, 2013). The concept is derived from the theory of symbolic capital (Bourdieu, 2011), which suggests that individuals have knowledge, prestige, and social connections that help them achieve their goals in social environments. The theory of masculine capital suggests that certain groups may value certain masculine behaviors more than others, and it suggests that individuals who endorse certain masculine norms may value certain behaviors associated with masculinity more highly. When applied to masculinity as an identity (De Visser & McDonnell, 2013), the theory of masculine capital asserts that engagement in certain types of behaviors may build social capital associated with masculine gender roles and expectations. It suggests that when men have engaged in a sufficient amount of behaviors that are perceived as traditionally masculine, they are more likely to feel comfortable engaging in less masculine behaviors in other domains. De Visser and McDonnell (2013) found that certain types of masculine achievement or prowess (e.g. physical prowess) allowed individuals to avoid consumption of alcohol without being perceived as less masculine. This finding may explain in part why certain elements of traditional masculinity, such as achievement and work status, appear to be protective factors against excessive alcohol consumption. For individuals who are high in achievement, they may feel like they are proving their masculinity through their work success and therefore are able to avoid traditionally masculine behaviors in other areas. Conversely, this theory suggests that men who find that they have not amassed enough masculine capital may engage in stereotypically masculine behaviors, such as alcohol consumption, in order to gain social capital. These theories are supported by the theory of precarious manhood (Vandello & Bosson, 2013).

The theory of precarious manhood (Vandello & Bosson, 2013) argues that masculinity is an identity that is difficult to achieve and maintain. The theory further argues that manhood is easily lost when someone does not adhere to the internalized and culturally agreed-upon standard of masculinity and that men will engage in hyper-masculine behaviors when their masculinity is threatened. Because alcohol consumption and the ability to consume large quantities of alcohol are perceived as significant indicators of masculinity, individuals who feel insufficiently masculine in other areas (e.g. self-perception of low numbers of sexual partners) may drink to feel more masculine as a coping mechanism for potential feelings of inferiority or deficiency. This theory and its potential explanations for increased alcohol consumption also relate to gender role conflict, as individuals experiencing conflict due to inability to fulfill self-expectations or cultural norms of manliness may drink in response to their perceived failure.

Gender role conflict. Gender role conflict refers to the stress and strain that men experience in relation to male gender role norms. The construct was developed using Pleck's (1995) gender role strain paradigm, which argues that men's gender roles adversely affect their psychological well-being. Masculinity ideologies are prescriptive in nature, meaning they dictate behaviors in which men are expected to engage (e.g. being sexually active) and behaviors men are expected to avoid (e.g. showing sadness; Levant & Fischer, 1998). For many men, these prescriptive norms are powerful and are often followed despite significant negative consequences in many domains, including psychological, emotional, physical, interpersonal, or occupational domains (O'Neil, 2008). Gender role strain occurs when men's choice to adhere to hegemonic masculine ideologies leads to restriction or devaluation of self and others. The restrictive and devaluing nature of hegemonic masculinity ideologies prevents individuals from being true to themselves and reaching their full capacity (O'Neil, 2008). Conceptually, there are

four ways in which gender role conflict impacts individuals: 1) cognitive— how individuals think about gender roles; 2) affective—how individuals feel about gender roles; 3) behavioral— how gender roles impact the behaviors in which individuals engage; 4) unconscious—the ways in which our schemas and beliefs regarding gender roles that are outside our awareness impact us.

Gender role conflict and adherence to masculine norms seem like concepts that exist independently of one another, though they do have some overlap. Gender role conflict relates to all problems associated with masculine norms, which includes adherence to masculine norms, rejection of masculine norms, and conflicting messages about expected behaviors, to name a few. Adherence to masculine norms does not always lead to conflict, stress, or negative outcomes, as following masculine norms can relate to a sense of pride or positive emotion. For example, adolescent male self-esteem has been linked to more muscular physiques (Labre, 2002). Conversely, gender role conflict may be what leads to adherence to masculine norms because an individual is afraid of breaking masculine norms although they may want to.

Finally, gender role strain has also been linked to alcohol problems through slightly different mechanisms. Self-reliance and gender role strain may be related to higher levels of alcohol-related problems because individuals who experience gender role strain need to cope, but internalized self-reliance dictates that they cope without help, leaving alcohol as one of the few viable coping mechanisms (O’Neil, 2008). While gender role conflict provides a theoretical justification for relationships between masculinity and alcohol use, gender role conflict falls outside the scope of this study and are not directly assessed in this proposal.

Qualitative approaches to exploring masculinity ideologies. There are several critiques of current perspectives on masculinity ideologies that suggest a greater need for

qualitative approaches. In a response to a review of masculinity ideologies in psychology, Isacco (2015) argues that more qualitative research around masculinity must be utilized to more fully understand the nuances of this construct across individuals and groups. In its discussion of using discursive psychology (DP) to address masculinity ideologies, Wetherell and Edley (2014) suggests that current quantitative measures closely approximate the trait-based and essentialist measure of sex roles that current research paradigms have sought to reject. Quantitative measures assume that individual men will be consistent in their beliefs and performances of masculinity. However, qualitative approaches have provided evidence that there can be significant within participant variability based on contextual influences (De Visser, Wheeler, Abraham, & Smith, 2013). Wetherell and Edley (2014) argues that this variability may stem from what an individual may be trying to do in a particular context, which may not be accurately represented by a universal statement about what masculinity means to them. Cuthbert (2015) also suggests that the use of absolute statements in quantitative measurement methods does not allow for this variability. Hammond (2014) suggests that current awareness of immediate social demands in a particular context provides further evidence of the necessity for understanding how certain situations relate to men's health disparities. The perspective that context matters in the performance of masculinity is supported by gendered learning theory (Addis et al., 2010). This makes understanding how masculinity may relate to alcohol consumption in specific contexts (ex. When with male friends or at parties) an important part of assessing the relationships between masculinity and alcohol-related health behaviors in men.

Another concern raised about quantitative approaches is that some masculinity scales do not differentiate between individual's personal beliefs about expectations surrounding masculinity and their perceptions of societal or cultural standards for masculinity (Wetherell, &

Edley, 2014). Although some scales, including the Conformity to Masculine Norms Inventory utilized in this study, attempt to clearly define their expectations, it remains a concern in the field that participants responding to these instruments may not answer uniformly regarding each construct, as some individuals may think about stereotypical cultural expectations while others may answer from a perspective that reflects their internalized values. By allowing men to provide their own answers in qualitative research, it is possible to more clearly differentiate between an individual's personal beliefs and behaviors, and their awareness of cultural influences and expectations (Wetherell, & Edley, 2014). This deeper level of analysis can lead to insights that are difficult to achieve with quantitative methodologies alone. For example, the insights that led to the development of the theory of masculine capital (De Visser & McDonnell, 2013) were generated through qualitative and mixed methods designs that allowed respondents to explain their perception of the complexities associated with masculine behaviors in social settings. According to Tashakkori and Teddlie (2010), mixed method approaches that incorporate elements of qualitative and quantitative methodologies account for the shortcomings of each methodological approach while utilizing the strengths of each approach, making it ideal for addressing some of the limitations associated with current conceptualizations of masculinity ideologies.

Sensation Seeking

Sensation seeking is a personality trait that is characterized by a desire to experience intense novel stimuli and a willingness to take physical, social, and financial risks to achieve this goal (Zuckerman, 2014). Those who score high on measures of sensation seeking have a higher tendency to pursue risky activities due to their focus on novel and rewarding behaviors because of an increased drive for hedonic pleasure. Measures of sensation seeking within the

developmental period that includes the typical college years are associated with engaging in multiple externalizing behaviors (Zuckerman & Kuhlman, 2000). Sensation seeking is theorized to develop as a result of genetic, biological, psychophysiological, and psychosocial factors, and has been associated with the personality traits extraversion and openness to experience (Roberti, 2004). Sensation seeking has also been associated with impulsivity, as measures of reward seeking and a tendency toward novelty included measures of impulsive behaviors (Zuckerman Sensation-Seeking Scale; Zuckerman 2014).

Traditionally, there are four dimensions of sensation seeking: 1) Thrill and adventure seeking, which is characterized by risky outdoor activities, such as skydiving, scuba diving, or flying, 2) Experience-seeking, which is new cognitive or affective experiences through unconventional and non-conforming behaviors, 3) Disinhibition, which involves the subjective feeling of being “out of control”, and 4) Boredom susceptibility, which is characterized by intolerance of repetition, based on environment or individuals, and restlessness in these situations. All four dimensions have been related to alcohol use and alcohol problems, though the disinhibition scale appears to have the strongest relationship with alcohol use and alcohol-related problems (Hittner & Swickert. 2006). However, the disinhibition scale is closely related to trait impulsivity (Dick, Smith, Olausson, Mitchell, Leeman, O'Malley & Sher, 2010) and research has begun examining the possibility that impulsivity is distinct from sensation seeking. This differentiation between impulsivity and sensation seeking has changed the way sensation seeking is understood and how it is attributed to problematic behavior.

More recent scholarship has separated these constructs noting that sensation seeking may not be significantly related to impulsivity (Cyders & Smith, 2007; Whiteside & Lynam, 2009). Impulsivity is related to executive control in the prefrontal cortex while sensation seeking is

related to dopaminergic function in the limbic system (Steinberg et al., 2008; Harden, Quinn, & Tucker-Drob, 2012). According to the dual systems model of sensation seeking (Steinberg et al., 2008) sensation seeking appears to increase substantially during adolescence and decrease as individuals age, with sensation seeking decreasing greatly after age 25. There is evidence from neurological studies of a curvilinear pattern in reward sensitivity across early development. Notably, it appears to peak in mid-adolescence and decline as individuals age into adulthood (Galvan, Hare, Parra, Penn, Voss, Glover & Casey, 2006; Van Leijenhorst, Zanolie, Van Meel, Westenberg, Rombouts & Crone, 2010). Studies that utilize Structural Magnetic Resonance Imaging (MRI) to explore prefrontal cortex development, which is responsible for impulse control, have identified that complete maturation of the prefrontal cortex is linear and does not finish until sometime in individuals' twenties (Paus, 2005; Somerville, Jones, & Casey, 2010). This finding makes it an important trait to examine among college students, as college students are more likely to experience the developmental discrepancy that is associated with high levels of sensation seeking and low impulse control. In addition, this process appears to be more pronounced in men than among women. There is evidence to suggest that some of the variance in sensation seeking can be accounted for by testosterone levels (Steinberg, 2010) and other genetic factors (Ellingson, Verges, Littlefield, Martin, & Slutske, 2013). Because boys and men are higher in sensation seeking, it is worth exploring in the context of male gender socialization and masculinity.

Despite significant sex differences in sensation seeking, no research has examined how the construction of gender and male gender socialization may influence or interact with sensation seeking. Developmental models include environment influences as part of biological development. Social contexts in which traditional masculinity is promoted from a young age

may influence the neural and cognitive development of boys. Sensation seeking has been widely studied in the context of alcohol use because of its strong relationship with alcohol use and abuse.

Sensation seeking, risky behavior, and alcohol. Sensation seeking has a well-documented relationship with engagement in risk-taking behaviors. These include risky sexual behaviors, illegal substance use, and physical aggression. However, risk is typically not the goal; varied and complex experiences that increase stimulation and arousal levels are the focus of sensation seeking behaviors (Zuckerman, 2014). This emphasis on increased stimulation and arousal levels makes risky behaviors a frequent correlate of sensation seeking.

The relationship between sensation seeking and alcohol use has been well documented, as there are many studies that have examined this relationship. A recent meta-analysis has suggested that there is a positive correlation ($r = .26$) between sensation seeking and alcohol use (Hittner & Swickert, 2006). Although all aspects of sensation seeking are related to alcohol use, disinhibition has the strongest relationship with alcohol consumption. Among college students, sensation seeking predicts greater increases in alcohol consumption during the transition to college (White, McMorris, Catalano, Fleming, Haggerty, & Abbott, 2006). There are several potential explanations for this relationship. One potential explanation which is particularly salient for underage drinkers is that alcohol use involves taking illegal risks that individuals find stimulating (Zuckerman 2014). Another potential reason is that individuals who are high in sensation seeking experience higher motivation to achieve stimulation from alcohol use (Read, Wood, Kahler, Maddock, & Palfai, 2003). Other researchers have suggested that individuals who are high in sensation seeking may underestimate the risks of alcohol use compared to low sensation seekers. As a result, high sensation seekers may not consider alcohol a dangerous

behavior. (Horvath & Zuckerman, 1993; Hoyle, Stephenson, Palmgreen, Pugzles Lorch, & Donohew, 2002).

Sensation seeking and masculinity. Sensation seeking is typically perceived as a biological concept. The dual-process model of sensation seeking emphasizes the developmental, and genetic nature of sensation seeking (Steinberg, 2010). In their meta-analysis of sensation seeking and alcohol use, Hittner and Swickert (2006) suggest that gender socialization and cultural norms may account for the moderating effect of gender on sensation seeking such that men experience higher levels of sensation seeking than women. However, they note that there are not enough studies examining cultural norms to explore this possibility in their analysis. Twin studies of sensation seeking have found genetic variables may account for around half of the variance associated with trait sensation seeking (Miles, van den Bree, Gupman, Newlin, Glantz & Pickens, 2001). This finding leaves a significant portion of variance unaccounted for and suggests that environmental/cultural variables may influence the propensity for sensation seeking. In a discussion of the development of sensation seeking personality traits, Zuckerman (2006) discusses the importance of accounting for environmental factors, including cultural influences.

There are several reasons that adherence to masculine norms may be related to sensation seeking. As previously stated, masculine norms are related to high levels of risk taking, whether physical, emotional, or sexual, and several measures of masculine ideologies include items and subscales that focus on risk-taking as a part of hegemonic masculinity (Thompson & Bennett, 2015). According to gendered learning theory (Addis et al., 2010), willingness to engage in dangerous activities is desirable because it is likely reinforced through positive feedback from individual's environments insofar as it is promoted through adherence to traditional masculine

norms. To the author's knowledge, adherence to masculine norms has not been compared to the personality trait of sensation seeking. The risk taking subscale of masculinity ideologies has never been compared with sensation seeking, though the two concepts have several noteworthy similarities.

Despite their similarities, the constructs have different theoretical backgrounds and different explanations for why individuals engage in risky behaviors. Sensation seeking is perceived as a personality trait associated with hypo-dopaminergic functioning in the brain (Steinberg, 2010). Research on sensation seeking focuses on the benefits, including euphoria, of an individual engaging in activities associated with increased emotional intensity, danger, and risk-taking. In contrast, the risk-taking elements of masculinity focus on constructed psychosocial factors and argues that the benefits of danger and risk taking come from a sense of pride, positive emotion, and peer acceptance resulting from adherence to cultural norms for masculinity. The proposed motivation for risky behaviors is related to acquiring a sense of belongingness to a group. As Allen Johnson puts it, "no matter what his social standing might otherwise be, he (a man) can know that something in his masculine being connects him with ideals that elevate him above... other men who, although superior in relation to other forms of privilege, seem insufficiently masculine" (Johnson, 2005, P. 155). Therefore, some of the draw towards sensation-seeking behaviors may be a desire to present oneself as more masculine. This argument would fit with recent research suggesting that sensation-seeking behaviors are not necessarily impulsive and are often require planning and forethought (Ellingson, et al., 2013). Despite the differences in theoretical background, it is possible that individuals who score higher on masculinity may have internalized messages to endorse sensation seeking behaviors because these behaviors are perceived as more "manly" and are therefore desirable. Connell and

Meschersmidt (2005) have argued that men put their bodies at risk in attempts to prove their masculinity, which would lead to higher levels of sensation seeking.

Conversely, it is possible that higher levels of trait sensation seeking may influence individual's endorsement levels of traditional masculinity. Individuals high in sensation seeking may find that their biological propensity towards risk-seeking behavior is rewarded more often in social settings that characterize greater agreement with and promotion of traditional masculine ideologies. This reinforcement would in turn lead men who endorse higher levels of sensation seeking to associate more frequently with other individuals who also endorse traditional masculine norms, which may result in greater peer influences for risk-taking. Viewing this issue in the context of the nature-nurture debate, it is possible that the psychosocial effects of masculinity ideologies, which would constitute nurture, would interact with the biological correlates of sensation seeking, which would constitute nature. If this theorized interaction between sensation seeking and masculinity were true, then one would expect these constructs to be related to one another. Because of their similarities, research in both masculinity and sensation seeking would be furthered through an examination of the relationship between these constructs. Because of their theoretical differences, it is likely that both variables would differentially predict alcohol-use and problems above and beyond the variance accounted for by the other.

Impulsivity, Alcohol, and Masculinity

Impulsivity is another factor with clear empirical associations to alcohol use and negative alcohol consequences (Dick et. al., 2010). Impulse control is often operationalized as the capacity to think in advance and to plan ahead (Whiteside & Lynam, 2001, 2009; Wills, Ainette, Stoolmiller, Gibbons, & Shinar, 2008), and is often referred to as premeditation, “good self-

control,” or planning. There are often similar items used in measurement of these similar constructs (Sharma, Markon, & Clark, 2014). There is evidence that lack of executive control and its resulting impulsivity may combine with high levels of sensation seeking to contribute to risk taking behavior and alcohol-related problems (McCabe, Louie & King 2015). Impulsivity is also associated with a lack of social problem solving skills and increased drinking among men (Ramadan & McMurrin 2005). Lack of premeditation, which is part of impulsivity, moderates the relationship between sensation seeking and substance-related problems such that individuals who are high in sensation seeking and low in premeditation are at higher risk of problems than individuals who self-report high levels of sensation seeking alone (McCabe et al., 2015). While meta-analyses find a significant relationship between sensation seeking and alcohol use ($r = .27$), some of these meta-analyses (Coskunpinar, Dir, & Cyders, 2013) found a still significant but weaker ($r = .17$) relationship between sensation seeking and alcohol-related problems when controlling for impulsivity. The most recent models of sensation-seeking and alcohol-related problems include measures of impulsivity or lack of premeditation due to their demonstrated importance in predicting alcohol-related problems. Given that part of the focus of this proposal is on alcohol-related problems, it is warranted to include these personality measures when determining the impact of sensation seeking and adherence to masculine norms on alcohol-related problems.

Alexithymia, which is characterized by an inability to appropriately express the full range of emotions (Taylor, 2004), is also associated with impulsivity. Alexithymia is associated with a variety of negative outcomes, including higher levels of anxiety and depressive symptomology, greater relationship dissatisfaction, reduced job satisfaction, lower engagement in healthy behaviors (e.g. exercise, routine visits to a physician), problems with alcohol, and other negative

outcomes (Taylor, 2000; Taylor, 2004; Thorberg, Young, Sullivan, & Lyvers, 2009).

Alexithymia is related to higher levels of impulsivity as measured by positive and negative urgency (Shishido, Gaher, & Simons, 2013). Positive urgency mediates the relationship between alexithymia and alcohol consumption while negative urgency mediates the relationship between alexithymia and alcohol-related problems (Shishido et al., 2013). This finding suggests that there is a significant relationship between impulsivity, alexithymia, and alcohol. Dvorak, Sargent, Kilwein, Stevenson, Kuvaas, and Williams (2014) found that non-acceptance of emotion and difficulty with emotion identification as well as poor impulse control play a role in alcohol-related consequences. It is clear that there is a significant relationship between impulsivity, emotion regulation and identification, and alcohol-related problems.

The normative male alexithymia hypothesis argues that men experience lower levels of emotional awareness and emotional intelligence due to traditional male socialization (Levant, Good, Cook, O'Neil, Smalley, Owen, & Richmond, 2006) and suggests that men are less capable of- showing emotions that include vulnerability or attachment. A recent meta-analysis (Levant, Hall, Williams & Hasan, 2009) provides evidence for higher levels of subclinical alexithymia in men than women. Adherence to traditional masculine norms and ideologies is predictive of higher levels of alexithymia (Carpenter & Addis, 2000; Levant, Richmond, Majors, Inclin, Rossello, Heesacker, 2003), particularly among men who endorse the emotional control aspect of masculine ideologies (Levant, et al., 2006). According to the hypothesis, men have less opportunities for emotional experience and emotional expression based on their socialization. As a result, they do not have the opportunities to learn how to understand and communicate their emotional experiences. For some scholars, this proposition suggests that men have a reduced sense of self (Levant et al., 2006).

The majority of the evidence suggests that there is not a gender difference in impulsivity levels (Chapple & Johnson, 2007) when assessed via behavioral measures. However, there appears to be a gender difference in fear of punishment, such that women are more afraid of the potential for punishment. According to the power control theory (Hagan, Simpson, & Gillis 1988), this difference may be because boys and men are given more freedom and experience fewer negative consequences when they engage in potentially risky behavior. It may be that while there is a similar variation in impulsivity, men tend to be higher sensation seekers, and the combination of high sensation seeking and high impulsivity generates dangerous and destructive externalizing behaviors. Although men as whole may not score higher than women on impulsivity, traditional masculinity may still have a relationship with impulsivity, as individuals who score higher in traditional masculinity self-report higher levels of impulsivity.

It is currently unclear how alexithymia and reduced emotional awareness, which seems to be a risk factor for alcohol use, interacts with the emotional control facet of masculinity, which seems to be a protective factor against excessive alcohol use. There is a positive correlation between alexithymia and emotional control (Levant et al., 2006), though these constructs are related to different outcomes with alcohol use. Additional research is needed to determine these complex relationships.

Because of the relationship between masculine gender norms and alexithymia, alexithymia and impulsivity, and impulsivity and alcohol, it is possible that higher levels of adherence to masculine gender norms would be related to heightened impulsivity and heightened alcohol use. However, to the author's knowledge, the relationship between adherence to masculine norms and impulsivity has not been empirically tested, which is something that the current study seeks to address. These trait and psychosocial variables interact with one another

during individual development, making it impossible to assign an antecedent. Because the proposed constructs are occurring and co-occurring simultaneously, adherence to masculine norms, sensation seeking, and impulsivity would be concurrent predictors.

Social Influences and Alcohol Use

One way that current research in alcohol use and abuse examines social influences is through perceptions of peer environment and peer influences, which are powerful predictors of alcohol use among college students (See Borsari & Carey, 2001 for a review; Yanovitzky, Stewart, & Lederman, 2006). College students often consume alcohol with a group of trusted peers (Lange, Devos-Comby, Moore, Daniel & Homer, 2011), making it essential to examine when assessing alcohol use in this population. Peer influence appears to occur through three avenues: 1) overt offers of alcohol, 2) modeling, and 3) social norms. Overt offers of alcohol are friendly offers of alcohol or demands that a peer consumes alcohol. Modeling occurs when individuals see peers consuming alcohol and engage in social learning based on this example. Social norms are cultural values perceived by the individual around drinking. Research has identified a gender difference that suggests men are more susceptible to the effects of peer influences on alcohol consumption and alcohol-related problems (Borsari & Carey, 2001). In addition, individuals who are with heavy drinkers would likely experience more overt offers of alcohol and a heightened effect of social modeling. Results from Yanovitzky (2006) suggest that individuals who associated with heavy-drinking peers were at much higher risk of engaging in unsafe levels of alcohol consumption. This relationship between association with heavy-drinking peers and personal consumption was particularly true among sensation-seeking individuals with peers who were high in sensation-seeking. Given similarities between sensation seeking and elements of masculinity, this finding suggests that men who endorse certain

masculine norms may receive more overt pressure to drink and may also be more susceptible to indirect social influences to drink. One focus of the current study is to examine the relationship between masculinity and perceptions of peer norms, as previous literature suggests that there would be a positive correlation between these variables, though this potential relationship has not been thoroughly assessed.

