

The Influence of Drinking Location, Party Composition and Protective Factors on
Young Women's Drinking Habits

DISSERTATION

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Abstract

The purpose of this study was to examine the drinking behaviors of young women in female only drinking environments, particularly bachelorette parties, to confirm the Ryan and Deci model of self-determination. This model asserts that social context directly influences personal well-being and is mediated by connectedness and motivation. Three hypotheses were evaluated: 1) social context will have a direct effect on personal well-being, as measured by alcohol consumption, 2) the effect of social context on well-being will be mediated by an individual's sense of belonging, and 3) the effect of social context on well-being will be mediated by an individual's alcohol motivations and expectancies.

Thus, a random sample of undergraduate, senior women ($n=445$) who reported that they had attended a bachelorette party in the last 12 months completed a 59 item bachelorette party survey. This survey was composed of items designed to measure the social context of the bachelorette party (i.e., location, size, number of attendees, underage drinking, etc.). Furthermore, respondents completed the Sense of Belonging Inventory – Psychological (SOBI-P) inventory of connectedness and the Alcohol Expectancies Scale. Utilizing a structural equation model, results confirmed hypotheses one and three. However, hypothesis two was not confirmed, most likely due to measurement error and sample demographics.

Recommendations for practitioners include revising existing alcohol awareness interventions to include findings that particular party characteristics, such as the use of a safety plan, may actually contribute to increased alcohol consumption. Future studies could refine measures to accurately capture negative consequences experienced to determine if party context also influences negative consequences.

Dedication

As the culmination of my doctoral program approaches, I am incredibly thankful for the help and support my colleagues, family and friends.

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Chapter 1: Introduction

Today, young women have an increased opportunity to engage in binge drinking behaviors as compared to young women of previous generations (Holmila & Raitasalo, 2005; Keyes, Grant, & Hasin, 2008). In particular, female only drinking opportunities, such as the bachelorette party, have emerged as a socially permissible setting for young women, particularly of childbearing age, to engage in high risk drinking activities and to consume vast quantities of alcohol (Buettner & Khurana, 2014; Montemurro & McClure, 2005). Unfortunately, decades of research asserts that binge drinking and other forms of alcohol abuse disorders predict numerous negative consequences for both the individual and community (Dowdall & Wechsler, 2002; Park, 2004; Perkins, 2002; Rahav, Wilsnack, Bloomfield, Gmel, & Kuntsche, 2006).

Dedicating research to the effects of binge drinking on young women of childbearing age is particularly relevant because emerging and young adults consistently show higher rates of alcohol abuse and dependency than the general population (Clapp, Shillington, & Segars, 2000; Delucchi, Matzger, & Weisner, 2008; Hingson, Zha, & Weitzman, 2009; Wechsler, Dowdall, Maenner, Gledhill-Hoyt, & Lee, 1998; Wechsler & Nelson, 2008). Young adults who abuse alcohol and engage in risky drinking behaviors are more likely to suffer negative consequences such as academic

repercussions, personal injury, sexual assault, and incarceration (Dowdall & Wechsler, 2002; LaBrie et al., 2008; Park, 2004; Perkins, 2002).

Women who participate in risky drinking behaviors are more susceptible to additional negative consequences and risk (Epstein, Fischer-Elber, & Al-Otaiba, 2007). Along with increased risk of negative outcomes, the specific consequences women face are more varied than those of men (Ingersoll et al., 2005; Lyons & Willott, 2008; Wilsnack, Vogeltanz, Wilsnack, & Harris, 2000). For example, women who engage in risky drinking behaviors are shown to be at increased risk of unplanned pregnancy, sexual assault, intimate partner violence and other female-specific negative outcomes (Ingersoll et al., 2005; Klostermann & Fals-Stewart, 2006; Nayak & Kaskutas, 2004).