An individual's perceptions of other's alcohol use and attitudes, which are assessed using descriptive and injunctive norms, are also predictors of drinking behaviors (Borsari, et al., 2007; Neighbors, Lee, Lewis, Fossos, & Larimer, 2007). Descriptive norms, which are perceived quantity and frequency of peer alcohol consumption, are typically based on concrete examples of peer alcohol consumption. Individuals consistently report that peer consumption is higher than reported personal consumption, suggesting they are over reporting descriptive norms (Baer & Carney, 1993). According to Neighbors et al. (2007), descriptive norms may be the best predictor of alcohol consumption, as descriptive norms account for the greatest unique variance in alcohol consumption when alcohol expectancies and drinking motives were included in the model. Altering descriptive norms in alcohol-reduction interventions seems to have the greatest effect in the college student population (Doumas, Haustveit, & Coll, 2010; Neighbors, Larimer, & Lewis, 2004).

Injunctive norms refer to the perceived level of peer approval of alcohol consumption and alcohol-related behaviors. Higher levels of injunctive norms are also associated with increased alcohol consumption (Collins & Spelman, 2013; Larimer, Turner, Mallett, & Geisner, 2004). There is inconsistent evidence that injunctive norms are related to alcohol consumption, which as a whole suggests that using less salient reference groups may reduce the effect of injunctive norms (Collins & Spelman, 2013; Neighbors et al., 2008). Students also tend to overestimate

both descriptive and injunctive norms; that is, students often believe that peers consume alcohol at higher levels than their peers actually do, and that peers are more approving of alcohol use than they really are (Borsari & Carey, 2001, 2003). This misperception is related to increased personal consumption of alcohol (Borsari & Carey, 2001). However, both descriptive and injunctive norms influence positive perceptions and acceptability of alcohol consumption (Brown, Christiansen, & Goldman, 1987). Research further indicates that injunctive and descriptive norms interact to predict drinking and acceptability of alcohol (Rimal & Real, 2003). Masculine ideologies are part of peer influences and may play a role in peer influences.

Masculinity and peer norms for alcohol use. Prior empirical research suggests a relationship between masculine norms and peer norms. Iwamoto and Smiler (2013) found that peer pressure mediates the relationship between elements of masculinity and alcohol use among high school students. A longitudinal analysis of individual's drinking behaviors from adolescence to adulthood found that male-typicality, which is conceptually similar to conformity to masculine norms, is related to social norms around drinking (Mahalik, Lombardi, Sims, Coley, & Lynch, 2015). This study also found that male-typicality and social norms are related to increased alcohol consumption. These results provide evidence for a relationship between masculinity and peer norms. The current proposal focuses specifically on injunctive and descriptive norms surrounding alcohol use.

Men endorse higher injunctive norms surrounding alcohol use (Monk & Heim, 2014, Carey & Borsari, 2003, Prince & Carey, 2010), leading to questions about the possibility that gender socialization plays a role in men's perceptions of alcohol use. Injunctive norms are related to masculine norms when utilizing a similar scale to the CMNI, and alcohol-related outcomes (Prince & Carey, 2010). In addition, Liu and Iwamoto (2007) reports that frequency of

peer substance use is significantly correlated with the risk-taking and playboy subscales of masculinity, though the overall CMNI, which is an aggregate of all masculinity subscales, is not significantly related to peer substance use. This literature provides both empirical and theoretical evidence of the possibility of a relationship between conformity to traditional masculine norms, particularly the playboy and risk taking subscales, and injunctive norms surrounding alcohol use. There are significant ideological differences between the perspective of conformity to masculine norms operationalized by the Conformity to Masculine Norms Inventory (Parent & Moradi, 2009) and the masculinity scale used in the previous study that examines masculinity and injunctive norms for alcohol use (Prince & Carey, 2010; Bem, 1977; Thompson & Bennett, 2015). Among them is that the CMNI utilizes specific aspects of masculinity rather than using a global assessment, which provides greater specificity (Mahalik, et al., 2003). To the author's knowledge, the relationship between the CMNI's operationalization of masculinity and injunctive norms has not been tested.

There is mixed and inconclusive evidence regarding conformity to masculine norms and descriptive norms for alcohol use. Men endorse higher descriptive norms for alcohol use (Adams & Nagoshi, 1999; Borsari & Carey, 2001). Prince and Carey (2010) found that increased identification with masculine gender norms predicts higher descriptive norms for alcohol-related behaviors. As previously stated, this study uses a different construct for measuring masculinity. Iwamoto et al. (2011) suggests that conformity to masculine norms, the scale utilized in this study, is not significantly correlated with descriptive norms for alcohol consumption. However, descriptive norms are operationalized with the word "peers" as a reference group in this study. Recent research on peer norms related to alcohol use emphasizes the importance of accounting for the proximal distance of the reference group to the individual

respondent (LaBrie et al., 2010; see Monk & Heim, 2014 for a review). Research has found that there is a stronger relationship between alcohol-related behaviors and perceptions of other's drinking when the reference group is closer to the respondent (Neighbors, et al., 2008; Monk & Heim, 2014). For example, previous research indicates that there is a significant difference between an individual's perception of descriptive norms for the "typical" college student in comparison to students closer to that individual's reference group (Larimer, Neighbors, LaBrie, Atkins, Lewis, Lee,... & Hodge 2011). Differing levels of reference group comparisons include comparisons to members of the respondent's sex, ethnicity, and fraternity status. The strongest relationship between perceptions and behaviors is when the respondent's close friends are the reference group. However, no prior research has examined conformity to masculine norms and descriptive norms while utilizing close friends as the reference group. Because higher self-reported conformity to masculine norms is related to increased association with friends who consume substances more frequently (Liu & Iwamoto, 2007), it is more likely to be related to perceptions of peer norms with close friends.

Descriptive and injunctive norms as mediators. There is mixed evidence regarding injunctive and descriptive norms as mediators of the relationship between sensation-seeking and alcohol-related outcomes. Association with drinking peers mediates the relationship between sensation seeking and alcohol consumption, suggesting that peer norms may account for the relationship between sensation seeking and alcohol consumption (Yanovitsky, 2006). A study with the general college population reports that injunctive norms mediates the relationship between sensation seeking and alcohol use (Hustad, Pearson, Neighbors, & Borsari, 2014). This study did not find a relationship between sensation seeking and descriptive norms. However, a similar study conducted with participants mandated to substance-related treatment found that

descriptive norms mediates the relationship between sensation seeking and alcohol-related outcomes (Pearson & Hustad, 2014). Neither of these studies use peer norms with close friends as the reference group. This study uses a similar design in that it examines peer norms as a mediator between sensation seeking and alcohol-related outcomes. However, the design for this study uses a more proximate reference group (close friends) for both descriptive and injunctive norms.

There is also mixed evidence supporting peer norms as a mediator between impulsivity and alcohol related outcomes. The same study examining peer norms as a mediator between sensation seeking and alcohol related outcomes among college students found that the relationship between impulsivity and alcohol consumption is mediated by descriptive norms but not by injunctive norms (Hustad et. al., 2014). The relationship between impulsivity and alcohol-related problems is also double-mediated by descriptive norms and alcohol consumption. The other study that explored these relationship among mandated students found that impulsivity was not mediated by either descriptive norms or injunctive norms (Pearson & Hustad, 2014). Due to this mixed and inconclusive evidence, impulsivity was included in the overall mediation model of the current study.

Research suggests that peer norms mediate the relationship between conformity to masculine norms and alcohol use. As previously stated, Iwamoto and Smiler (2013) found that peer pressure mediated the relationship between conformity to masculine norms and alcohol consumption among high school students. Though the population is different, these findings provide evidence for the possibility of a relationship between conformity to masculine norms and alcohol use mediated by injunctive and descriptive alcohol norms. The risk taking and playboy subscales of masculinity are related to associating with friends who consume substances at

higher levels than for people with lower endorsement of masculine norms among Asian-American undergraduate students (Liu & Iwamoto, 2007). It is likely that individuals who score higher on these constructs will also perceive greater alcohol consumption among close friends, which reflects descriptive norms. In addition, these individuals are also likely to perceive greater acceptability of alcohol-related behaviors, which reflect injunctive norms. Prince and Carey (2010) argues that the increased drinking of individuals who ascribe to heightened levels of traditional masculinity may be partially explained by higher perceived descriptive norms. The study also found that increased femininity is associated with lower injunctive norms, reflecting lower acceptability of alcohol use and alcohol-related behaviors. One future direction suggested by this study is to directly test the possibility of a mediated relationship between gender norms and alcohol-related outcomes via peer norms. To the author's knowledge, this potential mediated relationship has not been empirically examined.

In addition to empirical evidence in favor of this mediated relationship, there is also theoretical evidence that suggests this mediated relationship exists. Excessive alcohol consumption and its concomitant behaviors are often public, which creates the perception of increased social acceptance (Real & Rimal, 2007). Using social comparison theory (Suls & Wheeler, 2013), injunctive norms may influence alcohol behaviors due to the perceived consequences associated with drinking. From this perspective, students believe that they will be socially rewarded for alcohol consumption or punished for limited alcohol consumption. (Wood, Christensen, Hebl, & Rothgerber, 1997). It is also well-established that individuals also overestimate both descriptive and injunctive norms among their peers (Borsari & Carey, 2003). This may be particularly relevant for men who endorse high levels of masculinity, a perspective

that is supported through application of the theory of precarious manhood (Vandello & Bosson, 2013).

According to the theory of precarious manhood, men tend to overestimate the extent to which they will lose their masculine status if they engage in a behavior that is not stereotypically characterized as masculine (Vandello & Bosson, 2013). Given the relationship between masculine status and alcohol consumption (Peralta, 2007), this means that individuals are likely to overestimate the potential negative effect of failing to adhere to masculine norms, increasing the impact of perceived social norms for alcohol use. Men who endorse higher levels of conformity to masculine norms are also more likely to overvalue the importance of drinking in relation to maintaining masculine status among their peers, particularly if they endorse the specific norms that are most often correlated with alcohol consumption (playboy and risk taking). Endorsement of these norms would make them more likely to perceive that their friends consume more alcohol and have more permissive attitudes towards alcohol consumption and risky alcohol-related behaviors. Given this evidence, it is reasonable to hypothesize that conformity to masculinity would predict perceptions of greater use and acceptability regarding alcohol-related behaviors, which would in turn account for the relationship between conformity to masculine norms and alcohol-related outcomes. In addition, the theory of masculine capital suggests that different groups have differing expectations regarding building and maintaining masculine capital (De Visser & McDonnell, 2013). For individuals in peer or friend groups that perceive alcohol consumption as important to maintaining a masculine social status, there may be added pressure to consume alcohol in order to maintain their masculine standing among their close friends.

Alcohol outcome expectancies and peer norms. Alcohol outcome expectancies are normative beliefs, whether implicit or explicit, about the likely outcomes of consuming alcohol (Reich, Below, & Goldman, 2010). They are developed from social learning theory (Bandura, 1977) which suggests that individuals learn from their environment based on negative and positive reinforcements. When applied to alcohol use, they have been effective in explaining dangerous alcohol use behaviors as a predictor and as a mediator. They involve “liquid courage,” which is the belief that drinking alcohol allows an individual to do things they would not normally do, “sociability,” the belief that alcohol consumption facilitates greater social connectedness, “tension reduction,” which is the belief that drinking alcohol helps relieve stress, and “sexuality,” which is the expectation that drinking alcohol will enhance sexual performance (Fromme, Stroot, & Kaplan, 1993). Positive outcome expectancies have been associated with immediate alcohol consumption (Anderson, Grunwald, Bekman, Brown, & Grant, 2011) and heightened levels of long-term alcohol use (Natvigaas, Leigh, Anderssen, & Jakobsen, 1998). Real-time observation in naturalistic bar situations found positive outcome expectancies are related to increased alcohol consumption (Larsen, Engels, Wiers, Granic, & Spijkerman, 2012).

Because expectations are generated from social situations and social learning, it is important to understand the sociocultural factors that may influence these expectancies. Masculine ideologies constitute a significant sociocultural factor. Based on gendered learning theory (Addis et al., 2010), men are socially rewarded for following masculine norms. When they see other men being rewarded for drinking behavior, their beliefs about the positive effects of alcohol consumption will change in favor of increased consumption. Because drinking large amounts of alcohol is perceived as a “manly” endeavor (Peralta, 2007), individuals who report higher levels of traditional masculinity may perceive greater positive effects of alcohol

consumption, which in turn increases their positive AOE. Iwamoto et al. (2014) found that adherence to hegemonic masculine ideologies, particularly the playboy and winning dimensions of masculinity, appears to influence positive alcohol outcome expectancies among college-aged males. While there is conceptual evidence for a relationship between alcohol expectancies and masculine ideologies, some elements of masculinity that are related to alcohol consumption and alcohol consequences appear to be unrelated to AOE.

Notably, the risk-taking element of masculinity was not related to positive AOE in Iwamoto et al.'s (2014) findings, which was corroborated in another study (Wells et al., 2014). This finding suggests that playboy and risk taking impact alcohol-related behaviors via different pathways. Since peer norms may also be a mediator in the relationship between masculinity and alcohol-related behaviors, the finding that playboy and risk taking have differential relationships with AOE suggests that playboy and risk taking may also have differing relationships with injunctive and descriptive norms. There is evidence for this difference when examining fraternity status, which is a predictor of both peer norms and alcohol-related behaviors (Larimer et al., 2011), but has no relationship with AOE (Iwamoto et al., 2014). This pattern of relationships suggests that peer norms and the implied expectancies (e.g. maintenance of social status) associated with peer norms may function differently than the specific expectations operationalized by current measures of AOE. Descriptive and/or injunctive norms may be more related to social group status and perceived social capital, which AOE does not directly measure. Peer norms relate to group expectations for the individual and are likely related to social acceptance and belonging, whereas AOE have more to do with internal expectations about the personal effects of alcohol-related behaviors. This provides evidence that AOE and peer norms

may not have the same mediated effects when examining relationships between masculinity and alcohol-related behaviors.

Because gender norms are present from an early age (Eagly & Wood, 2013), they pre-exist peer norms specific to drinking. Therefore, placing conformity to masculine norms as antecedent to alcohol norms seems reasonable. Furthermore, gender norms are broader than norms surrounding alcohol use. Because masculinity is a broader concept, it can be argued that masculine norms would contribute to norms surrounding alcohol consumption. While norms surrounding alcohol use may relate to other's perceptions regarding the extent to which an individual is adhering to masculine norms, it is less likely that norms surrounding alcohol use would influence norms of masculinity themselves. Therefore, it is reasonable to argue that alcohol norms would mediate the relationship between conformity to masculine norms and alcohol-related outcomes, not that conformity to masculinity would be a mediator between alcohol norms and alcohol-related outcomes.

Current Study

The first purpose of the present study is to examine relationships between conformity to masculine norms and personality variables. Two studies (Iwamoto et al., 2014; Wells, et al., 2014) directly suggested future research should examine the relationship between conformity to masculine norms and personality variables associated with alcohol use to help understand their relationship with alcohol. One study (Iwamoto et al., 2014) examined the impact of conformity to masculine norms on alcohol consumption, and the other (Wells et al., 2014) examined the impact of conformity to masculine norms on alcohol consumption, heavy episodic drinking (HED), and alcohol-related problems. The current study follows this recommendation by using correlational analysis to examine potential relationships between sensation seeking and

masculinity. Given this recommendation, it is important to utilize all aspects of conformity to masculine norms, though there are two subscales that have the greatest theoretical justification for a hypothesized relationship: the risk taking and playboy subscales of masculinity. Though these personality variables and masculinity variables are conceptually different (biological vs. sociocultural), they measure similar behaviors (engagement in novel and risky behaviors). In addition, many of the conformity to masculine norms subscales are related to increased alcohol behaviors, including the winning, and violence subscales, though some subscales appear to be protective factors against alcohol use, including the primacy of work and heterosexual presentation subscales (Iwamoto et al., 2011). Given the common correlate of alcohol use and risky behaviors (e.g., risky sexual practices, Charnigo, Noar, Garnett, Crosby, Palmgreen & Zimmerman, 2013; Santana et al., 2006), it is possible that there will be multiple correlational relationships between conformity to masculine norms and sensation seeking. Therefore, it is important to understand the quantitative relationships between these variables.

These same two authors (Iwamoto and Wells) recommend examining impulsivity in relation to conformity to masculine norms as part of further understanding personality variables in relation to masculinity variables known to predict alcohol-related outcomes. Impulsivity predicts alcohol-related behaviors (see Dick et al., 2010 for a review) and it is often used in studies that examine the relationship between sensation seeking and alcohol-related outcomes due to its similarities with sensation seeking (Zuckerman, 2014). No previous research has compared conformity to masculine norms with impulsivity. Following previous researchers' suggestion for future research, one focus of this study is to examine the correlations between conformity to masculine norms and personality variables that are associated with alcohol consumption and alcohol-related problems.

I hypothesize that there are positive relationships between subscales in the conformity to masculine norms measure and the sensation seeking and impulsivity measures. Specifically, I hypothesize positive relationships between risk taking and sensation seeking (H1a), playboy and sensation seeking (H1b), winning and sensation seeking (H1c), risk taking and impulsivity (H1d), playboy and impulsivity (H1e), and winning and impulsivity (H1f).

The second purpose of the current study is to investigate personality and masculinity of alcohol outcomes. No prior research has compared sensation seeking, impulsivity, and conformity to masculine norms regarding their ability to predict alcohol-related outcomes, though all of these variables are related to alcohol use (Iwamoto et. al., 2014; Zuckerman, 2014; Peralta, 2007; Hittner & Swickert, 2006). Furthering this line of research would involve combining psychosocial masculine norms and biologically-based personality variables to determine their combined and comparative predictive power for alcohol consumption and alcohol-related problems. Specifically, I expect that risk taking will predict alcohol consumption (H2a), playboy will predict alcohol consumption (H2b), sensation seeking will predict alcohol consumption (H2c), and impulsivity will predict alcohol use (H2d). Additionally, I expect that risk taking will predict alcohol consequences (H2e), playboy will predict alcohol consequences (H2f), sensation seeking will predict alcohol consequences (H2g), and impulsivity will predict alcohol consequences (H2h).

The third purpose of this study is to explore relationships between conformity to masculine norms and peer norms based on close friends as a reference group. The original research proposal design suggested that academic major would function as a proxy for peer influences, which is based on the idea that individuals in certain academic majors, particularly ones that are male-dominated (e.g. Construction Management) would influence the relationship

between conformity to masculine norms and alcohol-related outcomes. This idea was based on the results of a chi-square analysis which found that men majoring in construction management were mandated to alcohol-based treatment at a higher frequency than the average member of male population attending Colorado State University (See Appendix B). Based on feedback from the committee, using academic major as a proxy for peer norms made too many assumptions regarding the relationship between masculinity and peer norms. It also failed to account for potential confounding variables (e.g. socioeconomic status) in the relationship between academic major and alcohol-related problems. This was made clear when it was pointed out that members of other male-dominated majors (e.g. engineering) were not mandated to alcohol counseling at a higher than average rate. Therefore, this study focuses specifically on peer norms and will examine the specific relationship between conformity to masculinity and peer norms. The current proposal focuses specifically on injunctive and descriptive norms surrounding alcohol use. As previous stated, no prior study has examined the relationship between conformity to masculine norms and alcohol norms with close friends as the reference group. Specifically, I hypothesize that risk taking will predict higher descriptive norms for alcohol consumption when close friends are the reference group (H3a), playboy will predict higher descriptive norms for alcohol consumption when close friends are the reference group (H3b), risk taking will predict higher injunctive norms for alcohol behaviors when close friends are the reference group (H3c), and playboy will predict higher injunctive norms for alcohol behaviors when close friends are the reference group (H3d).

The fourth main focus of the study builds on several previous elements of the proposal. This aspect of the current study focuses on examining peer norms (injunctive and descriptive) as a mediator between the predictor variables (sensation seeking, impulsivity, and conformity to

masculine norms) and criterion variables (alcohol consumption and alcohol problems). It also includes sensation seeking and impulsivity to determine the predictive power of both personality and sociocultural variables in understanding mechanism of alcohol-related behaviors. There are several hypotheses associated with this. I anticipate that descriptive norms will mediate the relationship between conformity to masculine norms (risk-taking; H4a and playboy; H4b) and alcohol consumption, and that descriptive norms will mediate the relationship between personality variables (sensation seeking; H4c and impulsivity; H4d) and alcohol consumption. I expect that injunctive norms will mediate the relationship between conformity to masculine norms (risk taking; H4e and playboy H4f) and alcohol consumption and that injunctive norms will mediate the relationship between personality variables (sensation seeking; H4g and impulsivity; H4h) and alcohol consumption (See Figure 1).

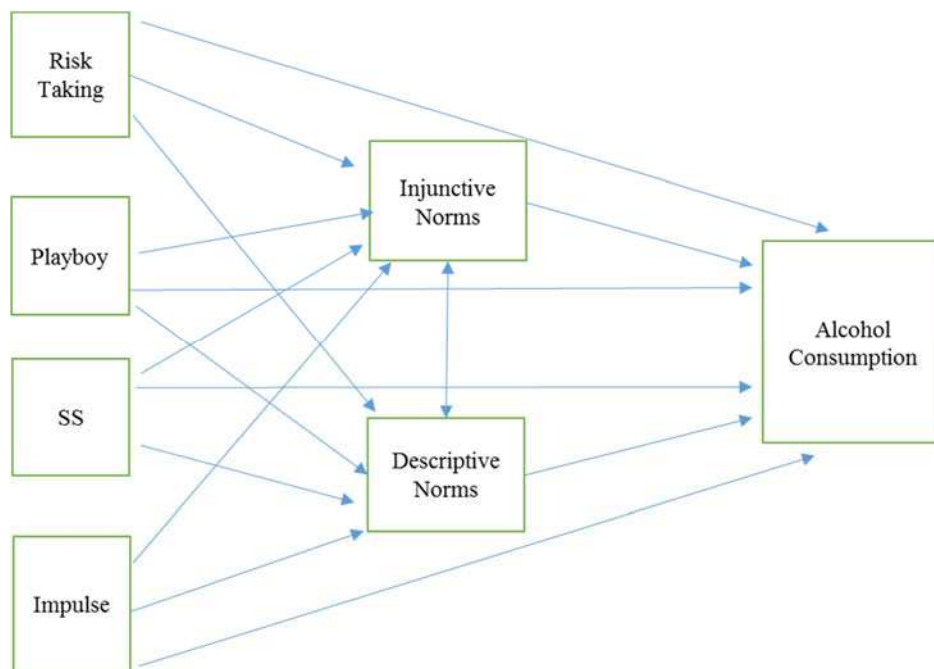


Figure 1. Path Model Examining Indirect Effects with Alcohol Consumption as the Criterion Variable; SS= Sensation Seeking; Impulse= Impulsivity

Furthermore, I hypothesize that descriptive norms will mediate the relationship between conformity to masculine norms (risk-taking; H4i and playboy; H4j) and alcohol consequences and that descriptive norms will mediate the relationship between personality variables (sensation seeking; H4k and impulsivity; H4l) and alcohol consequences. Finally, I expect that injunctive norms will mediate the relationship between conformity to masculine norms (risk taking; H4m and playboy H4n) and alcohol consequences and that injunctive norms will mediate the relationship between personality variables (sensation seeking; H4o, and impulsivity; H4p) and alcohol consequences (See Figure 2).

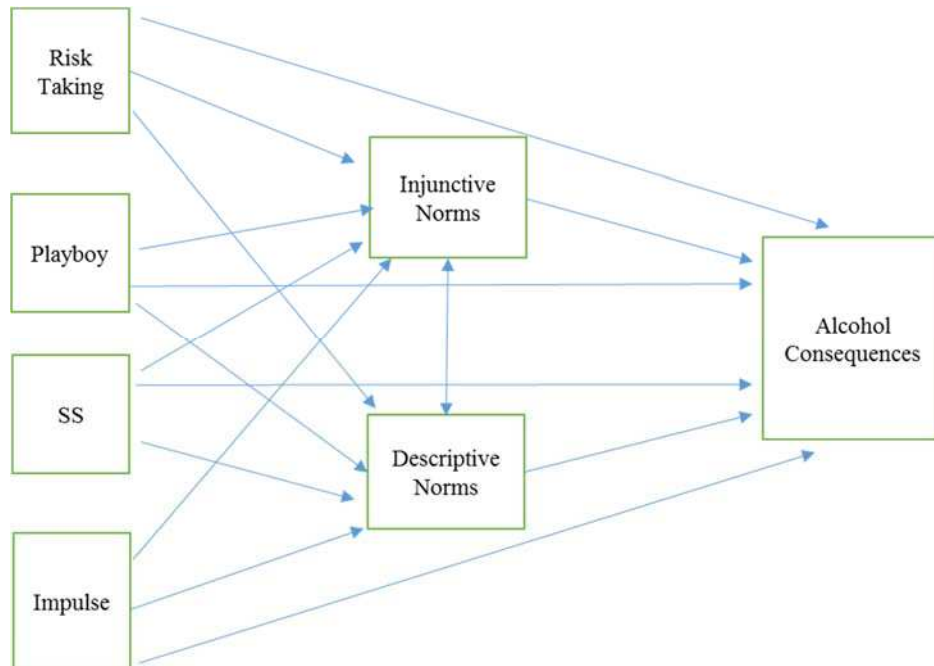


Figure 2. Path Model Examining Indirect Effects with Alcohol Consequences as the Criterion Variable; SS= Sensation Seeking; Impulse= Impulsivity

Finally, the current study seeks to qualitatively examine relationships between masculinity, social influences for drinking, and alcohol-related behaviors. As previously noted, combining qualitative and quantitative designs can address limitations of different methodologies in understanding relationships between masculinity ideologies and alcohol consumption.

Therefore, this study attempts to address some of these limitations, particularly those regarding the complexity of gender-based performative behaviors, by incorporating an embedded qualitative section that allowed men to provide their own perspective on relationships between masculinity, social pressures, and alcohol-related behaviors. There are few qualitative studies that have directly examined college-aged men's perceptions of alcohol use and masculinity. To this author's knowledge, there are none that assessed peer influences and masculinity in relation to alcohol use directly. In addition, no prior study has examined this relationship using qualitative emergent document analysis.

Though descriptive norms and injunctive norms are related to alcohol use are higher among men than women (Hustad et al., 2014; Adams & Nagoshi, 1999; Borsari & Carey, 2001; Mahalik et. al., 2015), the mechanisms of these relationships are not fully understood. The limited understanding of these mechanisms leads to several questions regarding peer norms, social norms in general, and drinking behaviors among men. How does masculinity relate to descriptive or injunctive norms? How do peer influences among men relate to drinking? What are the pressures that some men face regarding alcohol consumption and masculinity? Due to its qualitative design, this study does not have specific hypotheses associated with the research questions.

METHOD

Participants and Procedure

Participants ($N = 172$) were individuals who identified as male, were enrolled in a psychology course and were drawn from the Subject Pool at a large public university in the Southwest United States. As this is part of the inclusion criteria, the Subject Pool gender restricted the study such that only men were able to access the survey. After providing informed consent on the first page of an online survey delivered via Qualtrics, the survey was made available to them. The survey included the quantitative measures and the questions that were used in the qualitative analysis. After completing this survey, they received a link to a separate survey in which they provided their student identification number in order to receive 1 hour of required course credit. No other compensation was provided. Because their student identification number was provided in a separate Qualtrics survey that was disconnected from the research survey, no personally identifying information was gathered as part of the research survey and there was no data that links any responses to an individual person.

Around half the sample (50.6%) identified as 1st year students ($N = 87$), around a quarter (25.6%) identified as 2nd year students ($N = 44$), 12.8% identified as Juniors ($N = 22$) and 11% identified as Seniors ($N = 19$). The participant's mean age was $M = 20.11$ ($SD = 2.98$). Approximately three-quarters (76%) of participants identified as White ($N = 130$), 11.7% identified as Latino/Hispanic ($N = 20$), 7.6% identified as Asian/Asian American ($N = 13$), 1.7% identified as Black/African American ($N = 3$), 2.3 % identified as multiracial ($N = 4$), one participant (.6 %) self-identified as Middle Eastern and one participant (.6%) did not provide

their Racial/Ethnic background. A total of 91.3 % indicated that are not currently members of a fraternity ($N = 157$) and 8.7 % reported current fraternity membership ($N = 15$).

Instruments

Conformity to masculine norms. The Conformity to Masculine Norms Inventory-46 (CMNI-46) is a shortened version of the original CMNI (Mahalik et al., 2003). The measure consists of nine dimensions, including winning (e.g., “In general, I do anything to win”); emotional control (e.g., “I tend to keep my feelings to myself”); risk taking (e.g., “I frequently put myself in risky situations”); violence (e.g., “Sometimes violent action is necessary”); power over women (e.g., “In general, I control the women in my life”); playboy (e.g., “If I could, I would frequently change sexual partners”); heterosexual presentation (e.g., “I would be furious if someone thought I was gay”); primacy of work (e.g., “My work is the most important part of my life”); self-reliance (e.g., “I hate asking for help”). Participants responded on 4-point continuous scales ranging from 0 (strongly disagree) to 3 (strongly agree). The CMNI total scores were correlated moderately with scores on other measures of masculine ideologies, suggesting convergent validity. In the study validating the scale, Cronbach’s alphas for CMNI-46 subscale scores ranged from .72 to .91. In this study, the Cronbach’s alpha was .92 for scores on the entire scale, suggesting acceptable internal consistency reliability. Two- to three-week test-retest reliability coefficients had a median level of .80, suggesting that the scores on this measure have good test-retest reliability and are measuring a stable construct (Parent & Moradi, 2009, 2011).

Injunctive norms for alcohol use. Injunctive norms for alcohol use were assessed using Baer’s (1994) Injunctive Norms Questionnaire. Participants answered four questions regarding the perceived acceptability of alcohol behaviors, including “drinking alcohol every weekend,”

“driving a car after drinking,” “drinking alcohol daily,” and “drinking enough to pass out.” Participants were asked to respond based on the attitudes they believe their close friends hold. Participants answered on a seven point continuous scale ranging from 1 (*strongly disapprove*) to 7 (*strongly approve*). A composite score was calculated using the mean of scores from each measure. There is evidence for strong convergent validity (Baer, 1994) and internal consistency reliability ($\alpha = .73$ for close friends; LaBrie et al., 2010) for scores on this scale. A similar approach was used in a previous study examining injunctive norms across different reference groups and found that reference groups closest in proximity to the respondent were the strongest predictor of a relationship between injunctive norms and alcohol-related outcomes (LaBrie et al., 2010).

Alcohol consumption. The revised version of the Daily Drinking Questionnaire (DDQ; Collins, Parks, & Marlatt, 1985) is a self-report scale intended to estimate alcohol use during the previous month. Participants reported how many days during the typical week in the past month that they consumed alcohol. They also estimated the number of alcoholic drinks they consumed and the number of hours they spent drinking. Frequency of use can be calculated by adding the total number of days participants consumed alcohol during each week. Quantity of alcohol consumption was assessed by summing the total number of drinks reported. Previous studies documented that the scale has strong construct validity evidence (Collins et al., 1985) and high internal consistency estimates ($\alpha = .92-.93$; Corbin, Iwamoto & Fromme, 2011).

Alcohol consequences. The Brief Young Adult Alcohol Problems Questionnaire (BYAACQ; Kahler, Strong & Read, 2005) is a 24-item scale meant to assess whether or not participants have experienced a variety of alcohol related problems. Participants were asked to respond “yes” or “no” to whether or not they have experienced alcohol-related problems in the

past 30 days. Overall scores are calculated by summing the number of “yes” responses provided by each participant. Scores on the scale are supported by strong evidence for reliability and validity, (Kahler, Hustad, Barnett, Strong & Borsari, 2008) including good test-retest reliability.

Descriptive norms for alcohol use. Descriptive norms were assessed using the drinking norms rating form (Baer, Stacy, & Larimer, 1991), which is similar to the DDQ but in which respondents estimated the amount members of a social reference group have consumed alcohol on the typical day during the past month. Using this measure, descriptive norms are determined by summing of alcoholic beverages consumed for each day. This approach shows evidence of good convergent validity with other drinking measures and good test-retest reliability (Baer et al., 1991; Neighbors, Dillard, Lewis, Bergstrom, & Neil, 2006). In the current study, close friends was used as the social reference group. The strongest relationship between descriptive norms and alcohol-related outcomes occurs when the proximity of the reference group and respondent is high (Larimer et al, 2011).

Sensation seeking. Sensation seeking was assessed using the Sensation Seeking Personality Type Scale (SSPTS; Conner & Henson, 2011). In the 19-item version of this scale, participants responded by indicating how much they agree with each statement using a 5-point Likert-type scale (1 = *Strongly Disagree*, 5 = *Strongly Agree*). The scale has two subscales, risk-seeking (e.g., “I enjoy participating in unsafe activities”) and experience seeking (e.g., “I like to experience everything I can”). Higher scores indicate greater sensation seeking propensities. Scores on the SPPTS have shown good rest-retest reliability ($r = .87$ with a six week interval between administrations) and good internal consistency reliability ($\alpha = .88$ with risk seeking and $\alpha = .82$ with experience seeking). Scores on the SPPTS are also supported by strong construct validity evidence (Conner & Henson, 2011).

Impulsivity. Impulsivity was measured with the Barrett Impulsiveness Scale-Brief (BIS-Brief; Steinberg, Sharp, Stanford & Tharp, 2013), which is a shortened, unidimensional version of the multidimensional Barrett Impulsiveness Scale 11 (BIS-11; Patton & Stanford, 1995). In this 8-item measure, participants were asked to rate the extent to which they engaged in behaviors reflective of impulsivity (e.g. “I do things without thinking.”) on a four-point Likert scale (1 = *rarely/never*, 2 = *occasionally*, 3 = *often*, 4 = *almost always/always*). Higher scores are reflective of increased levels of impulsivity. The scale scores have demonstrated construct validity in comparisons with the scores on longer version of the scale and have also demonstrated acceptable internal consistency reliability ($\alpha = .73-.83$). It is helpful in situations when it is appropriate to assess impulsivity as a unidimensional measure (Steinberg, et al., 2013).

Questions. Participants were asked to provide a typed free-response to three questions regarding masculinity, peer norms, and alcohol behaviors. They are as follows: 1) How does being a man impact your thoughts about how much you’re expected drink? 2) How do your friends influence your drinking? 3) How does your sense of being a man change how you are expected to behave when you’re drinking? Participants were provided with the following prompt “For the following question, please type a free response. There are no right or wrong answers.” These questions were developed by the researchers based on previous literature qualitatively assessing relationships between male socialization and alcohol-related behaviors (Peralta, 2007; De Visser & McDonnell, 2012; De Visser et al., 2013). Because these questions are qualitative in nature, psychometric data is not necessary.

Overall Approach for Analysis and Interpretation

Both Qualitative and Quantitative methodologies were employed. While there is overlap between the research questions being asked, the qualitative questions allow for a different,

broader, “bottom-up” level of analysis of the constructs in question, particularly masculinity, social influences, and alcohol behaviors. This approach draws from elements of the concurrent triangulation mixed-methods model in that the qualitative and quantitative data were gathered simultaneously and that the qualitative and quantitative approaches directly address the primary research questions. However, the data will be analyzed separately and integrated at the conceptual level in the discussion section, which is a less common approach in triangulation, as the triangulation approach often includes transforming one data type to fit the other and combining them in data analysis. Furthermore, greater emphasis is placed on the quantitative data, which draws from elements of the concurrent embedded mixed-methods model (Creswell, 2013), though it falls outside the concurrent embedded model. In this model, the supporting data is usually incapable of existing independently of the primary data type. An example of this would be providing qualitative questions to explore the impact of an intervention in an experimental or quasi-experimental model. The qualitative questions in this approach would only make sense in the context of the larger experimental intervention. This is not the approach used in this study, as both data types are capable of addressing the primary research questions independently. While the approach used in this study draws from mixed-methods approaches, it does not fall under a specific mixed-methods approach.

Quantitative Data Analysis

As part of the preliminary analysis, descriptive statistics, including acquisition of means and standard deviations were assessed. Skewness and kurtosis as well as the standard errors of skewness and kurtosis were computed on all variables of interest.

Pearson product moment correlations were run on all variables. In particular, correlations between sensation seeking, impulsivity, and all subscales of conformity to masculine norms were assessed to test the hypothesis that these are significantly correlated.

Several criterion variables were either count variables (alcohol-related problems) or have distributions similar to the typical distributions of count variables (alcohol use and descriptive norms for alcohol use). Therefore, they are positively skewed and violate the assumption of normal distribution (Neal & Simons, 2007). Because they violate the assumption of normality upon which multiple regression is built, multiple linear regression that relies on ordinary least squares (OLS) is not advised (Atkins, Baldwin, Zheng, Gallop & Neighbors, 2013). Inferences made when the assumptions of normality are violated may be biased, as the variables are not F or t distributed, leading to inflated p values. Although transformations can be employed to make non-normal data have a more normal distribution, these transformations do not always normalize the distribution. Instead, count regression models such as Poisson regression or negative binomial regression models are advised. In addition, treating variables as censored data also addresses these concerns, as this is another option for modeling skewed data that expects a floor or ceiling effect. These forms of regression have become more common in recent research that examines alcohol-related outcomes (Neal & Simons, 2007 Atkins et al., 2013). Therefore, a negative binomial regression, which accounts for these non-normally distributed variables, was utilized for analyses that included count variables or variables that are similar to count variables (alcohol consumption, alcohol consequences). Multiple linear regression was used for all the analysis with a continuous criterion variable (injunctive norms for alcohol use) that meets the assumption of normal distribution.

Path analysis. A parallel mediation path analysis was conducted to assess the study's primary quantitative hypothesis, namely that conformity to masculinity variables (risk taking and playboy) and personality variables (sensation seeking and impulsivity) indirectly predict alcohol-related outcomes (alcohol consumption and alcohol consequences) via injunctive and descriptive norms for alcohol use. Criterion variables were treated as censored data in the analysis to account for their being count variables. Two separate models were employed for the two criterion variables. In the first model, direct effects of risk taking, playboy sensation seeking and impulsivity on alcohol use was assessed. In addition, the direct effects of risk taking, playboy sensation seeking and impulsivity on alcohol use was assessed via descriptive and injunctive norms. The second model assessed the direct effects of risk taking, playboy sensation seeking and impulsivity on alcohol consequences. The indirect effects of risk taking, playboy sensation seeking and impulsivity on alcohol consequences via descriptive and injunctive norms were also assessed. Path analyses were conducted in Mplus version 7.4 (Muthén & Muthén, 1998–2015). Regression coefficients, standard errors, p-values, and confidence intervals were evaluated. Overall model fit is unavailable for models that use multiple linear regression (MLR) estimation with censored data, as MLR uses raw data instead of means, variances, and covariances, which does not allow for the model fit estimations found in MLR.

Indirect effects. Because assessing the effect size of indirect effects involves the product of coefficients method, the product is not normally distributed, leading to a loss in statistical power and an increase in the incidence of Type I error for many tests of mediating effects (e.g. Sobel test; Preacher, 2015). Therefore, tests that circumvent this potential problem are advised, and assessments of asymmetrical confidence intervals are most effective. Bootstrapping, such as bias-corrected bootstrapping (Efron & Tibshirani, 1994) with resampling is often utilized to

address this issue. However, Preacher and Selig (2012) argues that when a variable is highly unbalanced, as is the case with count variables, bootstrapping may create a random constant and stop when resampling, making bootstrapping unfeasible. They recommend using Monte Carlo Confidence Intervals (MCCI) to assess indirect effects with count variables. When assessing MCCI's, a confidence interval that does not include zero in its estimates is considered significant. Therefore, a 95% confidence interval was assessed using MCCI's from quantpsy.org (Selig & Preacher, 2008).

Qualitative Analysis

To analyze the open-ended survey questions in this study, emergent qualitative document analysis (QDA or ECA, ethnographic content analysis) was used (Altheide, Coyle, DeVriese & Schneider, 2008). This approach is different from using a pre-determined coding structure used in classical coding analysis and allows for the data itself to inform the interpretation of the data (Krippendorff, 2004). This approach is ideal when the research is exploratory in nature and there is insufficient evidence to create specific labels or themes prior to data analysis. This analysis allows for an inductive rather than deductive approach to working with the data. Labels were created using the constant comparative analysis method (Corbin & Strauss, 2014). Themes were developed as per the method suggested in emergent qualitative document analysis (Altheide et al., 2008).

Two trained undergraduate assistants and the principal investigator independently used open coding to create a label for each response, starting with the first response. Labels are brief descriptive summaries of the participant's response. Participant responses will often contain similar or identical words and concepts. As similar responses are encountered, they were placed in a pre-existing label. For novel responses, a new label was created. This process was repeated

until a saturation point is reached and no new labels are being created after analysis of several unlabeled responses with no novel responses emerging from additional data. To increase trustworthiness and increase the likelihood that the research is grounded in participants' responses and not the product of individual biases, the three coders engaged in peer debriefing and examination (Lincoln & Guba, 1985). In this process, the researcher and assistants met and discussed the labels they have independently created through open coding. Any differences were discussed and labels were adjusted or altered until a consensus is achieved.

Labels were grouped into broader themes/categories using axial coding through the process of constant comparative analysis (Strauss & Corbin, 1990). Similar labels were placed into a theme that groups the "essence" or primary ideas behind similar labels into a broader concept. When labels were too dissimilar to be placed under the same theme/category, a new theme/category was created to reflect the label's meanings. The principal investigator and the two research assistants discussed differences in perspectives regarding the creation of themes and themes were altered and edited until consensus was reached. The themes that were generated included *posturing*, *no impact*, *consumption behaviors*, *sources of influence*, and *drinking and responsibility*.

RESULTS

Quantitative Results

Means, standard deviations, skewness and kurtosis as well as the standard errors of skewness and kurtosis were computed (Table 1). Skewness and kurtosis scores suggested that distributions for all continuous variables fell within acceptable ranges (George & Mallery, 2010). According to Tabachnick and Fidell (2013), when using small to moderate sample sizes, the skewness and kurtosis should not be greater than 3.9 times the standard error of kurtosis and skewness, which would be equivalent to an alpha level of .001. Histograms were generated and visually inspected for all continuous variables and all continuous variables appeared to be normally distributed. Using these approaches, all continuous variables were treated as normally distributed. Alcohol consumption, alcohol consequences, and descriptive norms for alcohol use were positively skewed, which is consistent with the distributions of count variables (Hilbe, 2011). The variance exceeded the mean for alcohol consumption ($s^2=113.45$, $M=9.12$), alcohol-related consequences ($s^2 = 27.05$, $M= 4.33$) and descriptive norms for alcohol use ($s^2 = 154.18$, $M= 12.92$), indicating that negative binomial regression is preferable to Poisson, as Poisson regression expects the mean and variance to be equal. Therefore, negative binomial models were employed with these variables.

Table 1

Means, Standard Deviations, and Distribution Data

Variable	<i>M</i>	<i>SD</i>	Skewness	<i>SE</i> Skewness	Kurtosis	<i>SE</i> Kurtosis
CMNI Risk Taking	2.59	0.5	-0.09	0.19	1.2	0.37
CMNI Playboy	2.2	0.62	-0.20	0.19	-0.25	0.37
CMNI Winning	2.63	0.50	0.19	0.19	0.46	0.47
CMNI EC	2.52	0.54	0.18	0.19	0.31	0.37
CMNI Violence	2.86	0.51	-0.45	0.19	1.24	0.37
CMNI Self	2.27	0.54	0.11	0.19	0.17	0.37
CMNI Work	2.47	0.5	0.19	0.19	0.07	0.37
CMNI HP	2.35	0.65	-0.04	0.19	0.13	0.37
CMNI POW	1.79	0.54	0.41	0.19	-0.16	0.37
Sensation Seeking	3.29	0.51	-0.13	0.19	0.44	0.38
Impulsivity	2.16	0.45	-0.01	0.19	-0.38	0.37
Inj Norms	2.77	0.86	0.63	0.19	0.62	0.37
DDQ Desc Norms	12.92	12.42	1.81	0.19	4.30	0.38
ARC	4.33	5.20	1.54	0.19	2.57	0.37
DDQ Alcohol Consumption	9.12	10.65	1.86	0.19	4.69	0.37

CMNI = Conformity to Masculine Norms Inventory; EC = Emotional Control; Self = Self Reliance; Work = Primacy of Work; HP = Heterosexual Presentation; POW = Power Over Women; Inj = Injunctive; DDQ = Daily Drinking Questionnaire; Desc = Descriptive; ARC = Alcohol Related Consequences

Correlations between masculinity and personality. Pearson product-moment correlations were conducted on all test variables. In particular, correlations between masculinity variables and personality variables were assessed to determine relationships between these variables (see Table 2). The risk taking subscale of the CMNI was positively correlated with sensation seeking ($r = .77, p < .001$), suggesting a significant relationship between these two variables. A correlation of this magnitude suggests these variables are highly overlapping and nearly redundant constructs. This finding supports hypothesis 1a, and also suggests that there may be problems with the assumption of multicollinearity that would potentially lead to problems in future path models that would include both these variables. Sensation seeking was

also correlated with the playboy (H1b; $r = .22$), winning (H1c; $r = .23$), and violence ($r = .42$) subscales of the CMNI. However, impulsivity was not significantly correlated with any of the CMNI subscales, suggesting that the hypotheses associated with this (H1d, H1e, and H1f) were not supported.