In recent years, the gender gap in alcohol consumption has narrowed considerably, yet intoxicated women, as opposed to men, are still held to a different standard (Holmila & Raitasalo, 2005; Keyes et al., 2008; Lyons & Willott, 2008; Montemurro & McClure, 2005). The focus on the female only drinking event (e.g., bachelorette parties) is necessary as it allows researchers to examine young women's drinking behaviors in a more socially acceptable and encouraged context. Historically, young men consumed alcohol in greater quantities and with greater frequency than young women (Chan, Neighbors, Gilson, Larimer, & Marlatt, 2007; Keyes et al., 2008; Wechsler et al., 1998). However, recently the overall consumption gap has diminished, yet gender differences in drinking expectations, behaviors and motivations persist (Bostwick et al., 2007; Holmila & Raitasalo, 2005; Keyes et al., 2008). Women have had increased access and opportunities to participate in risky drinking behaviors

(Montemurro & McClure, 2005; Murphy, McDevitt-Murphy, & Barnett, 2005), but the use of alcohol by women is still perceived differently than alcohol use by men (deVisser & McDonnell, 2012; Lyons & Willott, 2008; Montemurro & McClure, 2005).

College environments in particular present an opportunity for women to drink to excess and “drink like a guy” (deVisser & McDonnell, 2012; Young, Morales, McCabe, Boyd, & D'Arcy, 2005). Much of the literature on risky drinking behaviors in young adults is collected on college campuses (Abbey, 2002; Biden, 2000; Christiansen, Vik, & Jarchow, 2002; Dejong, Towvim, & Schneider, 2007), and it shows that women participate in risky drinking behaviors for different reasons and experience unique negative consequences as compared to their male counterparts (Agrawal et al., 2007; Ingersoll et al., 2005; Mann et al., 2005). Therefore, it is critical to analyze possible predictors that may influence young women’s drinking habits and hopefully inform future gender specific intervention research.

To understand why young women may engage in different drinking behaviors, it is helpful to consider Ryan and Deci (2000b)’s self-determination theoretical framework. In this model, the scholars argue that a given social context will influence an individual’s three innate psychological needs: (1) competence, (2) autonomy and (3) relatedness (Deci & Ryan, 2000; Ryan & Deci, 2000a, 2000b). These innate psychological needs in turn will influence an individual’s self-motivation and well-being. Individuals with high relatedness feel as though they are respected and valued members of the group. In other words, individuals with high relatedness feel as though they belong (Deci & Ryan, 2000; Ryan & Deci, 2000a, 2000b). Because women

consistently report that they engage in risky drinking behaviors to feel socially connected to others (Agrawal et al., 2007; Balodis, Potenza, & Olmstead, 2009; Park, 2004; Young et al., 2005) the concept of relatedness seems to appropriately capture a psychological need that young women are attempting to fulfill when they choose to participate in risky drinking behaviors.

To the contrary, men report drinking excessively to become intoxicated and to procure a romantic partner (Balodis et al., 2009; Young et al., 2005). These goals can be categorized as fitting the classification of “competence” since both describe a desire to perform a skill or ability with finesse (Deci & Ryan, 2000; Ryan & Deci, 2000b). Utilizing this framework, it seems that men and women participate in risky drinking behaviors in an attempt to fulfill different innate psychological needs and consequently influence their own well-being (Deci & Ryan, 2000; Ryan & Deci, 2000a, 2000b).

Bachelorette parties present a unique opportunity to study the drinking behaviors of young women when accompanied only by other women (Buettner & Khurana, 2014; Montemurro & McClure, 2005). It is unclear if women will still emulate “masculine” drinking behaviors when drinking in a female only setting (deVisser & McDonnell, 2012; Young et al., 2005). Yet, bachelorette parties and other female only drinking environments represent the perfect opportunity to explore these factors. In particular, extant literature suggests that several characteristics associated with social context influence drinking consumption and outcomes. First, drinking location (e.g., bar, private residence) influences alcohol consumption and drinking behaviors (Clapp, Min, Shillington, Reed, & Croff, 2008; Clapp, Reed, Holmes, Lange, & Voas, 2006).