Table 2

Correlations and Internal Consistency Reliabilities for Analysis Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. CMNI Risk Taking	(0.84)														
2. CMNI Playboy	.21**	(0.75)													
3. CMNI Winning	0.12	.20**	(0.83)												
4. CMNI Em Con	0.05	-0.06	.24**	(0.86)											
5. CMNI Violence	.34**	0.14	.29**	.16*	(0.83)										
6. CMNI Self	0.08	-0.02	0.08	.37**	0.10	(0.82)									
7. CMNI Work	0.11	0.08	.24**	0.14	0.02	-0.01	(0.70)								
8. CMNI HP	0.04	0.12	.37**	.17*	.23**	-0.04	.26**	(0.88)							
9. CMNI POW	0.05	.20**	.18*	0.04	.20**	.16*	0.12	.40*	(0.79)						
10. SS	.77**	.22**	.23**	-0.01	.42**	-0.05	0.00	0.02	0.05	(0.89)					
11. Impulsivity	0.13	-0.02	-0.14	0.04	-0.03	0.08	-0.17	0.01	0.08	0.03	(0.75)				
12. Inj Norms	.27**	.29**	0.09	0.08	.22**	-0.07	-0.10	0.13	0.06	.21**	-0.03	(0.72)			
13. Desc Norms	.23**	.17**	.17*	0.02	.27**	-0.11	0.03	0.20*	.17*	.29**	0.03	.48**	N/A		
14. ARC	0.06	.26**	.18*	-0.06	0.07	0.00	0.05	0.09	0.15	0.13	0.07	.32**	.39**	N/A	
15. DDQ Drinking	.20**	.24**	.16*	-0.01	0.12	-0.08	-0.01	.21**	.17*	.25**	0.06	.37**	.70**	.55**	N/A

Internal Consistency Reliabilities are on the Diagonal in Parenthesis. CMNI = Conformity to Masculine Norms Inventory; EC = Emotional Control; Self = Self Reliance; Work = Primacy of Work; HP = Heterosexual Presentation; POW = Power Over Women; SS: Sensation Seeking; Inj = Injunctive; DDQ = Daily Drinking Questionnaire; Desc = Descriptive; ARC = Alcohol Related Consequences; N/A = Reliability data not available; * = $p < .05$; ** = $p < .01$

Predicting alcohol consumption and alcohol consequences. The negative binomial regression in which alcohol consumption was regressed on both masculinity and personality predictors was significant overall, based on the results of a likelihood ratio chi-square ($\chi^2=31.37.88$, $df= 11$, $p = .001$; see Table 3). The playboy subscale of the CMNI was a significant predictor of alcohol consumption, supporting this hypothesis (H2b). Heterosexual presentation was also a significant predictor of alcohol consumption, though this was not hypothesized. Notably, risk taking, which had a significant positive zero-order correlation with alcohol consumption ($r = .20$), had non-significant negative relationship with alcohol consumption in this model ($B = -.21$, $SE(B) = .29$, $Sig. = .49$) thereby not supporting hypothesis H2a. This finding suggests a potential suppression effect for this variable, and may be related to significant correlations between risk taking and several other variables in this regression analysis. Neither sensation seeking nor impulsivity significantly predicted alcohol consumption, providing evidence that these hypotheses were not supported (H2c, H2d).

Table 3

Negative Binomial Regression Predicting Alcohol Consumption on Masculinity and Personality Variables

Variable	B	SE(B)	95 % Wald CI		Wald χ^2	df	Sig
			Lower	Upper			
CMNI Risk Taking	-0.21	0.29	-0.77	0.37	0.49	1	0.49
CMNI Playboy	0.42	0.18	0.06	0.77	5.32	1	0.02
CMNI Winning	0.14	0.21	-0.27	0.54	0.44	1	0.51
CMNI EC	-0.10	0.20	-0.48	0.29	0.25	1	0.62
CMNI Violence	-0.09	0.24	-0.74	0.39	0.15	1	0.70
CMNI Self	0.01	0.20	-0.37	0.40	0.00	1	0.95
CMNI Work	-0.23	0.22	-0.66	0.21	1.06	1	0.30
CMNI HP	0.42	0.17	0.09	0.75	6.08	1	0.01
CMNI POW	0.09	0.21	-0.32	0.50	0.17	1	0.68
Sensation Seeking	0.59	0.35	-0.10	1.29	2.80	1	0.09
Impulsivity	0.08	0.24	-0.37	0.55	0.14	1	0.71

CMNI = Conformity to Masculine Norms Inventory; EC = Emotional Control; Self = Self Reliance; Work = Primacy of Work; HP = Heterosexual Presentation; POW = Power Over Women

The negative binomial regression in which alcohol consumption was regressed on masculinity predictors was significant overall, based on the results of the likelihood chi square ($\chi^2=30.17$, $df=9$, $p < .001$). The playboy and heterosexual presentation subscales of the CMNI were significant predictors when holding all other predictors constant (see Table 4), providing further support for hypothesis 2b (playboy; $B = .42$, $SE(B) = .18$, $Sig. = .02$; heterosexual presentation; $B = .42$, $SE(B) = .17$, $Sig. = .01$). Risk taking was not a predictor, suggesting that hypothesis 2a was not supported.

Table 4

Negative Binomial Regression Predicting Alcohol Consumption on Masculinity Variables

Variable	<i>B</i>	<i>SE(B)</i>	95 % Wald CI		Wald χ^2	<i>df</i>	Sig
			Lower	Upper			
CMNI Risk Taking	0.19	0.19	-0.18	0.56	1.00	1	0.32
CMNI Playboy	0.48	0.16	0.17	0.80	8.88	1	0.003
CMNI Winning	0.12	0.19	-0.25	0.49	0.43	1	0.51
CMNI EC	-0.05	0.19	-0.43	0.32	0.08	1	0.78
CMNI Violence	0.02	0.22	-0.45	0.41	0.01	1	0.92
CMNI Self	-0.08	0.19	-0.45	0.28	0.20	1	0.65
CMNI Work	-0.27	0.20	-0.67	0.13	1.73	1	0.19
CMNI HP	0.41	0.17	0.09	0.74	6.11	1	0.01
CMNI POW	0.12	0.20	-0.28	0.51	0.34	1	0.56

CMNI = Conformity to Masculine Norms Inventory; EC = Emotional Control; Self = Self Reliance; Work = Primacy of Work; HP = Heterosexual Presentation; POW = Power Over Women

The negative binomial regression in which alcohol consumption was regressed on personality variables was significant overall, based on the results of a likelihood ratio chi-square ($\chi^2=14.41$, $df=2$, $p=.001$). Sensation seeking was a significant predictor of alcohol consumption, supporting hypothesis 2c, though impulsivity was not (see Table 5), which provides evidence that hypothesis 2d was not supported.

Table 5

Negative Binomial Regression Predicting Alcohol Consumption on Personality Variables

Variable	<i>B</i>	<i>SE(B)</i>	95 % Wald CI		Wald χ^2	<i>df</i>	Sig
			Lower	Upper			
Sensation Seeking	0.68	0.18	0.32	1.30	14.10	1	0.000
Impulsivity	-0.06	0.20	-0.46	0.34	0.1	1	0.76

The negative binomial regression in which alcohol-related consequences was regressed on masculinity and personality predictors was significant overall, based on the results of a

likelihood ratio chi-square ($\chi^2=25.37.88$, $df= 11$, $p < .01$). The playboy subscale of the CMNI was significant, though no other individual variable was a significant predictor when all other variables were held constant (see Table 6). This provides support for some hypotheses (H2f) but not for others (H2e, H2g, and H2h).

Table 6

Negative Binomial Regression Predicting Alcohol Consequences with Masculinity and Personality Variables

Variable	B	SE(B)	95 % Wald CI		Wald χ^2	df	Sig
			Lower	Upper			
CMNI Risk Taking	-0.44	0.32	-1.05	0.18	1.90	1	0.17
CMNI Playboy	0.48	0.18	0.12	0.84	6.67	1	0.01
CMNI Winning	0.32	0.22	-0.12	0.76	2.08	1	0.15
CMNI EC	-0.38	0.22	-0.81	0.06	2.84	1	0.09
CMNI Violence	-0.07	0.24	-0.54	0.40	0.08	1	0.77
CMNI Self	0.21	0.22	-0.23	0.64	0.86	1	0.36
CMNI Work	0.15	0.21	-0.26	0.56	0.53	1	0.47
CMNI HP	0.03	0.19	-0.32	0.38	0.02	1	0.88
CMNI POW	0.20	0.22	-0.24	0.63	0.78	1	0.38
Sensation Seeking	0.46	0.38	-0.29	1.21	1.44	1	0.23
Impulsivity	0.36	0.24	-0.12	0.84	2.19	1	0.14

CMNI = Conformity to Masculine Norms Inventory; EC = Emotional Control; Self = Self Reliance; Work = Primacy of Work; HP = Heterosexual Presentation; POW = Power Over Women

The negative binomial regression in which alcohol-related consequences was regressed on masculinity variables was significant overall, based on the results of a likelihood ratio chi-square ($\chi^2=21.36$, $df= 2$, $p = .01$). The playboy subscale of the CMNI was a significant predictor of alcohol-related consequences when all other variables were held constant (see Table 7). This provided additional evidence for hypothesis 2f but not for 2e.

Table 7

Negative Binomial Regression predicting Alcohol Consequences with Masculinity Variables

Variable	<i>B</i>	<i>SE(B)</i>	95 % Wald CI		Wald χ^2	<i>df</i>	Sig
			Lower	Upper			
CMNI Risk Taking	-0.04	0.19	-0.42	0.34	0.04	1	0.84
CMNI Playboy	0.55	0.17	0.22	0.87	10.8	1	0.001
CMNI Winning	0.28	0.20	-0.12	0.67	1.88	1	0.17
CMNI EC	-0.23	0.21	-0.64	0.18	1.21	1	0.27
CMNI Violence	-0.08	0.21	-0.49	0.33	0.15	1	0.70
CMNI Self	0.14	0.21	-0.26	0.59	0.48	1	0.49
CMNI Work	0.09	0.18	-0.25	0.43	0.27	1	0.61
CMNI HP	0.04	0.19	-0.34	0.42	0.04	1	0.85
CMNI POW	0.14	0.21	-0.28	0.56	0.41	1	0.52

CMNI = Conformity to Masculine Norms Inventory; EC = Emotional Control; Self = Self Reliance; Work = Primacy of Work; HP = Heterosexual Presentation; POW = Power Over Women

The negative binomial regression in which alcohol-related consequences was regressed on personality variables was not significant overall, based on the results of a likelihood ratio chi-square ($\chi^2=3.98$, $df=2$, $p=.14$). Neither sensation seeking nor impulsivity predicted alcohol-related consequences (see Table 8), providing further evidence that hypotheses 2g and 2h were not supported.

Table 8

Negative Binomial Regression Predicting Alcohol Consequences on Personality Variables

Variable	<i>B</i>	<i>SE(B)</i>	95 % Wald CI		Wald χ^2	<i>df</i>	Sig
			Lower	Upper			
Sensation Seeking	0.33	0.19	-0.05	0.7	2.96	1	0.09
Impulsivity	0.13	0.21	-0.28	0.53	0.37	1	0.54

Masculinity variables predicting alcohol norms. Negative binomial regression was conducted to determine the predictive power of the CMNI on descriptive norms for alcohol use.

Based on the results of a likelihood ratio chi-square ($\chi^2=19.34$, $df=9$, $p=.02$), masculinity variables were a significant predictor. However, no single variable significantly predicted descriptive norms above and beyond the variance accounted for by other variables (see Table 9). This provides evidence that hypotheses 3a and 3b were not supported.

Table 9

Negative Binomial Regression Predicting Descriptive Norms on Masculinity Variables

Variable	B	SE(B)	95 % Wald CI		Wald χ^2	df	Sig
			Lower	Upper			
CMNI Risk Taking	0.28	0.2	-0.10	0.67	2.10	1	0.15
CMNI Playboy	0.14	0.15	-0.16	0.43	0.82	1	0.37
CMNI Winning	0.11	0.19	-0.26	0.48	0.33	1	0.57
CMNI EC	-0.09	0.19	-0.46	0.28	0.24	1	0.62
CMNI Violence	0.34	0.22	-0.09	0.77	2.36	1	0.13
CMNI Self	-0.15	0.18	-0.50	0.21	0.67	1	0.41
CMNI Work	0.21	0.17	-0.14	0.55	1.39	1	0.24
CMNI HP	-0.06	0.20	-0.45	0.32	0.11	1	0.75
CMNI POW	0.07	0.21	-0.34	0.47	0.11	1	0.74

CMNI = Conformity to Masculine Norms Inventory; EC = Emotional Control; Self = Self Reliance; Work = Primacy of Work; HP = Heterosexual Presentation; POW = Power Over Women

Multiple Linear Regression (MLR) was conducted to assess the predictive power of the CMNI on injunctive norms for alcohol use. The overall model was significant $F(9, 154) = 3.42$, $p = .001$). Risk taking was a significant predictor of injunctive norms $b = .31$ $SE(b) = .14$, $\beta = .18$, $t = 2.11$, $p = .03$, 95% CI [.03, .58] and playboy was also a significant predictor $b = .34$ $SE(b) = .11$, $\beta = .24$, $t = 3.09$, $p = .002$, 95% CI [.12, .55] (see Table 10). This result provides support for several hypotheses, including H3c and H3d.

Table 10

Multiple Linear Regression Predicting Injunctive Norms on Masculinity Variables

Variable	<i>B</i>	<i>SE(B)</i>	β	t	95% CI	
					Lower	Upper
CMNI Risk Taking	0.31	0.14	0.18	2.22*	0.03	0.58
CMNI Playboy	0.34	0.11	0.24	3.09**	0.12	0.55
CMNI Winning	-0.11	0.15	-0.07	-0.78	-0.39	0.17
CMNI EC	0.18	0.13	0.11	1.33	-0.09	0.44
CMNI Violence	0.21	0.14	0.13	1.49	-0.07	0.49
CMNI Self	-0.19	0.13	0.13	-1.48	-0.45	0.07
CMNI Work	0.07	0.14	0.05	0.57	-0.19	0.34
CMNI HP	0.08	0.12	0.06	0.72	-0.15	0.31
CMNI POW	-0.04	0.13	0.02	-0.29	-0.30	0.22

CMNI = Conformity to Masculine Norms Inventory; EC = Emotional Control; Self = Self Reliance; Work = Primacy of Work; HP = Heterosexual Presentation; POW = Power Over Women; * = $p < .05$; ** = $p < .01$

Masculinity and personality predicting alcohol-related outcomes via norms.

Because sensation seeking and risk taking were highly correlated ($r = .77$), there is a possibility that the assumption of multicollinearity in path analysis may be violated. The cutoff for multicollinearity is generally a Pearson product-moment correlation of .79, which suggests that data did not technically violate this assumption but was close to violating this assumption.

Therefore, the data analyzed in a way that took this potential problem into account and was also analyzed as if the assumption was not violated. One way to address this potential problem at the methodological level is to remove one of the two highly correlated variables. Sensation seeking was removed from the path analyses to account for this potential violation because it has been more heavily researched than risk taking and would be a less novel contribution to the literature. In addition, risk taking is more central to the primary foci of this study. Therefore, each of the path models were run twice, once with sensation seeking as part of the model and once with sensation seeking removed from the model.

In the first parallel path model, risk taking, playboy, and impulsivity predicted alcohol consumption via alcohol norms without sensation seeking. The direct effects of playboy, risk taking, and impulsivity on alcohol consumption were not significant when all other variables in the model were held constant. The direct effects of playboy and risk taking on injunctive norms were significant while the direct effect of impulsivity on injunctive norms was not significant. This provided additional support for hypotheses 3c and 3d, as it suggests that risk taking and playboy predict injunctive norms. The direct effect of risk taking on descriptive norms was significant, providing support for hypothesis 3a, as it suggests that risk taking predicts descriptive norms. The direct effects of playboy and impulsivity on descriptive norms were not significant. Finally, there was a significant covariance between the mediating variables (injunctive and descriptive norms). See Table 11 for coefficients and Figure 3 for a graphical depiction of the pathways and the direct effects.

Table 11
Direct Effects of Predictors on Mediators and Alcohol Consumption in Path Analysis without Sensation Seeking

Variable	Alcohol Consumption			Injunctive Norms			Descriptive Norms		
	<i>B</i>	<i>SE(B)</i>	<i>p</i>	<i>B</i>	<i>SE(B)</i>	<i>P</i>	<i>B</i>	<i>SE(B)</i>	<i>p</i>
CMNI Risk Taking	-0.36	1.94	0.85	0.35	0.13	0.006	4.96	1.62	0.002
CMNI Playboy	1.74	1.30	0.18	0.31	0.11	0.003	-2.57	1.40	0.07
Impulsivity	-0.49	1.82	0.79	-0.10	0.15	0.49	0.16	1.90	0.93

CMNI = Conformity to Masculine Norms Inventory

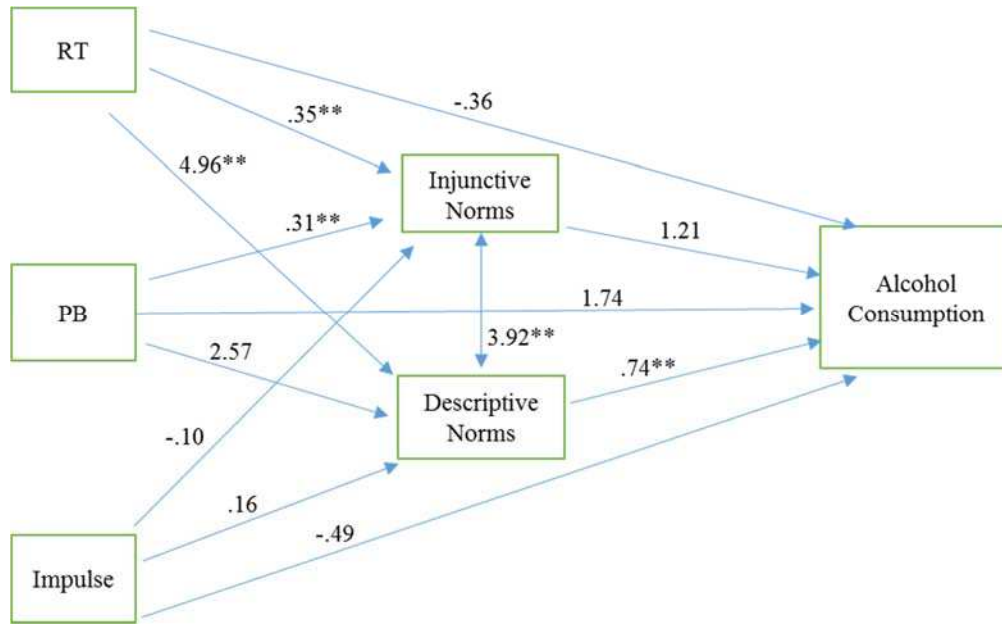


Figure 3. Path Model Representing Pathways and Direct Effects with Alcohol Consumption as the Criterion Variable; RT = Risk Taking; PB = Playboy; Impulse = Impulsivity; ** $p < .01$

Examination of the 95% Monte Carlo confidence intervals (MCCI) to assess for indirect, mediating effects revealed that the specific indirect effect of risk taking via descriptive norms on alcohol consumption was significant, providing support for hypothesis 4a. The specific indirect effects of playboy and impulsivity via descriptive norms on alcohol consumption were not significant, suggesting that hypotheses 4b and 4d were not supported. The specific indirect effects of playboy, risk taking and impulsivity via injunctive norms on alcohol consumption were not significant, which provided evidence that hypotheses 4e, 4f, and 4h were not supported (see Table 12).

Table 12

Indirect Effects of Predictors on Alcohol Consumption through Alcohol Peer Norms in Path Analysis without Sensation Seeking

Variable	Via Injunctive Norms			Via Descriptive Norms		
	Indirect Effect	SE	95% MCCI	Indirect Effect	SE	95% MCCI
CMNI Risk Taking	0.43	0.40	-0.47, 1.30	3.69	1.50	1.16, 7.05
CMNI Playboy	0.38	0.40	-0.33, 1.36	1.91	1.09	-0.09, 4.18
Impulsivity	-0.12	0.20	-0.73, 0.43	0.12	1.41	-2.91, 2.68

CMNI = Conformity to Masculine Norms Inventory; MCCI = Monte Carlo Confidence Intervals; Intervals in Bold are Significant

In the second parallel mediation model, risk taking, playboy, sensation seeking, and impulsivity predicted alcohol consumption via alcohol norms. The direct effects of risk taking, playboy, sensation seeking and impulsivity on alcohol consumption were not significant when controlling for all other variables in the model. The direct effect of playboy on injunctive norms was significant, though the direct effects of risk taking, sensation seeking, and impulsivity on injunctive norms were not. The direct effect of sensation seeking on descriptive norms was significant, though the direct effects of risk taking, playboy, and impulsivity were not (See Table 13). The direct effect of injunctive norms on alcohol consumption was not significant, but the direct effect of descriptive norms on alcohol consumption was significant when all other variables were held constant. Finally, there was a significant covariance between the mediators (descriptive and injunctive norms) in the model (See Figure 4).

Table 13

Direct Effects of Predictors on Mediators and Alcohol Consumption in Path Analysis with Sensation Seeking

Variable	Alcohol Consumption			Injunctive Norms			Descriptive Norms		
	B	SE(B)	p	B	SE(B)	p	B	SE(B)	p
CMNI Risk Taking	-1.01	3.03	0.74	0.17	0.23	0.45	-0.82	2.86	0.78
CMNI Playboy	1.65	1.36	0.23	0.30	0.11	0.004	2.01	1.35	0.14
Sensation Seeking	0.83	2.52	0.74	0.26	0.23	0.27	7.42	2.70	0.006
Impulsivity	-0.62	1.89	0.74	-0.12	0.15	0.43	-0.55	1.89	0.77

CMNI = Conformity to Masculine Norms Inventory

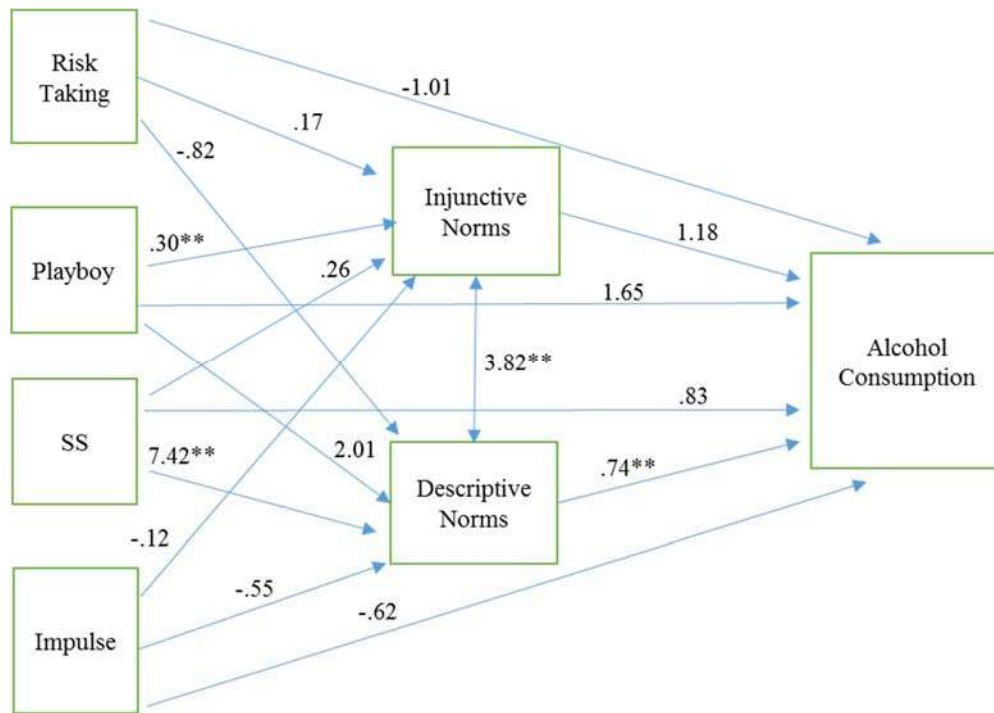


Figure 4. Path Model with Sensation Seeking Representing Pathways and Direct Effects with Alcohol Consumption as the Criterion Variable; SS = Sensation Seeking; Impulse = Impulsivity; ** $p < .01$

Examination of the 95% Monte Carlo confidence intervals (MCCI) to assess for indirect, mediating effects revealed that the specific indirect effect of sensation seeking via descriptive norms on alcohol consumption was significant, providing support for hypothesis 4c. The specific indirect effects of risk taking, playboy and impulsivity via descriptive norms on alcohol consumption was not significant, suggesting that hypotheses 4a, 4b and 4d were not supported. The specific indirect effects of risk taking, playboy, sensation seeking and impulsivity via injunctive norms on alcohol consequences were not significant, which provided evidence that hypotheses 4e, 4f, 4g, and 4h were not supported (see Table 14).

Table 14
Indirect Effects of Predictors on Alcohol Consumption through Alcohol Peer Norms in Path Analysis with Sensation Seeking

Variable	Via Injunctive Norms			Via Descriptive Norms		
	Indirect Effect	SE	95% MCCI	Indirect Effect	SE	95% MCCI
CMNI Risk Taking	0.20	0.30	-0.60, 1.07	-0.60	2.07	-4.21, 4.11
CMNI Playboy	0.36	0.38	-0.29, 1.26	1.48	1.05	-0.46, 3.80
Sensation Seeking	0.31	0.42	-0.44, 1.58	5.46	1.84	1.66, 9.02
Impulsivity	-0.14	0.21	-0.76, 0.39	-0.41	1.41	-3.05, 2.52

CMNI = Conformity to Masculine Norms Inventory; MCCI = Monte Carlo Confidence Intervals; Intervals in Bold are Significant

In the third parallel mediation model, risk taking, playboy, and impulsivity predicted alcohol consequences via alcohol norms. Examination of direct effects revealed that the direct effect of playboy on alcohol consequences was significant when all other variables in the model were held constant. The direct effects of risk taking and impulsivity on alcohol consequences were not significant. The direct effects of risk taking and playboy on injunctive norms were significant, while the direct effect of impulsivity on injunctive norms was not. The direct effect of risk taking on descriptive norms was significant and the direct effects of playboy and impulsivity on descriptive norms were not (see Table 15). The direct effect of injunctive norms on alcohol consequences was not significant, while the direct effect of descriptive norms was significant. There was a significant covariance between the mediating variables (injunctive and descriptive norms; see Figure 5).

Table 15
Direct Effects of Predictors on Mediators and Alcohol Consequences in Path Analysis without Sensation Seeking

Variable	Alcohol Consequences			Injunctive Norms			Descriptive Norms		
	<i>B</i>	<i>SE(B)</i>	<i>p</i>	<i>B</i>	<i>SE(B)</i>	<i>p</i>	<i>B</i>	<i>SE(B)</i>	<i>p</i>
CMNI Risk Taking	-1.00	1.26	0.43	0.35	0.13	0.006	4.98	1.65	0.003
CMNI Playboy	2.29	0.81	0.004	0.31	0.11	0.003	2.60	1.41	0.07
Impulsivity	1.38	1.18	0.24	-0.10	0.15	0.49	0.16	1.93	0.93

CMNI = Conformity to Masculine Norms Inventory

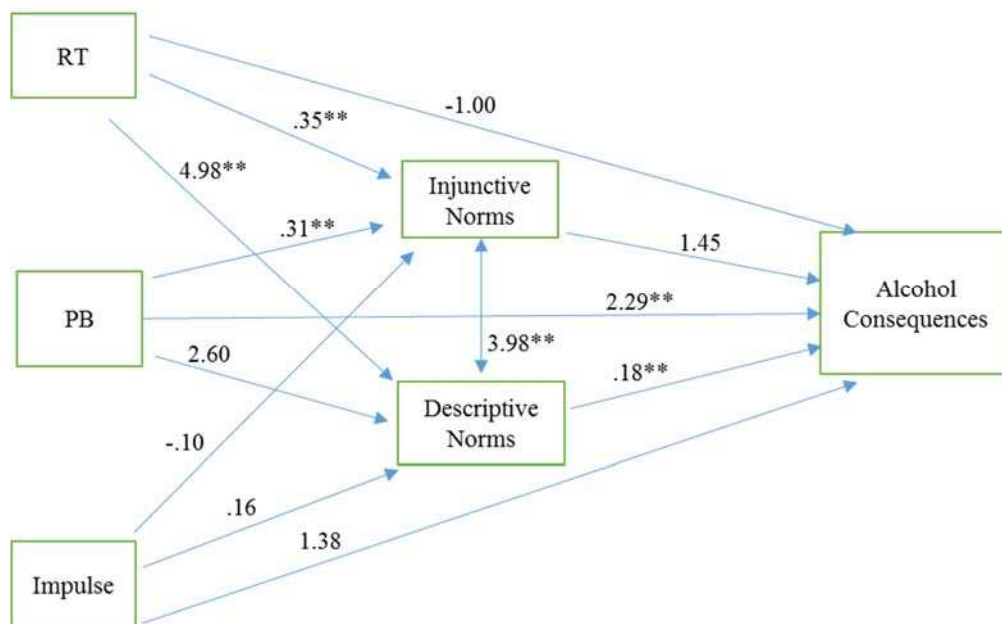


Figure 5. Path Model Representing Pathways and Direct Effects with Alcohol Consequences as the Criterion Variable; RT = Risk Taking; PB = Playboy; Impulse = Impulsivity; ** $p < .01$

Examination of the 95% Monte Carlo confidence intervals (MCCI) to assess for indirect, mediating effects revealed that the specific indirect effect of risk taking via descriptive norms on alcohol consequences was significant, providing support for hypothesis 4i. The specific indirect effects of playboy and impulsivity via descriptive norms on alcohol consequences were not significant, suggesting that hypotheses 4j and 4l were not supported. The specific indirect effects of playboy, risk taking and impulsivity via injunctive norms on alcohol consequences were not

significant, which provided evidence that hypotheses 4m, 4n, and 4p were not supported (see Table 16).

Table 16
Indirect Effects of Predictors on Alcohol Consequences through Alcohol Peer Norms in Path Analysis without Sensation Seeking

Variable	Via Injunctive Norms			Via Descriptive Norms		
	Indirect Effect	SE	95% MCCI	Indirect Effect	SE	95% MCCI
CMNI Risk Taking	0.51	0.29	-0.06, 1.15	0.90	0.37	0.27, 1.70
CMNI Playboy	0.45	0.30	-0.03, 1.15	0.47	0.29	-0.02, 1.12
Impulsivity	-0.15	0.22	-0.69, 0.33	0.03	0.35	-0.69, 0.74

CMNI = Conformity to Masculine Norms Inventory; MCCI = Monte Carlo Confidence Intervals; Intervals in Bold are Significant

In the fourth parallel mediation model, risk taking, playboy, sensation seeking, and impulsivity predicted alcohol consequences via alcohol norms. Examination of direct effects revealed that the direct effects of risk taking, playboy, sensation seeking and impulsivity on alcohol consequences were not significant. The direct effect of playboy on injunctive norms was significant, while the direct effects of risk taking, sensation seeking, and impulsivity on injunctive norms was not. The direct effect of sensation seeking on descriptive norms was significant, and the direct effects of risk taking, playboy, and impulsivity on descriptive norms were not (See Table 17). The direct effect of injunctive norms on alcohol consequences was not significant, while the direct effect of descriptive norms was significant. Similarly to previous models, the covariance between injunctive norms and descriptive norms was significant (see Figure 6).

Table 17
Direct Effects of Predictors on Mediator Variables and Alcohol Consequences in Path Analysis with Sensation Seeking

Variable	Alcohol Consequences			Injunctive Norms			Descriptive Norms		
	<i>B</i>	<i>SE(B)</i>	<i>p</i>	<i>B</i>	<i>SE(B)</i>	<i>p</i>	<i>B</i>	<i>SE(B)</i>	<i>p</i>
CMNI Risk Taking	-2.02	1.86	0.28	0.17	0.23	0.46	-0.88	2.89	0.76
CMNI Playboy	2.21	0.81	0.007	0.30	0.11	0.004	2.09	1.36	0.13
Sensation Seeking	1.31	1.70	0.44	0.27	0.24	0.26	7.52	2.70	0.005
Impulsivity	1.24	1.20	0.30	-0.12	0.15	0.44	-0.51	1.93	0.79

CMNI= Conformity to Masculine Norms Inventory

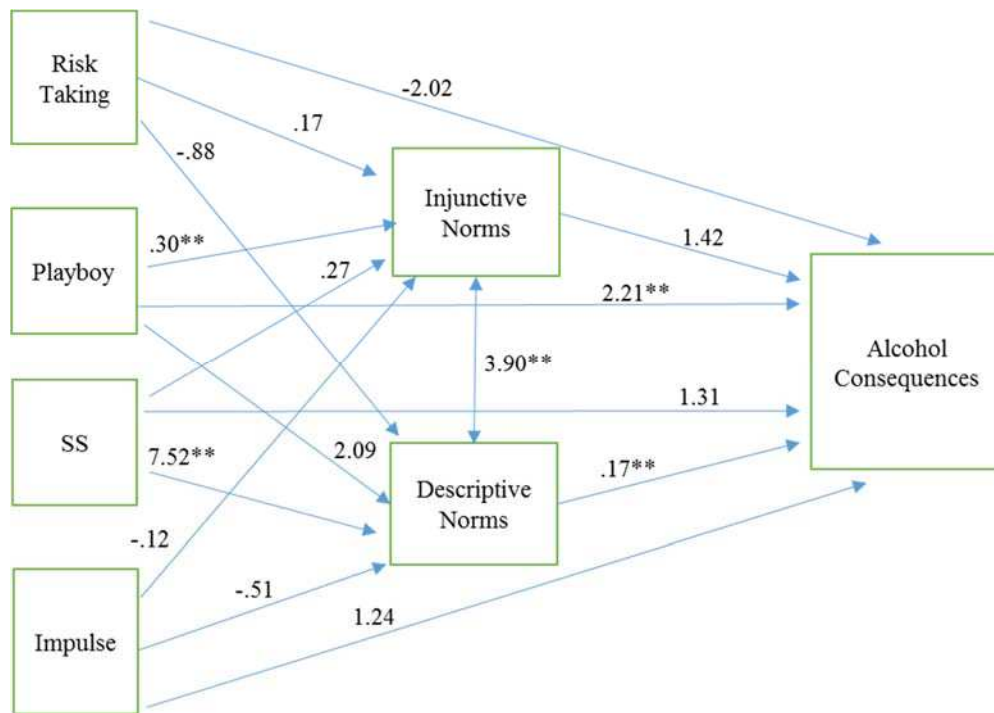


Figure 6. Path Model with Sensation Seeking Representing Pathways and Direct Effects with Alcohol Consequences as the Criterion Variable; SS = Sensation Seeking; Impulse = Impulsivity; ** $p < .01$

Examination of the 95% Monte Carlo confidence intervals (MCCI) to assess for indirect, mediating effects revealed that the specific indirect effect of sensation seeking via descriptive norms on alcohol consequences was significant, providing support for hypothesis 4k. The specific indirect effects of risk taking, playboy and impulsivity via descriptive norms on alcohol

consumption was not significant, suggesting that hypotheses 4i, 4j and 4l were not supported. The specific indirect effects of risk taking, playboy, sensation seeking and impulsivity via injunctive norms on alcohol consequences were not significant, which provided evidence that hypotheses 4m, 4n, 4o, and 4p were not supported (see Table 18).

Table 18
Indirect Effects of Predictors on Alcohol Consequences through Alcohol Peer Norms in Path Analysis with Sensation Seeking

Variable	Via Injunctive Norms			Via Descriptive Norms		
	Indirect Effect	SE	95% MCCI	Indirect Effect	SE	95% MCCI
CMNI Risk Taking	0.24	0.32	-0.49, 1.02	-0.15	0.50	-1.16, .88
CMNI Playboy	0.43	0.28	-0.03, 1.09	0.36	0.26	-0.09, 0.95
Sensation Seeking	0.39	0.41	-0.27, 1.16	1.30	0.53	0.34, 2.44
Impulsivity	-0.17	0.23	-0.57, 0.29	-0.09	0.34	-0.82, 0.59

CMNI = Conformity to Masculine Norms Inventory; MCCI = Monte Carlo Confidence Intervals; Intervals in Bold are Significant

Qualitative Results

Please see table 19 for the qualitative structure, including codes and the broader themes in which the codes were places.

Table 19

Themes and Codes from Qualitative Analysis with Examples

Themes	Codes
1. Posturing	<p>A. <i>Toughness</i> (Participant 104, Q1 “Men are expected to act more masculine, I think alcohol and testosterone make men more physical, impulsive and sexual.”)</p> <p>B. <i>Avoiding Weakness</i> (Participant 113, Q2 “They ask me to drink with them or I’m a bitch.”)</p> <p>C. <i>Aggressive/Loud Behavior</i> (Participant 51, Q3 “It feels like I’m expected to act more brashly and loud.”)</p>
2. No Impact	(Participant 69, Q3 “Not much at all. I rarely think of this.”)
3. Consumption Habits	<p>A. <i>Drinking more</i> (Participant 11, Q1 “Expected to drink more.”)</p> <p>B. <i>Drink type</i> (Participant 163, Q3 “I should be able to...take shots of liquor without a chaser.”)</p> <p>C. <i>Drinks Infrequently</i> (Participant 8, Q1 “I am against drinking for the sake of drinking”)</p> <p>D. <i>Hold Liquor</i> (Participant 37, Q3 “If you are falling over and puking you are definitely seen as a feminine person that cannot handle their alcohol”)</p> <p>E. <i>Drinking to get Drunk</i> (Participant 107, Q1 “ You drink to get drunk not for a buzz.”)</p>
4. Sources of Influence	<p>A. <i>Context</i> (Participant 126, Q2 “At gatherings and parties, I find that there is an expectation of some drinking.”)</p> <p>B. <i>Peer Pressure</i> (Participant 67, Q1 “I feel some pressure to drink by my peers.”)</p> <p>C. <i>Society</i> (Participant 147, Q3 “ Essentially I think that society encourages alcoholism in men.”)</p> <p>D. <i>Drinking with Others</i> (Participant 26, Q2 “My roommates and I go shot for shot all the time... we do what we can to convince at least one other guy to drink with us.”)</p>
5. Drinking and Responsibility	<p>A. <i>Responsible Drinking</i> (Participant 35, Q2 “They make sure I am safe and I make sure they are safe.”)</p> <p>B. <i>Irresponsible or Risky Drinking</i> (Participant 147, Q1 “I feel that being a man puts me into a category where drinking to the point of black out drunk is expected and when behavior turns bad then it should be ignored/excused.”)</p>

There was significant overlap between the responses for the three questions, which led to the thematic structures being combined into a single structure for all three questions. Many responses included references to more than one code and/or theme and were subsequently given multiple codes.

Posturing. Participants talked about presenting themselves in certain ways in a specific effort to establish or display their masculinity and increase their gendered social standing as a man. Within this theme, there were three main codes. The “toughness” code (1A) refers to participant’s responses that involved making themselves look tough or “badass” when presenting themselves to others in drinking situations. The “avoiding weakness” code (1B) was similar to the “toughness” code, though it referenced specifically avoiding behaviors that would potentially reduce social standing. This often including being perceived as not drinking enough. Terms such as “pussy,” “weak,” or “bitch” often fell under this code. Finally, participants talked about feeling like they were supposed to act louder or more aggressive as part of being a man (1C) (e.g. “You’re expected to be more aggressive, assertive, and belligerent.” Participant 177, Q3). This code was particularly prevalent in response to the question about how men were supposed to behave while drinking. It appeared to be an intentional behavior while consuming alcohol in a public setting and often included codes from other themes, including specific influences.

No impact. Another theme was participants stating that there was “no impact” on their sense of being a man and their alcohol-related behaviors (2). Some participants stated that they were aware of the gendered societal norms around drinking experienced by men, but that it did not impact them personally. Some participants simply stated there was no impact and did not specify. The responses that fell into the latter group were typically short (e.g. “it doesn’t affect me at all.” Participant 150, Q1)

Consumption habits. Responses that fell under this theme included direct references to specific drinking habits or behaviors that had to do specifically with the act of drinking. The first code, “drink more,” (3A) was one of the most frequently cited examples of a relationship between being a man and alcohol consumption (e.g. “I’m expected to drink a lot and drink often as a man.” Participant 59, Q3). This code also included some responses that included a specific reference group (e.g. drinking more than women, drinking more than friends). Some participants also endorsed feeling like they were expected to drink more based on their size.

Responses that fell under this theme also included responses that specified a particular drink type (3B). Some of the responses included references to avoiding “girly” drinks (e.g., “not drinking girly drinks.” Participant 152, Q1). Other responses specified a particular drink type, such as shots or beer. Some participants indicated that they drank infrequently or that they never drank (3C). Many participants discussed a need to always appear functional regardless of the amount of alcohol they consumed, which was often colloquially referred to as “holding liquor.” (3D). People sometimes referred to this in reference to others (e.g., “Makes me feel like I should hold my liquor more than women, and more than smaller people.” Participant 74, Q1) and sometimes indicated it as a general statement (e.g., “You should really be able to handle your alcohol without throwing up;” Participant 54, Q3; “If I can’t handle my alcohol then it is looked down upon.” Participant 41, Q1). Finally, some individuals responded they were “drinking to get drunk.” Responses were coded this way when someone explained that their intent was to drink enough alcohol to become intoxicated (e.g., “You drink to get drunk not for a buzz.” Q1, R 107).

Sources of influence. Responses often included a specific reference to a type of influence that has an impact on alcohol consumption, perceptions, or alcohol-related behaviors in

the context of masculinity. Participants talked about specific contexts that may influence their drinking, which included references to “partying” or to specific situations with groups of friends (4A) (e.g. When I am around my male friends in an environment where drinking is taking place, some of the time I am more motivated to drink.” Participant 141, Q2). Participant responses also referenced specific peer influences (4B). This included peers offering them alcoholic beverages, belittling them if they did not drink a sufficient amount, or encouraging them to engage in specific drinking behaviors (e.g. “Most of my friends promote drinking,” Participant 118, Q2, “My male friends do motivate me to drink on a regular basis but we share the same attitudes toward drinking overall.” Participant 98, Q2). When referencing influences, participants also referenced social expectations of men and alcohol more broadly. These responses were coded under “societal” influences (4C). Finally, participants often referenced drinking with others specifically, noting that friends may invite them to drink when they hadn’t been planning on drinking (4D; e.g., “My male friends usually drink with me.” Participant 142 Q2). This theme often occurred with theme 1 (posturing) or theme 3 (drinking behaviors).

Responsibility and alcohol. Finally, participants often referenced a desire to drink responsibly or to take steps to ensure the safety of the people around them, in what was coded as “drinking responsibly” (5A). Responses often included references to taking care of others or not drinking past a limit they set (e.g. “Most of my friends like to drink, but they all understand that there are more important things than drinking and we should only drink on days that it won’t interfere with other obligations, and I think they instilled this mindset in me as well.” Participant 53, Q2). Participants also referenced times when there was pressure to engage in irresponsible drinking behaviors (5B) (e.g., “I think the culture encourages drinking more than is safe.” Participant 62, Q1). Often these responses included phrases such as “it gets me into trouble.”

Responses with this code occurred almost exclusively with at least one other code from a different theme.

Noteworthy overlapping themes and codes. Because participant's responses did not fall under one code or theme, and there were several code groupings that seemed important to understanding masculinity, peer influences, and alcohol-related behaviors. Often responses that were coded under the first theme, particularly the first two codes, included a reference to drinking more (3A) or being able to consume large quantities of alcohol without noticeable effects, which fell under the "hold liquor" code (3D) in the consumption habits theme (e.g., I think as a man, I am expected to be able to handle liquor really easily and that I am supposed to be able to drink large quantities of alcohol without having repercussions or else it means I'm less of a man." Participant 131, Q1). Another had to do with posturing (1) and peer influences (4B) (e.g., "Sometimes they [male friends] will influence me by calling and those around us lame or being a 'pussy'." Participant 11, Q2). Individuals who endorsed a response that fell under the "no impact" code often endorsed that they did not drink frequently, which resulted in codes that 2 and 3C (e.g., "They don't really, I hardly drink." Participant 75, Q2) thus their sense of being a man was not impacted by the domain of alcohol consumption. Drinking more (3A) and holding liquor (3D) often occurred together (e.g., "Expected to drink more and not get drunk." Participant 3, Q1), and occasionally drinking more was implied as part of holding liquor, since drinking a significant amount of alcohol is a prerequisite for being able to "withstand" the intoxicating effects of excessive alcohol consumption, it would make sense that responses would include these codes simultaneously (e.g., "I'm supposed to hold myself together with more drinks than I am able." Participant 90, Q1).

Individuals often specified a particular influence, which was the fourth theme, when indicating ways that it impacted the consumption habits. Other participants would specify that friends pressuring them to drink more resulted in their drinking more alcohol, which resulted in their response being coded under themes 3 and 4 (e.g., “My male friends encourage me to drink more often than my female friends. They encourage me to drink more frequently and more heavily.” Participant 5, Q2). Societal influence (4D) also occurred with increased drinking (e.g. “There is a stigma to drink more and I do follow that.” Participant 86, Q1).

Finally, responses that included a code for drinking more (3A) often included references to drinking irresponsibly (5B) (e.g., “Being a man influences my thoughts on drinking, in that I should be able to drink more...Which sometimes gets me in trouble.” Participant 15, Q1). Being irresponsible was also associated with increased drinking (3A) or drinking to get drunk (3E) in several of the responses (e.g., “I feel that being a man puts me into a category where drinking to the point of black out drunk is expected and when behavior turns bad that it should be ignored/excused.” Participant 147, Q1). Responsible Drinking (5A) also overlapped with Peer Pressure (4A), as respondents noted that their peers encouraged responsible drinking (e.g. “They make sure I am safe and I make sure they are safe.” Participant 35, Q2).