Numerous studies indicate that young adults drinking in private residences are more likely to consume large quantities of alcohol and participate in risky drinking behaviors such as binge drinking and drinking games (Borsari, Boyle, et al., 2007; Clapp et al., 2008; Clapp et al., 2006; Clapp et al., 2000; Zamboanga, Schwartz, Ham, Borsari, & Van Tyne, 2010). However, all studies cited have been collected during mixed gendered events (Glindemann, Ehrhart, Drake, & Geller, 2007). Little literature has analyzed drinking patterns when only women are drinking together, yet there is ample evidence that suggests gender differences in drinking behaviors and outcomes (Epstein et al., 2007; Rahav et al., 2006). Additionally, there is limited literature that examines the effects of drinking location on alcohol consumption when young adults are drinking only with members of the same sex.

Second, party composition (e.g., guests' level of intoxication, number of guests) is a predictor that influences intoxication level and negative outcomes (Clapp et al., 2008; DuRant et al., 2007; Paschall & Saltz, 2007). When young adults attend parties where other guests are highly intoxicated, these young adults are more likely to experience negative consequences (Christiansen et al., 2002; Clapp et al., 2000). Third, party characteristics (e.g., theme, event-specific) also have repeatedly been shown to influence an individual's level of intoxication and negative outcomes (Clapp et al., 2003; Glindemann, Wiegand, & Geller, 2007). Interestingly, there is preliminary work that suggests an interaction with gender, indicating that women may be more likely to suffer negative consequences related to party characteristics such as whether or not a party has a theme (Clapp et al., 2008). These three predictors (e.g., location,

composition and characteristics) all contribute to the general social context or “party context.”

Finally, the use of protective factors is an understudied predictor of negative alcohol related consequences (Ray, Stapleton, Turrisi, & Phillion, 2012), yet initial research suggests that protective factors influence outcome variables such as alcohol consumption and negative consequences by contributing to the overall social context. Young adults who report eating food and/or water while drinking or who report developing a safety plan are all engaging in types of protective behaviors (Buettner & Khurana, 2014; Clapp et al., 2006). Initial evidence indicates there may be gender differences in the employment of protective factors, yet this particular predictor has been understudied (Buettner & Khurana, 2014; Nolen-Hoeksema & Hilt, 2006; Ray et al., 2012). These four predictors (e.g., location, composition, characteristics, protective factors) all contribute to the general social context or “party context.”

This study addresses the limitations of previous studies on bachelorette party attendee drinking behaviors. Previous studies have utilized non-random, convenience samples (Buettner & Khurana, 2014; Montemurro & McClure, 2005). Whereas these studies represent an important first step in identifying and isolating drinking behaviors unique to bachelorette parties, they are limited in sample size and scope. In this study, bachelorette party attendance provided a unique opportunity to examine women’s drinking behavior in a female only setting (Buettner, 2013; Buettner & Khurana, 2014; Montemurro & McClure, 2005). In this study, I used a random sample of undergraduate students who have attended a bachelorette party in the last 12 months to

analyze the effects of party context on both (1) alcohol consumption and (2) negative consequences. I tested the extent to which sense of belonging and motivation for drinking mediate the effect of party context on these two outcome variables.

Based on extant literature, it seems likely that the social context of the drinking event will influence negative consequences. Particularly, a bachelorette party at a bar or nightclub with many intoxicated guests, participating in pregame activities should increase alcohol consumption and negative alcohol related consequences (Buettner & Khurana, 2014; Clapp et al., 2008). Additionally, the social context of the drinking event will be mediated by a young women's sense of belonging and feeling of connectedness and drinking motivations.

In sum, young women participate in risky drinking behaviors for reasons that are different than those of men. As women increase their participation in these risky drinking events there are still societal pressures and social norms that depict such women as socially deviant. Additionally, young women face unique consequences and outcomes when participating in high-risk drinking activities. It is critical to understand the predictors and motivations for young women when drinking in female only environments, such as bachelorette parties.

1.1. Literature Review

1.1.1. Theoretical Framework

Identifying causal relationships that explain why young women increasingly engage in risky drinking behaviors (e.g., binge drinking, alcohol abuse, etc.) is complex

and challenging. To better understand this complex relationship between social context and alcohol use in young adult women, it is helpful to apply Ryan and Deci (2000b)'s self-determination theoretical framework which suggests that young adults have three innate psychological needs that must be fulfilled (Deci & Ryan, 2000; Ryan & Deci, 2000a, 2000b).