DISCUSSION

This study used quantitative and qualitative methods to explore and examine relationships between masculinity, personality traits, peer norms for alcohol, and alcohol-related outcomes. There were several hypotheses, many of which were partially supported. There were also several novel and unexpected findings. After reporting the results as they relate to this study's hypotheses, implications, limitations, and future directions are discussed

Relationships between Masculinity and Personality Variables

There were significant relationships between several subscales of the Conformity to Masculine Norms Inventory (CMNI) and sensation seeking. This addressed suggestions for future research made by several authors (Wells et al., 2014; Iwamoto et al., 2011). To the author's knowledge, this is the first study to empirically examine these variables. The strength of the relationship between sensation seeking and risk taking suggests that the two constructs, while theoretically disparate, are operationalized in a way that measures similar attitudes and behaviors. Although it was hypothesized that there would be a significant relationship between these variables (H1a), the strength of this relationship was greater than anticipated ($r = .77$). 59% of the variance in scores on one scale were accounted for by scores on the other scale. This raises concerns about multicollinearity. The strength of this relationship also impacted the results for all regression models that included both of these variables. The relationship between either one of these variables did not fully represent the relationship between the predictor and the criterion variable.

As hypothesized, sensation seeking was related to both the playboy (H1b) and the winning (H1c) subscales of the CMNI. This suggests that a preference for multiple sexual

partners and a desire to win at all costs are associated with greater sensation seeking personality tendencies. The violence subscale of the CMNI, which was not hypothesized to be related to sensation seeking, also had a significant relationship with sensation seeking. It has the 2nd strongest relationship with sensation seeking among CMNI variables behind risk taking, and 17.64% of the variance in scores on one scale are accounted for by scales on the other score. In retrospect, this relationship makes sense, as an empirical link between aggression, which is closely linked to verbal and physical violence, and sensation seeking has significant support (See Wilson & Scarpa, 2011 for a meta-analysis). Violence is often associated with high levels of psychological and physiological arousal, which is a state to which sensation seekers are drawn. As a whole, these results provide compelling evidence that conformity to traditional masculine norms is associated with sensation seeking personality characteristics and that sensation seeking men are more likely to endorse a variety of traditional masculine norms.

There were not significant relationships between impulsivity and any of the hypothesized CMNI subscales, so these hypotheses were not supported (H1d, H1e, H1f). It is possible that impulsivity is not directly related to masculine norms. The relationship between impulsivity and masculine norms was theorized to exist due to common correlates (alcohol-related behaviors) and because of shared relationships with alexithymia. While plausible, these theoretical relationships do not suggest a direct connection in the way that sensation seeking and elements of masculinity do. Examining impulsivity was not a primary focus of this study, which led to the use of a shortened, unidimensional scale. It did not have relationships with variables with which it is typically associated, including alcohol consumption and alcohol consequences (Dick et al., 2010; Ramadan & McMurrin 2005; Verdejo-García, Lawrence & Clark, 2008). Many of the studies that have provided evidence of these relationships utilize a longer version of this scale

and use multidimensional models of the scale, as impulsivity is considered a multidimensional construct. Because impulsivity is considered a multidimensional construct, Coskunpinar et al. (2013) suggested that using a unidimensional measure of impulsivity may result in smaller effect sizes and recommends using multidimensional measures. While scores on the scale used in this study are reliable and valid, it is possible that this shortened, unidimensional measure did not allow for sufficient power, leading to non-significant findings.

Prediction of Alcohol-Related Criterion Variables

The results of the negative binomial regression model suggested that the playboy and heterosexual presentation (HP) subscales of the CMNI predict alcohol consumption above and beyond the variance accounted for by the other variables. It was hypothesized that playboy, which reflects the preference for multiple sexual partners as a part of being a man, would predict alcohol consumption (H2b). However, the emergence of HP, which involves an often-homophobic desire to present oneself as exclusively sexually interested in women, as a significant predictor of alcohol consumption was not hypothesized. The finding that HP was a significant predictor of alcohol consumption in this model contributes to mixed evidence from previous research regarding this variable. One study found no significant relationship between HP and alcohol outcomes (Wells et al., 2014). The results of another suggested that it is a protective factor against alcohol consumption (Iwamoto et al., 2011). However, one study found a positive relationship between HP and alcohol consumption (Zamboanga et al., 2015), with the results suggesting that HP predicts engagement in drinking games and higher alcohol consumption among white male participants but not among Asian and Asian American participants. Results of this study coincided with this last study (Zamboanga et al., 2015), as the sample in this study was predominantly white men. In addition, many of these studies were

conducted in different geographic regions, which suggests geographic regions may play a role in these mixed results. Thus, research does not paint a clear picture of the relationship between this element of masculinity and alcohol-related behaviors. As an aggregate, the findings of this study and previous studies supports several authors' (Thompson & Pleck, 2015; Levant, & Majors, 1998; Connell, 2008) perspective that there are multiple masculinities and that hegemonic masculinity is not a single construct but is influenced by other cultural expectations, including the expectations associated with age, ethnicity and race, and geographic area. Given the complexity of gender norms, interpreting these findings in conjunction with previous studies suggests that heterosexual presentation may be heavily influenced by other contextual variables that may vary across specific environments. In this larger model, risk taking, sensation seeking, and impulsivity were not significant predictors of alcohol consumption. Thus, these hypotheses (H2a, H2c, H2d) were not supported in this analysis, though there was support for a sensation seeking as a direct predictor of alcohol consumption in other analyses.

When only CMNI variables were used, the results were similar, as playboy and heterosexual presentation emerged as significant predictors of alcohol consumption. When only personality variables were used to predict alcohol consumption, sensation seeking emerged as a significant predictor. This provided limited support for hypothesis 2c and provided further evidence that hypothesis 2d was not supported. Omnibus tests of the two models suggested that the combined model and the CMNI model accounts for more of the variance in alcohol consumption than the personality variables alone. This suggested that the aggregate conformity to traditional masculine norms has a stronger predictive relationship with alcohol consumption than the combination of sensation seeking and impulsivity.

When personality and masculinity variables were combined to predict alcohol consequences in a negative binomial regression, only playboy emerged as a significant individual predictor of alcohol consequences with all other variables held constant. This provided support for hypothesis H2f. It suggests that higher endorsement of a preference for multiple sexual partners is associated with increased experience of negative consequences associated with alcohol use. Risk taking, sensation seeking, and impulsivity were not significant predictors of alcohol consequences. Therefore, the hypotheses that these variables are significant predictors of alcohol consequences were not supported (H2e, H2g, H2h).

In the model that includes only personality variables, sensation seeking and impulsivity did not predict alcohol consequences. Thus, these hypotheses (H2g and H2h) were not supported. As previously noted, the unidimensional impulsivity scale may account for the lack of significant relationships between impulsivity and alcohol-related problems, as it usually has a relatively strong relationship with alcohol problems. The emergence of sensation seeking as a significant predictor of alcohol consumption but not alcohol problems in this study roughly coincides with previous research. Research has suggested that sensation seeking has a stronger relationship with alcohol consumption than with alcohol problems (see Stautz & Cooper, 2013 for a meta-analysis). Some studies have found that sensation seeking has a weaker relationship with alcohol problems when controlling for impulsivity (Coskunpinar et al., 2013) and others found that it does not have a significant direct relationship with alcohol problems when controlling for impulsivity (Magid, MacLean, & Colder, 2007). Sensation seeking and impulsivity have different pathways and motivations to alcohol consumption and alcohol problems (Magid et al., 2007). This coincides with recent theoretical perspectives on sensation seeking that have argued that sensation seeking is unrelated to impulsivity. Sensation seeking

behaviors can often involve significant planning. For example, skydiving, which is typically considered a sensation seeking behavior, would not typically be considered an impulsive behavior. It is possible that sensation seekers enjoy the novel sensations associated with intoxication but are less likely to engage in the more impulsive behaviors that may produce greater problems in regards to alcohol use. This fits with previous research that has suggested that certain elements of impulsivity exacerbate the negative effects of sensation seeking on alcohol problems, as it suggests that they are different constructs (McCabe et al., 2015). Given the similarities between risk taking and sensation seeking, it is likely that this may also explain why risk taking was not a significant predictor of alcohol consequences. Finally, comparison of the omnibus tests suggested that the CMNI as an aggregate was a stronger predictor of alcohol consequences than personality variables.

Masculinity and Norms for Alcohol Use

Examination of relationships between CMNI subscales and descriptive norms for alcohol use suggested that no individual subscale of the CMNI was a significant predictor of descriptive norms for alcohol use. Thus the hypothesis that playboy and risk taking would uniquely predict descriptive norms for alcohol use when assessed with the CMNI as a whole was not supported (H3a, H3b). A previous study suggested that the CMNI does not predict descriptive norms for alcohol use when the typical college student is the reference group (Iwamoto et al., 2014). Although hypothesized that replicating this model using a reference group closer in subjective proximity to the respondent (close friends) would lead to a significant relationship between these variables, these results did not support this hypothesis. There is a potential explanation for this, which is particularly relevant in light of other findings in this study. Many individual variables in the CMNI had significant correlations with one another (e.g., playboy and risk taking;

heterosexual presentation and winning). It is possible that some of the covariances between CMNI variables may contribute to multicollinearity when assessing the CMNI as a whole. If this is the case, using a more parsimonious model by removing some CMNI variables with significant correlations may result in some of the remaining variables emerging as significant predictors. This occurred in the path analyses, in which risk taking predicted descriptive norms in the absence of several other CMNI variables. Because risk taking had a significant zero-order correlation and it was a significant predictor in the path model, it is likely that it does have a significant predictive relationship with descriptive norms alcohol norms such that endorsing risk-taking tendencies as part of being a man is related to the perception that one's close friends consume a greater quantity of alcohol. Overall, this finding provided support for hypothesis 3a.

There are two theoretical possibilities for a relationship between risk taking and descriptive norms. One is that men who endorse risk taking have friends who drink more, and that individuals who endorse this element of masculinity are accurately assessing their close friend's increased alcohol consumption. Higher peer consumption is associated with higher personal consumption, so this would contribute to increased personal consumption. There is evidence for this, as members of some groups that consume more than the average college student (fraternity members) accurately identify that they drink more than the average college student and in turn drink more themselves (Larimer et al., 2011). Men who associate with peers who drink more may experience a variety of pressures, some of which have been identified in the qualitative section of this study, to drink a greater amount or to drink irresponsibly. The second potential explanation is that men who endorse higher levels of risk taking are misperceiving their close friend's consumption to a greater extent such that they believe their close friends drink more than respondents who are lower in risk taking. The average self-reported level of alcohol

consumption was lower than the average perceived level of alcohol consumption of close friends in this study, which coincides with previous research that has identified a drinking norm misperception (Monk & Heim, 2014; Neighbors et al., 2008). If they are misperceiving the amount their close friends are drinking, it is possible that their desire to be perceived as risk takers makes them more likely to overestimate how much their close friends are drinking. Although it is not possible to definitively identify which explanation is more likely, it is plausible that both these explanations would co-exist and individually account for part of the relationship between risk taking and descriptive norms.

Examination of relationship between the CMNI subscales and injunctive norms suggested that risk taking and playboy are significant predictors of injunctive norms for alcohol use beyond the variance accounted for by other CMNI subscales, which supported hypotheses 3c and 3d. This suggests that these elements of traditional masculinity are associated with the perception that one's peers have more positive and permissive attitudes towards alcohol consumption and dangerous alcohol-related behaviors (e.g. driving while intoxicated). It coincides with previous research that suggested there is a relationship between masculinity and injunctive norms (Prince & Carey, 2010) and provides additional specificity by providing evidence of the specific elements of masculinity that are associated with injunctive norms for alcohol use.

Playboy and risk taking may have different relationships with peer norms and social influences for alcohol use, as both playboy and risk taking were related to injunctive norms, but playboy was not related to descriptive norms. Kimmel (2008) argued that men view alcohol as a way to facilitate sexual encounters. If the focus among individuals who strongly endorse being a "playboy" is on achieving a sexual experience with a female partner, they may not associate as frequently with other male peers when they are drinking. This may also explain why sexuality

and a preference for multiple sexual partners was not present in the qualitative responses, which focused more directly on male peers. While experiences with peers, which may characterize descriptive norms, would be significantly different based on which of these masculine norms an individual endorses, both would still involve increased perceptions of social acceptance and approval of drinking behaviors that are characterized by injunctive norms.

Pathways Examining Peer Norms as Mediators

In the path analyses, risk taking emerged as a predictor of alcohol consumption via descriptive norms for alcohol use. This provided support for hypothesis 4a of this study, suggesting that the effect of endorsement of this masculine norm is transmitted to personal alcohol consumption in part through its association with personal beliefs about close friends' alcohol consumption. This also provided support for H3a of the study, as risk taking significantly predicted descriptive norms in this model, which stood in contrast to the finding that it did not predict descriptive norms when all CMNI variables were predictors. Playboy and impulsivity did not predict alcohol consumption via descriptive norms. Thus, these hypotheses (H4b and H4d) were not supported. No variable in this path analysis predicted alcohol consumption via injunctive norms, which suggested that several hypotheses were not supported (risk taking H4e; playboy, H4f; and impulsivity, H4h).

In the path analysis that included sensation seeking, the mediated effect of risk taking via descriptive norms on alcohol consumption was no longer significant, tentatively suggesting the hypothesis 4a was not supported. Instead, sensation seeking predicted alcohol consumption via descriptive norms, supporting hypothesis 4c. This suggests that higher personal sensation seeking tendencies contributes to association with close friends who consume greater amounts of alcohol, which in turn accounts for increased personal alcohol consumption. This finding was

similar to a previous study that found sensation seeking predicts alcohol consumption via drinking norm misperception (Yanovitzky et al., 2006), which is conceptually similar to descriptive norms for alcohol use with friends as the reference. Injunctive norms did not emerge as a mediator in the path model and was not a significant predictor of alcohol consumption. This provided evidence that hypotheses 4e, 4f, 4g, and 4h were not supported.

Similar mediated relationships were found in path analyses when alcohol consequences was the outcome variable. Risk taking emerged as a predictor of alcohol consequences via descriptive norms when it was in a model that did not include sensation seeking, supporting hypothesis 4i. Sensation seeking was a predictor of alcohol consequences via descriptive norms when it was included in the model, supporting hypothesis 4k. Risk taking was not a predictor of alcohol consequences via descriptive norms when sensation seeking was included. These results suggest that both risk taking and sensation seeking are associated with the perception that one's close friends consume more alcohol, which in turn contributes to both personal alcohol consumption and personal involvement in negative consequences associated with alcohol consumption. Playboy and impulsivity did not predict alcohol consequences via descriptive norms, so these hypotheses were not supported (playboy, H4j; impulsivity, H4l). Injunctive norms for alcohol was not a significant mediator of any relationships in this model, which suggested that hypotheses 4m, 4n, 4o and 4p were not supported.

There are several potential explanations for these the significant and non-significant effects in these pathways that have important ramifications for understanding social influences impacting masculinity and alcohol-related behaviors. As previously note, there appears to be different effects of peers norms on playboy and risk taking such that playboy is unrelated to descriptive norms. In regards to risk taking, the perception that close friends drink higher

amounts may push individuals to drink more in an effort to “keep up” with the amount they believe their friends are drinking. If they value risk taking as a form of proving masculinity, they may also believe their peer group values risk taking. Alcohol consumption, which can involve significant risk, may be a way to directly increase or maintain social status as risk takers in their group of close friends. Based on the theories of precarious manhood and trading competencies, individuals high in risk taking may also feel hesitant to drink in limited quantities if they believe their friends perceive them as masculine through their alcohol consumption, as limited drinking would pose a significant threat to their masculine social status among their close friends. For men who are higher in risk taking, engaging in dangerous behaviors while drinking may also be a way of proving masculinity to their close friends. If these pressures result in them drinking beyond safe limits or making risky decisions while drinking, they may be more vulnerable to experiencing greater alcohol consequences. This may explain why endorsement of risk taking predicts alcohol-related outcomes via descriptive norms.

Playboy may be more associated with alcohol-related behaviors through the pursuit of masculine social capital as it relates to sexual experiences. Since the focus of being a playboy is not necessarily related to being a risk taker, individuals who endorse playboy may not be motivated to maintain social status by drinking significant amounts and may not feel like they have to drink specifically to “prove” their masculinity and maintain their masculine social status. Rather, they would be more likely to perceive frequent sexual experiences as more directly related to building or maintaining their masculine social capital. This may account for playboy predicting alcohol-related outcomes via alcohol outcome expectancies for sexuality (Iwamoto et al., 2014), as individuals believe that alcohol facilitates sexual experiences (Kimmel, 2008), which would in turn increase their masculine social status. If this expectation related to

masculine social status were true, individuals high in playboy would not be as influenced by normative peer perceptions or a desire to “keep up” with their male peers in regards to alcohol-related behaviors, so they would not be as impacted by descriptive norms. Their masculinity would be “proven” through a different mechanism (sexual experiences). However, they may be motivated by a desire to consume alcohol or make risky decisions while drinking insofar as it will increase their perceived odds of engaging in a sexual encounter. This would explain the direct effect of playboy on both alcohol consumption and alcohol consequences present in this study, as alcohol expectancies were not the focus of the current study. For both playboy and risk taking, the approval of alcohol consumption and acceptance of alcohol consequences, which are operationalized by injunctive norms, is similar, as both are linked to their respective masculine pursuits. However, the desire to increase or maintain social capital occurs through different behaviors. For individuals who endorse risk taking, masculine social capital would be acquired through the risks concomitant heavy drinking. For individuals who endorse playboy, masculine social capital would be acquired through the pursuit of sexual interactions. This provides a theoretical explanation for why risk taking predicts alcohol outcomes via descriptive norms in this study and playboy predicts alcohol outcomes via alcohol expectancies for sexuality in other studies (Iwamoto et al., 2014; Wells et al., 2014). When interpreted with evidence from other studies, the results of the current study suggest that there may be differing social expectations related to perceptions of masculine social status which are accounting for relationships between masculinity and alcohol-related behaviors.

The path analyses provided additional evidence that sensation seeking and risk taking have a significant amount of shared variance, as they accounted for very similar variances in key relationships between peer norms and alcohol-related outcomes. In addition, interpretation of the

results of all the path analyses suggests that sensation seeking has a stronger relationship with peer norms alcohol-related outcomes than risk taking, as risk taking did not have significant effects when sensation seeking is included in the model. Given the high correlation between these variables, it is likely that the strength of the relationship between sensation seeking and alcohol consumption via descriptive norms would be greater if the model were run without risk taking. However, exploring this relationship is outside the scope of this study.

The finding that injunctive norms was not a significant predictor of alcohol-related outcomes and was not a mediator between any variables and alcohol-related outcomes should be interpreted in the light of several other results in this study. Several of the mediated effects predicting alcohol outcomes via injunctive norms approached significance. It is possible that the reason the mediated effect was not significant is due to an insignificant direct effect of injunctive norms of alcohol-related outcomes. The zero-order correlation between injunctive norms and alcohol-related outcomes were significant, suggesting that it is associated with these outcome variables. However, there was a significant correlation between injunctive and descriptive norms (.48) and significant covariance between these variables in the path models. When combined with the strong correlation between descriptive norms and alcohol-related outcomes, it provides evidence that descriptive norms accounted for a significant portion of the variance in the relationship between injunctive norms and alcohol-related outcomes. This finding may account for the finding that injunctive norms did not predict alcohol-related outcomes in the path analyses that included descriptive norms.

Qualitative Findings and Interpretation

Many of the themes created through the qualitative analysis coincide with prior evidence generated through research on alcohol consumption and masculinity. The themes also supported

some of the results from the quantitative analyses by giving evidence of why and how the quantitative relationships might exist.

The theme of *posturing* included several codes that involve expectations of specific behaviors or self-presentations that are associated with masculinity while drinking. Presenting oneself as “tough” while drinking is important, as is “avoiding weakness.” Avoiding weakness is often associated with avoidance of femininity, which is a common element of traditional masculine norms, as femininity is often associated with weakness in dominant masculine norms (Kimmel, 2004; Mahalik et al., 2003; David & Brannon, 1976). Another code present in the theme of *posturing* involved a heightened emphasis on loudness and aggression while drinking. This coincides with quantitative research documenting a relationship between peer acceptability of aggression and Heavy Episodic Drinking (HED; Wells, Tremblay, & Graham, 2013). These codes, particularly loudness/aggression, fit with theory arguing that that masculinity is performed in public contexts. Risk taking, which has significant relationships with either alcohol-related with peer norms for alcohol use, is theorized as an externalizing variable in the CMNI, meaning it occurs in public contexts (Mahalik et al., 2003).

A novel finding was the emergence of the theme *no impact*, in which clients reported not being impacted by masculine norms in regards to alcohol-related behaviors. There are many potential explanations for this phenomenon. It suggests that for some men, alcohol is not connected to masculinity and that masculinity is achieved or performed in other ways, which coincides with the theory of masculine capital. There was a common overlap of the theme of *no impact* and individuals endorsing that they are not regular drinkers, suggesting that this aspect of masculinity does not relate to them personally. Rummell and Levant (2014) suggested that certain masculine norms may be more salient to certain individuals than others. It is therefore

possible that the norms often associated with alcohol consumption are not particularly salient elements of masculinity to these men. It is also possible that these men “achieve” masculinity in others ways, which would coincide with the trading competencies theory (De Visser et al., 2009). It is also possible that gender socialization and masculinity more broadly are not important or salient to some men. If this is the case, then these individuals would not care enough about the sense of masculinity for anything, including alcohol-related behaviors, to influence their behaviors through their sense of masculinity. Another potential explanation is that some individuals may not be aware of the impact of masculine gender norms on their personal alcohol consumption, as individuals with privileged identities are often less likely to recognize dominant social narratives (Kimmel & Messner, 1992).

The *consumption habits* theme coincided with previous research on the relationships between masculinity and alcohol consumption. It included an emphasis on drinking a greater amount or with greater frequency, which coincides with previous quantitative and qualitative sources suggesting a relationship between masculinity and alcohol consumption (Iwamoto et al., 2014; Wells et. al., 2014; Peralta, 2007, Lemle & Mishkind, 1989, Mullen, Watson, Swift, 2007). Drinking greater amounts without showing significant physiological or psychological effects, or “holding your liquor” is part of the theme. This code was often combined with drinking more in the responses, which makes sense given that excessive alcohol consumption is a prerequisite for holding one’s liquor. This theme also coincides with previous research that provides evidence for consuming alcohol without showing its effects being considered a ‘manly’ activity (Peralta, 2007). Drink type was also noted, as participants indicated that they should only consume drinks that have been sanctioned as more ‘masculine.’ Finally, participants expressed an interest in drinking with the purpose becoming intoxicated. Previous qualitative research has identified

drinking with the purpose to become intoxicated as an expressed desire for college students. This research also notes that this often happens in peer groups, such that most or all group members were intoxicated (Lange et al., 2011). One code that fell under the *consumption habits* theme but was dissimilar from the other codes was drinking infrequently. As noted, this code often coincided with the *no impact* theme.