Specifically, individuals work towards fulfilling *competence*, *autonomy* and *relatedness* in order to maximize motivation and well-being (Deci & Ryan, 2000; Ryan & Deci, 2000a, 2000b). Particularly, a given context, such as an environment conducive to heavy drinking, will influence these three innate needs which will in turn affect one's intrinsic motivation and consequently affect his/her well-being (Clapp et al., 2008; Nayak & Kaskutas, 2004; Paschall & Saltz, 2007). This relationship is depicted in Figure 1.

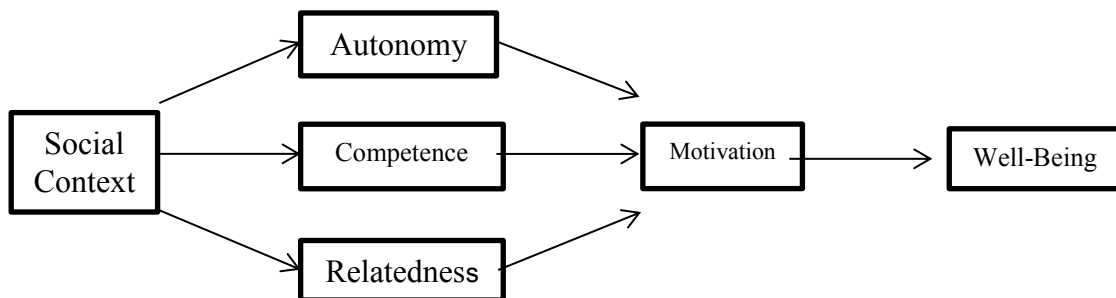


Figure 1. Ryan & Deci Self-Determination Theoretical Framework.

Figure 1 illustrates the relationship between the various components of Ryan & Deci's framework (2000a, 2000b). First, context (e.g., setting, environment, etc.) directly influences one's innate psychological needs. Second, these psychological needs in turn influence one's motivation. For example, if one has a high degree of autonomy, competence and/or relatedness, he/she will be more intrinsically motivated (Ryan & Deci, 2000b). Finally, high degrees of intrinsic motivation will positively influence well-being by mediating the effects of social context. Ryan and Deci define well-being as the act of working towards and/or fulfilling goals and realizing self-actualization. Well-being is viewed on a spectrum with ill-being defined as actions and outcomes that negate well-being and detract from goal attainment. For example, depression, anxiety and/or failure to meet goals could all be construed as ill-being (Ryan & Deci, 2000a).

In particular, the construct of relatedness is relevant for young women (Deci & Ryan, 2000; Ryan & Deci, 2000b). Relatedness refers to a sense of belonging and connectedness to one's fellow beings (Deci & Ryan, 2000). Scholars argue that in a given social context young women may be more inclined to engage in risky drinking behaviors in an attempt to connect and bond with fellow women (Agrawal et al., 2007; Brown & Gregg, 2012). Montemurro and McClure (2005) found virtually all bachelorette party attendees noted drinking heavily to become closer to their fellow attendees and to become more social. In fact, party attendees viewed abstainers as socially deviant and as "outsiders", suggesting that heavy drinking is highly correlated

with belonging to the group. Thus, Deci and Ryan (2000) provide a helpful framework for viewing young women's motivations and expectancies for heavy drinking.

1.1.2. Alcohol Use in Young Adults

Young adults consume alcohol in greater quantities than the general adult population (Chan et al., 2007). Approximately 85% of college students have consumed alcohol in the last year (O'Malley & Johnston, 2002; Wechsler et al., 1998; Wechsler, Lee, Kuo, & Lee, 2000), while approximately 40% of college students meet the definition of binge drinkers (O'Malley & Johnston, 2002; Presley, Meilman, Cashin, & Lysterla, 1999; Wechsler, Davenport, Dowdall, Moeykens, & Castillo, 1994). These high prevalence rates are concerning considering the ramifications of alcohol abuse and its unique impact on young women.