Qualitative data also suggested that there are several types of influences, which fell under the *sources of influence* theme. These included context-related influences, direct peer pressure, masculine, and drinking with friends. These findings broadly coincide with prior research on alcohol-related behaviors, which has identified context, direct and indirect peer pressure, and social norms as influences on alcohol use (Borsari & Carey, 2001). Participants stated that their friends would pressure them or urge them to engage in certain drinking behaviors (often to drink more). This coincided with previous quantitative research suggesting that peer pressure, which is different from peer norms, mediates the relationship between masculine norms and alcohol consumption (Iwamoto & Smiler, 2013). The identification of social norms as an influence on alcohol-related behaviors in the qualitative analysis corroborated the quantitative findings of this study and other studies that connect endorsement of traditional masculine norms with alcohol consumption and alcohol-related problems.

The emergence of the “drinking with friends” code also provided context for individual’s decision to drink, in that individuals identified that drinking with friends has an impact on their drinking behaviors. Often participants noted that friends influence them to drink at times when they were not planning to consume alcohol, or invite them to drink more than they had planned. Although it is conceptually similar to the peer pressure code, it is presented differently by participants and it occurred frequently enough in its own right to justify the creation of a separate

code. This form of peer influences does not have the established empirical support that the other codes have.

The theme of *drinking and responsibility* suggested that responsibility is an important part of masculinity and alcohol use, with some participants explicitly stating that “being a man” involves being responsible while drinking. This theme also overlapped with peer influences, as participants reported that sometimes their friends influenced them and other group members to stay safe. Some subscales of the CMNI have evidence as protective factors against alcohol consumption, such as the primacy of work subscale (Iwamoto et al., 2011). It is possible that certain conceptualizations of masculinity include a sense of responsibility that may protect men from other masculine social mandates associated with increased alcohol consumption. These findings also fit previous qualitative research that suggests there is often at least one group member in a drinking group (sometimes the Designated Driver) that helps ensure that all members are safe (Lange et al., 2011).

Participants also endorsed engagement and acceptance of risky and irresponsible drinking behaviors as part of drinking as a man with male peers. This endorsement relates to previous literature in several areas. Binge drinking, or heavy episodic drinking (HED), is associated with negative consequences such as unintentional injuries (Hingson & Zha, 2009), making it a risky behavior in its own right. Engagement in behaviors that may increase risk also seems to be a part of performing or enacting masculinity while drinking, which fits with the larger emphasis on risk taking as an important part of masculinity. Previous research also suggests that certain behaviors perceived as traditionally masculine may be heightened when men are consuming alcohol, a concept known as “dormant masculinity” (Leone & Parrott, 2015). This is specifically found in anti-gay aggression, as men who endorse traditional masculine norms are more likely to

engage in anti-gay behaviors while intoxicated than when sober. Thus alcohol consumption may increase engagement in risky behaviors as part of the intensification of masculine self-presentation when drinking. Intoxication is used as a way of avoiding or reducing social ramifications associated with behaviors while intoxicated (McMurrin, 2012). Results of De Visser and McDonnell (2012) suggests that a gendered double standard exists for women and men, allowing for greater social acceptance of irresponsible behaviors in intoxicated men. This finding extends this literature by adding to the evidence that irresponsible or risky behavior is seen as part of enacting masculinity while drinking.

There are several interpretations that can be made based on the overlapping themes in participant responses. One prominent overlapping theme involved identifying a peer influence and a consumption habit, usually drinking more. In these overlapping themes, participants identified a mechanism through which they experience social or peer influences on their drinking behaviors as they relate to their sense of masculinity. According to the qualitative results, there may be a direct appeal to broader masculine norms made by an individual's peers. One of the ways that participants identified influences to drink more alcohol was through acknowledging that friends invoke traditional masculine norms both positively ("be a man") and negatively ("Don't be a bitch.") to influence their drinking. This provides some insights into the mechanisms through which peer influences impact men who may identify with more traditional masculinity. It seems reasonable to conclude that these individuals would be less likely to report that this impacts their drinking decisions and behaviors if they do not value their friends' perception of their masculine social status.

The overlapping themes of consumption habits and irresponsible drinking provided one of the clearest connection between the quantitative results and the qualitative results. The

quantitative data suggested risk taking plays a significant role in peer norms and alcohol-related behaviors. Participants acknowledged that their alcohol consumption and alcohol behaviors are irresponsible and/or risky. Within this is an implied acceptance of the assumption of risk, suggesting a perceived connection between drinking and risk taking and drinking as a risky behavior in its own right. This implied acceptance may also include an intent to engage in risky behavior through engagement in certain drinking behaviors.

Integrating Qualitative and Quantitative Results

On the whole, the qualitative and quantitative results coincided with each other, particularly in identifying relationships between masculinity, peer norms, and alcohol-related behaviors. The quantitative section looked at specific elements of masculinity, particularly risk taking and playboy, which has recently been suggested as the optimal method of examining masculinity in quantitative methodologies (Wong, Ho, Wang, & Miller, 2017). The qualitative questions did not focus specifically on the areas hypothesized to have relationships with peer norms and alcohol behaviors, as the qualitative section was intended to explore masculinity, peer norms, and alcohol behaviors more broadly. As a result, there was not a direct overlap between the qualitative and quantitative sections, with each section addressing different levels of analysis. Although the qualitative questions did not focus on this issue specifically, it is noteworthy that this did not present itself in the answers given the strength of the relationships between playboy and alcohol-related behaviors

The qualitative results corroborated the quantitative results in terms of identifying peer influences as an important part of alcohol-related behaviors. Quantitative results provided evidence of a variety of relationships between the CMNI and alcohol norms. Qualitative results extended the results of the quantitative results by offering examples of “how” the relationship

between peer norms and influences may impact alcohol-related behaviors. In particular, this might be achieved through more pressure from peers to drink with them, pressure to drink more when with them, and relaxation of accountability for behaviors when drinking. In addition, participants occasionally noted that pressure comes in the form of an appeal to broader masculine norms, particularly when responses fell under Theme 1 (*posturing*) and Theme 4 (*sources of influence*), thereby providing potential evidence of mechanisms through which the quantitative findings might be explained. One noteworthy place in which the quantitative and qualitative results coincided was in identifying the possibility of differential pathways for risk taking and playboy to alcohol-related behaviors. The qualitative results, which focused directly on male peer norms and influences, did not have specific references to finding casual sex partners (playboy) in the responses, suggesting that playboy does not strongly relate to male peers in drinking decisions and behaviors. These results were similar to the quantitative findings, which suggested that descriptive norms, which rely more heavily on immediate peers, norms do not mediate the relationship between playboy and alcohol-related outcomes.

Qualitative research provided evidence that some participants differentiate between societal expectations of masculinity in relation to alcohol and their personal perspective of behaviors. They acknowledged social norms around masculinity and noted that these norms have no impact on them. This finding coincides with several critiques of quantitative methods of masculinity measures, which suggest that individuals may recognize, acknowledge, or endorse certain norms without acting on them (Wetherell & Edley, 2014).

Implications for Prevention and Treatment

Playboy was connected to injunctive norms for alcohol use, alcohol consumption, and alcohol-related problems. This element of traditional masculinity is most frequently associated

with troubling correlates and outcomes in regards to alcohol-related behaviors. This result corroborates previous empirical studies document a relationship between playboy and alcohol-related outcomes (Iwamoto et al., 2014; Wells et al., 2014). Kimmel (2008) notes that often young men believe that alcohol consumption will facilitate sexual encounters with women, providing a potential explanation for this relationship. This coincides with previous research that has documented a relationship between playboy and alcohol-related outcomes via alcohol outcome expectancies associated with improving the likelihood of a sexual interaction (Iwamoto et al., 2014). A recent meta-analysis of relationship between the CMNI and negative mental health outcomes suggests that it is associated with several problematic outcomes, including lower positive affect, greater negative affect, and reduced tendency to engage in health-seeking behaviors (Wong et al., 2017). Prevention efforts for alcohol-related behaviors would likely benefit from including an exploration of this norm as it relates to alcohol expectancies and an exploration of negative consequences associated with alcohol use when the specific expectancy is increased sexual interactions as part of “proving” masculinity.

A novel finding of this study was that the risk taking subscale of the CMNI predicts descriptive norms for alcohol use among close friends. This finding stands in contrast to a previous study (Iwamoto et al., 2011), which finds that conformity to masculine norms is not related to descriptive norms for alcohol use when the reference group was the “average” college student. Perceived descriptive and injunctive norms among friends are better predictors of alcohol consumption and alcohol-related behaviors than less proximal reference groups, such as the typical student or the average same-sex student (Yanovitzky et al., 2006; Neighbors et al., 2008). This research had not previously been applied to conformity to masculine norms. Previous research suggests that directing interventions to groups of friends or pre-existing groups

may be most effective at reducing alcohol consumption (LaBrie, Hummer, Neighbors, & Pedersen, 2008; LaBrie, et al., 2010). It is possible that norms-based interventions focusing on the “average” or “typical” college student may not impact men who endorse high levels of masculine norms associated with alcohol consumption, as they may be more likely to rely on their reference group for information or guidance when making drinking decisions. There is evidence that a similar phenomenon exists with fraternity members, as they are more likely to recognize that they drink more than the norm, which has led to the suggestion that groups of heavy drinkers should receive different forms of feedback than the ‘average’ college student (Larimer, 2011). The results of this study suggested that peer influences among close friends are particularly important for men who identify strongly with the risk taking elements of masculine norms. When thinking about performance of masculinity and the relationship between alcohol consumption and masculinity, it is also possible that individuals who identify with masculinity and alcohol-consumption as a way to prove masculinity may have a vested interest in drinking more than the norm. If this is the case, these individuals would likely benefit from interventions that acknowledge the influences of peer norms and the effects of traditional masculine norms rather than a more generalized intervention aimed at challenging the drinking norm misperception. Interventions that challenge traditional masculine norms have been successful in reducing harmful health behaviors among men, including risky sexual behaviors and violence against women (e.g. gender-transformative interventions, Dworkin et al., 2013). Results of the current study suggest that similar interventions aimed at challenging traditional masculinity may be most effective in reducing problematic alcohol-related behaviors.

Risk management or harm reduction interventions would likely be enhanced by discussing possible connections between risk-taking tendencies and peer norms, as there are

connections between these coming from biological (sensation seeking) and sociocultural perspectives (risk taking). They may also be enhanced by reviewing the possible sources of social influence that peers may have on drinking-related behaviors and ways to resist these pressures.

The qualitative results provided evidence of some of the specific mechanisms through which peers may influence one another, which has implications for counselors working with college men seeking to address their alcohol-related behaviors. Counselors working to help college men reduce their alcohol consumption may benefit from exploring specific social contexts with their clients and from helping clients identify both specific peer pressures and the psychological and social effects of resisting these social pressures. Breaking social norms or group norms around masculinity can have a significant impact on social status with the group (Moss-Racusin, Phelan & Rudman, 2010). Clients may benefit from counselors addressing the possibility of a social impact associated with a shift in their drinking behaviors. Qualitative results provided potential specific scenarios that may influence a client's drinking (e.g. offers from friends to drink with an appeal to masculinity). Counselors may benefit from addressing these and other scenarios through preparation and role-playing situations in which clients practice drink refusal while anticipating potential attempts to emasculate them from some of their peers. Being aware of this possibility and preparing for its potential effects may help counselors working with students who are trying to reduce drinking either voluntarily or because they had been mandated to alcohol-reduction counseling.

Limitations

There are several limitations in this study. A significant limitation is the cross-sectional nature of the study. Although all analyses involve regression and one variable predicting

another, it is not possible to definitely determine which variable is the outcome variable. While there is significant theoretical evidence for the models employed, cross-sectional designs do not allow for temporal ordering of variables. The path analysis appears to imply a causal chain, as there is an examination of mediated effects that identifies mechanisms through which one variable may predict another, it is impossible to state definitely that the chain of causality would occur in that order. In addition, some authors (Maxwell & Cole, 2007) argued that examining mediation while using cross-sectional data sets can significantly overestimate or underestimate direct and indirect effects. It is also possible that masculine norms may shift over time (Parent & Moradi, 2011) and across the lifespan. In the absence of longitudinal data, it is impossible to determine the stability of responses on specific scale items across time.

Another limitation of the present study is the conflicting results across analyses with several variables, particularly risk taking and playboy. These conflicting results suggest that caution should be taken when interpreting the results.

This sample is predominantly comprised of young adult white men attending college at a large public university living in the Southwestern United States. Because of potential differences across groups, the results of this study may not be generalizable to members of a population that do not reflect the demographics of this sample. In addition, the sample used is a convenience sample, in that all participants were drawn from the psychology research pool and were taking a psychology course at the time, which may also reflect a certain grouping of responses.

Therefore, caution should be taken when generalizing the results of this study. Concerns related to generalizability may be particularly salient in regards to masculinity. As previously noted, masculine norms change based on a variety of other contextual variables, including, but not limited to, race/ethnicity, age, socioeconomic status, gender identity, sexual orientation, and

geographic region (Thompson & Pleck, 2015). The differing effects of heterosexual presentation on alcohol consumption across ethnic groups and across several studies suggests that these demographic variables may play an important role in the relationship between masculinity and drinking behaviors. There are many permutations of traditional or hegemonic masculinity. For example, the concept of “machismo” present in Chicano masculinities or the differing oppressions faced and cultural values experienced by African-American or Arab men influence the perceptions and presentations of masculinity across different groups (Thompson & Pleck, 2015). Sexual orientation is not a focus in this study, as previous research suggests that gay men endorse different masculine norms (Hatzenbuehler, 2009). Therefore, the relationships between masculinity and drinking behaviors found in this study may not apply to gay men. However, one limitation of this study is that it did not directly assess for sexual orientation when gathering demographic information. Future studies should replicate this with different groups of men to address these concerns.

Another potentially problematic element of this study is limited statistical power. Although the sample size is sufficient to accommodate path analyses and negative binomial regression models, it is near the smaller side of the range of what is typically considered sufficient, which contributes to an increased possibility of Type II error. The limited power of the sample may have led to effect sizes that are not large enough to reach significance with a smaller sample. There are several mediating effects (risk taking via injunctive norms on alcohol consumption; playboy via injunctive norms on alcohol consumption) that approach significance and may have reached significance with additional power from a larger sample. Future studies should replicate these quantitative analyses with a larger sample to determine whether or not there is a significant relationship between them.

This study relies on self-report, which may cause problems associated with participants responding based on how they felt they “should” or “ought” to respond, given the context of completing an online survey. The CMNI is associated with social desirability (Mahlik et al., 2003), raising additional concerns about the veracity of self-reported behaviors and attitudes. As such, the self-report methods used in this study may not accurately represent or coincide with their actual behaviors in certain contexts. This potential discrepancy between self-reported and actual behaviors is a concern that has specifically been voiced regarding the CMNI and other measures of masculine ideologies (Wetherell & Edley, 2014). Self-report is also potentially problematic in regards to disclosing alcohol consumption and alcohol-related consequences, as individuals may underreport their consumption levels or the negative consequences associated with their drinking. However, there is significant evidence from prior research suggesting that when confidentiality is assured and appropriate measures are utilized, self-report is a valid and reliable way to gather information related to drinking behaviors and attitudes (LaForge, Borsari & Baer, 2005).

Implications for Future Research

This study extends the literature on the relationship between masculinity and peer norms. Although some relationships between masculinity and peer norms are established, this study identifies specific elements of masculinity that relate to injunctive and descriptive norms. Because this research is exploratory in nature, there are many potential directions for continued research examining conformity to masculine norms, peer norms, personality traits, and alcohol-related behaviors.

Sensation seeking and risk taking are constructs that come from vastly different and sometimes competing theories for explaining human development and behavior (i.e., the nature

vs. nurture debate). This study provides significant evidence that these constructs measure very similar attitudes and behaviors, which is a possibility suggested in previous research (Iwamoto et al., 2014). Future research in both conformity to masculine norms and sensation seeking should focus on differentiating between these two influences, as it is not currently possible to determine an antecedent in the relationship between these variables or to understand how these characteristics influence or interact with one other. Individuals who are socialized with more traditional masculine norms may develop or endorse greater sensation-seeking tendencies based primarily on their socialization. However, individuals with personality traits that coincide with traditional masculinity may seek out contexts where these psycho-biological traits are rewarded, which would in turn reinforce and reward these tendencies. The social rewards associated with engagement in risk-taking behaviors would then likely lead to greater endorsement of these traditional masculine norms. The theory of epigenetics would suggest that individuals with sensation seeking personality traits would interact with the environment to further reinforce and promote these personality traits.

One way to explore potential relationships between sensation seeking and masculinity would be to conduct longitudinal studies across the lifespan that specifically explore the presence and development of individual differences in personality traits while acknowledging and examining the context of differing masculine gendered expectations. There is significant research examining the development of sensation seeking, though there is significantly less examining the development of an individual's sense of masculinity or the development of their conformity to masculine norms. Given the importance of peers in adolescent and childhood development across several relevant areas, including risky behaviors and substance use,

examining peer influences as a mediator and moderator of psychosocial and psychobiological influences would also further this line of research.

Given that four subscales of the CMNI were significant correlated with sensation seeking, future research should also examine connections between sensation seeking and masculinity more broadly. Utilizing different operationalizations of both sensation seeking and masculinity to determine the breadth of these relationships would likely help elucidate these connections. For example, other scales measuring masculine norms include similar but not identical concepts such as “toughness,” which is different from the subscales on the CMNI but may be related to sensation seeking. Future studies should explore the links between violence, subscale of the CMNI, sensation seeking and common outcomes for both variables. Unlike risk taking and sensation seeking, these variables are not measuring similar attitudes and behaviors, increasing the likelihood that they are orthogonal variables and may combine to predict outcomes more effectively.

Due to unexpected lack of relationships between impulsivity and other variables in this study, future studies should include a more comprehensive, multidimensional measure of impulsivity that examines peer norms and masculinity with specific elements of impulsivity such as negative and positive urgency and lack of premeditation.

Given differences between the larger model predicting descriptive norms, which finds no significant relationships between the CMNI and descriptive norms, and the more parsimonious model, it may be more effective to use models with specific CMNI norms rather than using the entire CMNI. This coincides with a suggestion made in a recent meta-analysis of the CMNI and mental health outcomes (Wong et al., 2017).

Future research should replicate both these studies by comparing the effects of conformity to masculine norms and peer influences using multiple reference groups at varying levels. For example, comparing the strengths of the relationship when men are asked to rate their drinking in reference to the average college student, the average college student of the same sex, acquaintances, and close friends to determine how different reference groups impact them. It is possible that individuals who use alcohol consumption as a significant method of enacting masculinity perceive themselves and their close friends as drinking far more. It is possible that men who drink more may be more likely to underreport the drinking of the “average” college student, as they would be motivated to see themselves and their close friends as heavy drinkers. This would then provide them with a sense of pride or satisfaction at being able to prove their masculinity through this context. If this were the case, men who use alcohol to enact masculinity would not be more likely to rate the drinking of the “average” college student higher, as this would dilute their personal sense of masculinity. This would make sense in the context of the theories of precarious manhood and masculine capital. Future research that compares descriptive and injunctive norms across several reference groups would be able to empirically examine this and other possibilities.

An important finding of this study was the relationship between masculine norms and peer norms for alcohol use, suggesting that broader societal norms for masculinity may have a relationship with more proximal peer norms. This is found for both perceptions of peer consumption (descriptive norms) among close friends and for perceived attitudes related to alcohol consumption (injunctive norms) among close friends. Future studies should continue developing relationships between the CMNI and peer norms for alcohol. Recent studies examining peer group influences on drinking behaviors have suggested that identification with

the peer group and an individual member's perceived status in the group impact the influence of a social group on heavy episodic drinking (Dumas, Davis, Maxwell-Smith, & Bell, 2017). Future studies may benefit from incorporating these concepts when assessing the relationship between conformity to masculine norms and alcohol use. Future research should assess connections between risk taking and playboy in regards to relationships with group identification and peer norms.

Performance of masculinity is a way of gaining social capital, and some qualitative studies have suggested that being able to consume large amounts of alcohol is a way to gain social status as a man (Peralta, 2007). For example, it is possible that endorsement of certain masculine norms (e.g. winning, playboy) may be associated with perceived status in a particular group, which may also influence the impact the group has on that individual's drinking behaviors. Evidence from this study suggests that different masculine norms impact different expectancies for building or maintaining social capital. There may be certain social expectations associated with alcohol use that are different from the expectations currently operationalized by alcohol outcomes expectancies. However, there is no current research focusing on alcohol expectations as they relate to the acquisition and maintenance of masculine social status, nor is there a specific scale that has operationalized expectations related to masculine social status. Future research should address this by exploring potential relationships between alcohol-related expectations and social capital as potential mechanisms to further explain relationships between masculinity and alcohol-related behaviors found in the current study and similar studies.

Given that the qualitative analysis suggest that peer pressure plays a significant role in masculinity and alcohol-related behaviors, future studies would benefit from exploring peer pressure in relation to masculine norms more broadly. It is possible that peer pressure may

mediate the relationship between endorsement of masculine norms and alcohol-related behaviors, as similar results have been found with adolescents (Iwamoto & Smiler, 2013).

The qualitative results provide evidence of specific mechanisms through which masculinity and peer norms can influence drinking behaviors among men. One future direction is a more thorough understanding of these mechanisms. Responses to qualitative questions are short and may not allow for a thorough exploration of contexts and the complexities of interactions between masculinity and alcohol. A more extensive qualitative approach that includes in-depth interviews of the relationships between peer norms and alcohol-related behaviors may provide a more complete analysis of the contextual variables associated with these issues, as this area has not been thoroughly assessed. For example, interviewing a group of friends who have been sanctioned by the University administrative body for alcohol-related concerns may provide richer insight into this process. Future research could also include examination of gender dynamics and masculinity in relation to the roles that people take when drinking in a group. It may be helpful to explore how the roles may shift if the group of friends are sensation seekers or if they endorse high levels of risk taking, as this may shift the group perspective such that the most responsible member is willing to take more risks, thereby potentially jeopardizing the group as a whole.

Several authors and theories (Addis et al., 2010) suggest that performance of masculine norms is contextually driven (Cunningham, Domke, Coe, Fahey, & Van Leuven, 2013). Results of the qualitative analysis identify some of the contexts that may influence drinking behaviors, providing some insight in to how masculinity and specific contexts may interact to influence drinking decisions and behaviors. Although some qualitative responses included references to

specific contexts, the quantitative section did not include an examination of context. Future research should qualitatively examine the role of context more extensively.

Future research should examine possible relationships between the CMNI and peer norms for other negative health behaviors, as peer norms among close friends may account for some relationships between masculinity and a variety of health outcomes. Masculine norms are often reinforced by peer norms, and peer norms may function as mediators between masculine norms (e.g. risk taking) and health outcomes. Previous research surrounding men's sexual objectification of women suggests that peer norms have a moderating effect on conformity to masculine norms (Mikorski & Szymanski, 2017). In this study, men who have male peers approving of sexual violence against women and who endorsed norms typically associated with objectification of women (power over women, violence) were more likely to engage in sexual violence than men with similar norm endorsement but without peers approving of sexual violence. Peer norms and peer pressures may also play a role in the relationship between endorsement of traditional masculine norms and risky sexual behaviors. It is possible that the CMNI is related to other peer norms, such as acceptance of violence or willingness to access mental health or substance abuse services. While several studies have identified connections between specific elements of masculinity and health outcomes (see Wong et al., 2017 for a meta-analysis), and specific interventions challenging traditional masculine norms (gender-transformative interventions, (Dworkin et al. 2013), relatively few have examined the relationships between peer norms, particularly peer norms among important reference groups, such as close friends, and health outcomes. Based on the connections between masculinity and peer norms evidenced by this study, potential relationships between masculinity and other peer

norms should be evaluated, as this a promising but relatively unexamined area for future research.

Although masculinity and male gender norms were the primary focus of this study, future studies would benefit from examining these variables with women, which has been a growing trend in the field (Kaya, Iwamoto, Grivel, Clinton, & Brady, 2016; Steinfeldt, Zakrajsek, Carter, & Steinfeldt, 2011). Given that sociocultural gender has a significant influence on individual's perceptions and behaviors, women who identify with masculine norms may experience some of the same effects as men.

Conclusion

This study utilizes qualitative and quantitative methodologies to explore and assess relationships between personality variables with known relationships to alcohol, conformity to traditional masculine norms, peer norms for alcohol use, and alcohol-related behaviors. The results provide significant evidence of relationships between sensation seeking and several elements of masculinity, most notably risk taking. CMNI is a stronger predictor of alcohol-related behaviors than these personality variables. It has also established relationships between certain aspects of masculinity and perceived norms for alcohol. A path analysis provides evidence of a link between masculine norms and alcohol-related behaviors through peer norms for alcohol use. Qualitative analysis corroborated much of the quantitative analysis and provided evidence of the mechanisms of influence through which masculine norms and peer norms may interact to influence an individual's alcohol-related behaviors. As a whole, this study furthers research on masculinity, peer norms, and alcohol abuse.

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APPENDIX A: GLOSSARY OF KEY TERMS

Alcohol Outcome Expectancies

Normative beliefs, whether implicit or explicit, about the likely outcomes of consuming alcohol.

Conformity to Masculine Norms Inventory (CMNI)

A multidimensional scale that measures self-reported conformity to masculine norms.

Descriptive Norms

A social norm for alcohol that is based on the perceived quantity and frequency of peer alcohol consumption.

Emotional Control

A subscale of the Conformity to Masculine Norms Inventory (CMNI) which comprises suppression of emotions.

Heterosexual Self-Presentation

A subscale of the Conformity to Masculine Norms Inventory (CMNI) which encompasses an aversion to being perceived as gay or identifying as gay.

Impulsivity

A personality trait based on a multidimensional construct that is often operationalized as a limited capacity to think in advance and to plan ahead.

Injunctive Norms

Social norms for alcohol that refer to the perceived level of peer approval of alcohol consumption and alcohol-related behaviors.

Playboy

A subscale of the Conformity to Masculine Norms Inventory (CMNI) which reflects an interest in multiple or non-committed sexual relationships with emotional distance one's sex partners.

Power Over Women

A subscale of the Conformity to Masculine Norms Inventory (CMNI) which encompasses a belief that men should be in charge of women.

Primacy of Work

A subscale of the Conformity to Masculine Norms Inventory (CMNI) which places work as a central focus of life.

Self-Reliance

A subscale of the Conformity to Masculine Norms Inventory (CMNI) that reflects a tendency to refrain from help-seeking behaviors.

Sensation Seeking

A personality trait that is characterized by a desire to experience intense novel stimuli and a willingness to take physical, social, and financial risks to achieve this goal.

Risk Taking

A subscale of the Conformity to Masculine Norms Inventory (CMNI) which includes a tendency to engage in physically and emotionally dangerous behaviors.

Violence

A subscale of the Conformity to Masculine Norms Inventory (CMNI) characterized by a willingness to use physical violence or threat of violence to address problems.

Winning

A subscale of the Conformity to Masculine Norms Inventory (CMNI) which encompasses a mentality of winning at all costs.

APPENDIX B: CHI-SQUARE ANALYSIS

Institutional data on the incidence of students mandated to a drug and alcohol intervention was obtained from the university database over the course of the 2014-2015 academic year. This was compared to the overall student enrollment for Fall 2014. Chi-squared tests of independence were conducted based on the observed and expected rates of students being mandated to drug and alcohol treatment in the drug and alcohol treatment section of the university (Drugs, Alcohol, and You: DAY Programs). Students are typically mandated for a variety of infractions, including being caught with alcohol in the residence halls on campus, being transported to the emergency room for a dangerous level of intoxication, and engaging in misconduct while intoxicated. Analyses were conducted on several majors of interest. These were majors of individuals who had a relatively high rate of being mandated to an intervention. Men comprised more than 60% of the individuals enrolled in the academic majors of interest.

Table 20
Chi Square Analysis of Individuals in Construction Management Mandated a Substance Intervention

	Construction Management	All other Students	Total
Mandated to substance intervention	29	649	678
Not mandated	574	21254	21828
Margin Totals	603	21903	22506

Table 21

Chi Square Analysis of Individuals in Computer Information Systems Mandated a Substance Intervention

	Computer Information Systems	All other Students	Total
Mandated to substance intervention	12	666	678
Not mandated	157	21671	21828
Margin Totals	169	22337	22506

Table 22

Chi Square Analysis of Individuals in General Business Administration Mandated a Substance Intervention

	General Business Administration	All other Students	Total
Mandated to substance intervention	27	651	678
Not mandated	602	21226	21828
Margin Totals	629	21877	22506

The results of this Chi Square test for Independence for individuals in Construction Management were significant $\chi^2(1, N = 22,506) = 6.85, p = .008$ at the .05 level, suggesting that individuals majoring in Construction Management and Pre-Construction Management are at heightened risk of experience problems related to their alcohol consumption (Table 20). The Chi Square test for independence for individuals in Computer Information Systems was also significant $\chi^2(1, N = 22,506) = 9.74, p = .001$ at the .05 level (Table 21). General Business Administration $\chi^2(1, N = 22,506) = 3.63, p = .057$ was close to reaching significance at the .05 level (Table 22).

APPENDIX C: SURVEY ITEMS

Consent to Participate in a Research Study Colorado State University

Drinking as a Man: How Alcohol Influences Your Masculinity

Principal Investigator: Bryan Dik, Ph.D., Psychology, (970) 491-3235, Bryan.Dik@colostate.edu

CO-Principal Investigator: John Jurica, Psychology, M.S., (970) 682-4560, Juricaj@rams.colostate.edu

WHY AM I BEING INVITED TO TAKE PART IN THIS RESEARCH? You are being asked to take part in this study because you are enrolled in a psychology course at Colorado State University. This study is only open to individuals who identify as men in regards to their gender identity. Given that the topic material is related to masculinity, this study is only open to men.

WHO IS DOING THE STUDY? Dr. Bryan Dik, a faculty member, and John Jurica, a doctoral student, will be conducting the study

WHAT IS THE PURPOSE OF THIS STUDY? This study will look at individual differences in a sense of masculinity and alcohol consumption. Masculinity is the social roles designated for individuals who identify as men. Different men have different perceptions of these roles. They may also be related to perceptions of peer norms. These individual differences may be related to decisions around alcohol consumption. The study will look at how masculinity and peer norms may have an effect on alcohol-related behaviors.

WHERE IS THE STUDY GOING TO TAKE PLACE AND HOW LONG WILL IT LAST? The study has a survey that you will be able to complete after reading this form and consenting to participate. The survey is expected to take around 1 hour. After this survey is completed, you do not need to do anything else.

WHAT WILL I BE ASKED TO DO? You are being asked to participate in a survey at your convenience, which may take up to one hour. After answering the questions, you will be given a link to a survey where you can provide your Student ID. This will allow you to receive 1 hour of research course credit. You

should not participate in this study if you do not wish to share your thoughts on alcohol use and masculinity.

WHAT ARE THE POSSIBLE RISKS AND DISCOMFORTS? The study has minimal risks. Some of the items may ask about topics that are sensitive to you. In order to minimize this risk, you are encouraged to skip any items you find to be sensitive or which cause you any distress. It is impossible to identify all possible risks and discomforts associated with participation, but the researchers have taken all reasonable safeguards to minimize all possible but unknown risks. If for any reason you experience any stress due to participation in this study, you are invited to contact the University Counseling Center at 970- 491-6053.

ARE THERE ANY BENEFITS FROM TAKING PART IN THIS STUDY? There are no direct benefits to participation in this study. This study may help researchers understand more about how peer norms and masculinity are related to alcohol-related behaviors.

DO I HAVE TO TAKE PART IN THE STUDY? Your participation in this research is voluntary. If you decide to participate in the study, you may withdraw your consent and stop participating at any time without penalty or loss of benefits to which you are otherwise entitled. Additionally, should you choose to withdraw, you will not receive any penalty against your research participation requirement (i.e., it will not count as a no-show). However, in accordance with the PSY research policy, you will not receive participation credit for this study. If at any point you feel that you would like to withdraw from the study, you are responsible for contacting the researchers with your name, study identification number, and University identification number so they can assure that your withdrawal is documented and no penalties are administered.

WHO WILL SEE THE INFORMATION THAT I GIVE? We will keep private all research records that identify you, to the extent allowed by law.

For this study, your answers will be separate from any personally identifying information you provide. Your personally identifying information will be completely separate from your survey responses and it will not be possible for anyone to connect personally identifying information with your survey responses. Only the research team will have access to your data. The only exceptions to this are if we

are asked to share the research files for audit purposes with the CSU Institutional Review Board ethics committee, if necessary.

WILL I RECEIVE ANY COMPENSATION FOR TAKING PART IN THIS STUDY? You will receive 1 hour of research credit for participation in this study.

WHAT IF I HAVE QUESTIONS? Before you decide whether to accept this invitation to take part in the study, please ask any questions that might come to mind now. If you have questions about the study in the future, you can contact the investigator, Bryan Dik, (970) 491-3235, Bryan.Dik@colostate.edu. You may also contact Bryan Dik if you have any questions after completing the study. If you have any questions about your rights as a volunteer in this research, contact Janell Barker, Human Research Administrator at 970-491-1655. If for any reason you experience distress due to your participation in this study, you are invited to contact the University Counseling Center at (970) 491-6053.

This consent form was approved by the CSU Institutional Review Board for the protection of human subjects in research on XX/XX/2017.

By continuing you indicate you understand and consent to this study, you acknowledge that you have read the information stated and willingly consent to participation in this study. If you do not consent, please close your browser.

Please indicate your university classification

- Freshman
- Sophomore
- Junior
- Senior
- Other (please specify) _____

What is your age?

- 18
- 19
- 20
- 21
- 22
- Other (please specify) _____

What is your race/ethnicity?

- American Indian/ Native American
- Asian American/ Pacific Islander
- Black/ African American
- Latino/Hispanic American
- White/ European American
- Other (please specify) _____

What is your University major?

Are you currently a member of a fraternity?

- Yes
- No

The following pages contain a series of statements of how people might think, feel, or behave. Thinking about your own actions, feelings, and beliefs, please indicate how much you personally agree or disagree with each statement by answering from "Strongly Disagree" to "Strongly Agree." There are no right or wrong responses to the statements. You should give the responses that most accurately describe your personal actions, feelings and beliefs. It is best if you respond with your first impression when answering

	1 -- Strongly Disagree	2 -- Disagree	3 -- Agree	4 -- Strongly Agree
1. In general, I will do anything to win	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. If I could, I would frequently change sexual partners	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. I hate asking for help	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. I believe violence is never justified	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Being thought of as gay is not a bad thing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. In general, I do not like risky situations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Winning is not my first priority	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. I enjoy taking risks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. I am disgusted by any kind of violence	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. I ask for help when I need it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. My work is the most important part of my life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. I would only have sex if I was in a committed relationship	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The following pages contain a series of statements of how people might think, feel, or behave. Thinking about your own actions, feelings, and beliefs, please indicate how much you personally agree or disagree with each statement by answering from "Strongly Disagree" to "Strongly Agree." There are no right or wrong responses to the statements. You should give the responses that most accurately

describe your personal actions, feelings and beliefs. It is best if you respond with your first impression when answering

	1 -- Strongly Disagree	2 -- Disagree	3 -- Agree	4 -- Strongly Agree
13. I bring up my feelings when talking to others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. I would be furious if someone thought I was gay	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. I don't mind losing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. I take risks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. It would not bother me at all if someone thought I was gay	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. I never share my feelings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Sometimes violent action is necessary	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. In general, I control the women in my life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. I would feel good if I had many sexual partners	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. It is important for me to win	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. I don't like giving all my attention to work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. It would be awful if people thought I was gay	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The following pages contain a series of statements of how people might think, feel, or behave. Thinking about your own actions, feelings, and beliefs, please indicate how much you personally agree or disagree with each statement by answering from "Strongly Disagree" to "Strongly Agree." There are no right or wrong responses to the statements. You should give the responses that most accurately describe your personal actions, feelings and beliefs. It is best if you respond with your first impression when answering

	1 -- Strongly Disagree	2 -- Disagree	3 -- Agree	4 -- Strongly Agree
25. I like to talk about my feelings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. I never ask for help	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27. More often than not, losing does not bother me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
28. I frequently put myself in risky situations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
29. Women should be subservient to men	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
30. I am willing to get into a physical fight if necessary	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
31. I feel good when work is my first priority	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
32. I tend to keep my feelings to myself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
33. Winning is not important to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
34. Violence is almost never justified	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
35. I am happiest when I'm risking danger	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
36. It would be enjoyable to date more than one person at a time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The following pages contain a series of statements of how people might think, feel, or behave. Thinking about your own actions, feelings, and beliefs, please indicate how much you personally agree or disagree with each statement by answering from "Strongly Disagree" to "Strongly Agree." There are no right or wrong responses to the statements. You should give the responses that most accurately describe your personal actions, feelings and beliefs. It is best if you respond with your first impression when answering

	1 -- Strongly Disagree	2 -- Disagree	3 -- Agree	4 -- Strongly Agree
37. I would feel uncomfortable if someone thought I was gay	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
38. I am not ashamed to ask for help	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
39. Work comes first	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
40. I tend to share my feelings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
41. No matter what the situation, I would never act violently	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
42. Things tend to be better when men are in charge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
43. It bothers me when I have to ask for help	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
44. I love it when men are in charge of women	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
45. I hate it when people ask me to talk about my feelings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
46. I try to avoid being perceived as gay	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How would your close friends respond if they knew you drank alcohol every weekend?

- 1. Strong Disapproval
- 2. Moderate Disapproval
- 3. Mild Disapproval
- 4. Wouldn't Care
- 5. Mild Approval
- 6. Moderate Approval
- 7. Strong Approval

How would your close friends respond if they knew you drank alcohol every day?

- 1. Strong Disapproval
- 2. Moderate Disapproval
- 3. Mild Disapproval
- 4. Wouldn't Care
- 5. Mild Approval
- 6. Moderate Approval
- 7. Strong Approval

How would your close friends respond if they knew you drove a car after drinking?

- 1. Strong Disapproval
- 2. Moderate Disapproval
- 3. Mild Disapproval
- 4. Wouldn't Care
- 5. Mild Approval
- 6. Moderate Approval
- 7. Strong Approval

How would your close friends respond if they knew you drank enough alcohol to pass out?

- 1. Strong Disapproval
- 2. Moderate Disapproval
- 3. Mild Disapproval
- 4. Wouldn't Care
- 5. Mild Approval
- 6. Moderate Approval
- 7. Strong Approval

One Standard drink is equal to: 12 oz can or bottle of American Beer (3-5% alcohol) 5 oz of a glass of wine (12-17% alcohol) 1.5 oz (standard shot) of 80 proof liquor (40% alcohol) 1 oz of 100 proof liquor (50% alcohol)

First, think of a typical week in the last 30 days. (Where did you live? What were your regular weekly activities? Where you working or going to school? Etc.) Try to remember as accurately as you can, how much and for how long you typically drank in a week during that one month period. For each day of the week in the calendar below, please fill in the number of standard drinks typically consumed on that day in the upper box and the typical Number of hours you drank in the lower box.

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Number of Drinks							
Number of Hours Drinking							

Below is a list of things that sometimes happen to people either during, or after they have been drinking alcohol. Next to each item below, please indicate either the YES or NO in the column to indicate whether that item describes something that has happened to you IN THE PAST MONTH.

	YES	NO
While drinking, I have said or done embarrassing things.	<input type="radio"/>	<input type="radio"/>
I have had a hangover (headache, sick stomach) the morning after I had been drinking.	<input type="radio"/>	<input type="radio"/>
I have felt very sick to my stomach or thrown up after drinking.	<input type="radio"/>	<input type="radio"/>
I often have ended up drinking on nights when I had planned not to drink.	<input type="radio"/>	<input type="radio"/>
I have taken foolish risks when I have been drinking.	<input type="radio"/>	<input type="radio"/>
I have passed out from drinking.	<input type="radio"/>	<input type="radio"/>
I have found that I needed larger amounts 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.	<input type="radio"/>	<input type="radio"/>
When drinking, I have done impulsive things that I regretted later.	<input type="radio"/>	<input type="radio"/>
I've not been able to remember large stretches of time while drinking heavily.	<input type="radio"/>	<input type="radio"/>
I have driven a car when I knew I had too much to drink to drive safely.	<input type="radio"/>	<input type="radio"/>
I have not gone to work or missed classes at school because of drinking, a hangover, or illness caused by drinking.	<input type="radio"/>	<input type="radio"/>
My drinking has gotten me into sexual situations I later regretted.	<input type="radio"/>	<input type="radio"/>

Below is a list of things that sometimes happen to people either during, or after they have been drinking alcohol. Next to each item below, please indicate either YES or NO in the column to indicate whether that item describes something that has happened to you IN THE PAST MONTH.

	Yes	No
I have often found it difficult to limit how much I drink.	<input type="radio"/>	<input type="radio"/>
I have become very rude, obnoxious or insulting after drinking.	<input type="radio"/>	<input type="radio"/>
I have woken up in an unexpected place after heavy drinking.	<input type="radio"/>	<input type="radio"/>
I have felt badly about myself because of my drinking.	<input type="radio"/>	<input type="radio"/>
I have had less energy or felt tired because of my drinking.	<input type="radio"/>	<input type="radio"/>
The quality of my work or schoolwork has suffered because of my drinking.	<input type="radio"/>	<input type="radio"/>
I have spent too much time drinking.	<input type="radio"/>	<input type="radio"/>
I have neglected my obligations to family, work, or school because of drinking.	<input type="radio"/>	<input type="radio"/>
My drinking has created problems between myself and my boyfriend/girlfriend/spouse, parents, or other near relatives.	<input type="radio"/>	<input type="radio"/>
I have been overweight because of drinking.	<input type="radio"/>	<input type="radio"/>
My physical appearance has been harmed by my drinking.	<input type="radio"/>	<input type="radio"/>
I have felt like I needed a drink after I'd gotten up (that is, before breakfast).	<input type="radio"/>	<input type="radio"/>

One Standard drink is equal to: 12 oz can or bottle of American Beer (3-5% alcohol) 5 oz of a glass of wine (12-17% alcohol) 1.5 oz (standard shot) of 80 proof liquor (40% alcohol) 1 oz of 100 proof liquor (50% alcohol)

First, think of a typical day in the last 30 days. For each day of the week in the calendar below, please fill in the number of standard drinks your CLOSE FRIENDS typically consumed on that day in the upper box and the typical Number of hours your CLOSE FRIENDS drank in the lower box.

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Number of Drinks							
Number of Hours Drinking							

The following scale consists of a series of statements regarding preference for engaging in new or exciting tasks. For each of the following items, you will be asked to indicate how much you agree or disagree with the statement. There are no right or wrong answers.

1. I like to do things that other people think are dangerous.

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

2. I enjoy participating in unsafe activities.

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

3. I don't enjoy trying new things.

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

4. I avoid activities if there is a chance that I could get hurt.

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

5. I would describe myself as careful and cautious.

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

6. I feel more comfortable in a set routine.

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

7. I do not do things if I know that doing them would be bad for me.

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

8. I think variety is what makes life interesting.

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

9. I think it is important to try as many new things as I can.

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

10. I do things even if I know that doing them will get me in trouble.

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

11. I love challenging myself with new and interesting tasks.

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

12. I am happiest when I am doing something I have never done before.

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

13. I enjoy the unfamiliar.

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

14. I think that excitement is more important than safety.

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

15. I have the most fun when I am doing risky or dangerous things.

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

16. I rarely do things that seem risky.

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

17. I like to experience anything and everything I can.

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

18. I like to explore new areas.

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

19. I do not like surprises.

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

DIRECTIONS: People differ in the ways they act and think in different situations. This is a test to measure some of the ways in which you act and think. Read each statement and select the appropriate answer. Do not spend too much time on any statement. Answer quickly and honestly.

	Rarely/Never	Occasionally	Often	Almost Always/Always
1. I plan tasks carefully.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I do things without thinking.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. I don't "pay attention."	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. I am self-controlled.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. I concentrate easily.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. I am a careful thinker.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. I say things without thinking.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. I act on the spur of the moment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

For the following question, please type a free response. There are no right or wrong answers. How does being a man impact your thoughts about how much you're expected to drink?

For the following question, please type a free response. There are no right or wrong answers. How do your male friends influence your drinking?

For the following question, please type a free response. There are no right or wrong answers. How does your sense of being a man change how you're expected to behave when you're drinking?

APPENDIX D: DEBRIEFING DOCUMENT

Thank you for completing this survey examining the relationships between conformity to masculinity, sensation seeking, impulsivity, and alcohol-related behaviors.

The purpose of the study is to explore how conformity to traditional gender rules and expectations for men (known as masculine norms) might relate to individual's perceptions of their friend's attitudes towards alcohol. Additionally, the study is intended to determine how and individual's perceptions of their friend's drinking attitudes might then influence the amount college aged men drink as well as their behaviors while they are drinking. The study is also intended to determine whether or not certain personality variables known to have relationships with alcohol use are also associated with increased conformity to masculine norms. It is expected that combining these predictors of alcohol use and risky alcohol behaviors will allow for increased understanding and prediction of alcohol use and alcohol-related behaviors. The information gathered in this survey will likely help researchers, counselors, and administrators understand influences on college men's decisions surrounding alcohol consumption and risky drinking behaviors (e.g. drinking and driving).

For more information about biological(personality) influences on substance use, consult module nine of the textbook for PSY100, *Exploring Psychology* (Myers & DeWall). For more information about the effects of gender and gender socialization on peer expectations and behaviors, please consult module 14 of the textbook.

Please continue to the next page where you will be provided with information on how to acquire the Psychology Research credit.

If you have any other questions or would like additional information, please contact Bryan Dik (Bryan.Dik@colostate.edu) or John Jurica (Juricaj@rams.colostate.edu).

Myers, D. G., & DeWall, C. N. (2016). *Exploring psychology*. New York: Worth , Macmillan Learning.