Alcohol Use Disorders

The Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5) provides a definition of alcohol use disorder (American Psychiatric Association, 2013). Contrary to previous versions of the manual, which differentiated between alcohol abuse and dependency, individuals fall on the spectrum of alcohol use disorder if he or she has exhibited two of the eleven defined characteristics in the past twelve months (American Psychiatric Association, 2013):

1. consuming more alcohol than intended

2. desire but inability to change drinking habits
3. spending considerable time recovering from the effects of alcohol etc.
4. strong urge to consume alcohol
5. negative consequences that affect social or occupational goals
6. continued use of alcohol despite negative consequences
7. failure to participate in social or recreational events due to alcohol use
8. continued use of alcohol in situations that are harmful to one's health
9. continued use of alcohol despite knowledge that the use of alcohol is exacerbating an existing condition
10. tolerance
11. withdrawal

As alcohol use disorder is considered a spectrum, individuals are classified as mild (2-3 symptoms), moderate (4-5 symptoms), or severe (6 or more symptoms). Most previous research relies heavily on the prior classification by the DSM-IV since the DSM-5 was only released in 2013. Studies show that 31% of young adult drinkers meet the DSM-IV criteria for alcohol abuse, and 6% are dependent on alcohol (Knight, Wechsler, Kuo, Seibring, Weitzman, et al., 2002).

In particular, binge drinking is a much studied phenomenon that represents one facet of alcohol use disorder (Presley, Meilman, & Leichliter, 2002). Binge drinking definitions differentiate consumption patterns between men and women with binge drinking defined as consuming five or more alcoholic beverages in one sitting for men

and four or more alcoholic beverages in one sitting for women (Clapp et al., 2000; Wechsler, Dowdall, Davenport, & Rimm, 1995).

Increasingly, there is evidence that a sizable portion of young adults drink well beyond the binge drinking threshold (Cranford, McCabe, & Boyd, 2006). A recent study indicates that 20% of young men consumed ten or more drinks in a single sitting, and 10% of young women consumed eight or more drinks in a single sitting (White, Kraus, & Swartzwelder, 2006). In essence, these young adults drank twice as much as the binge drinking threshold in the past two weeks, placing these young adults at increased risk for negative consequences (Balodis et al., 2009; Wechsler et al., 2000).

These findings are concerning because binge drinkers experience more negative alcohol related consequences than moderate or light drinkers (Balodis et al., 2009; Benjamin & Wulfert, 2005; Biden, 2000).

1.1.3. Gender Differences in Alcohol Use Among Young Adults

Historical data shows that young men consume alcohol in greater quantities and with greater frequency than women (Borsari, Murphy, & Barnett, 2007; O'Malley & Johnston, 2002). This disparity is known as the “gender gap” in alcohol consumption across young adults (Chan et al., 2007; Keyes et al., 2008; Rahav et al., 2006). Yet, in recent years studies indicate that the gender gap in consumption and prevalence is diminishing (Epstein et al., 2007; Straus & Bacon, 1953).

Longitudinal data shows a convergence in binge drinking, alcohol abuse and alcohol misuse rates in younger cohorts (Keyes et al., 2008). Thus, the gender disparity

in prevalence of alcohol abuse in young adults is smaller than in older adults (Keyes et al., 2008). This increase in young women's alcohol consumption and risky drinking behaviors is understudied. However, to successfully address and intervene, it is necessary to determine the reasons for this increase as it relates to risk for young women.

As young women have continued to increase their risky drinking behaviors, researchers have examined both young women's alcohol expectancies and motivations (Agrawal et al., 2007; Bostwick et al., 2007; Luce, Engler, & Crowther, 2007). Alcohol expectancies can be defined as an individual's beliefs about the effects of alcohol use; alcohol motivations can be defined as an individual's reasons for using alcohol (Agrawal et al., 2007). Changes in both drinking expectancies and motivations for young women have led to increased alcohol consumption and participation in risky drinking behaviors (Balodis et al., 2009; Brown & Gregg, 2012; deVisser & McDonnell, 2012; Lyons, Dalton, & Hoy, 2006; Young et al., 2005).

Drinking Expectancies in Young Women

Extant literature suggests that young women's drinking expectancies have focused primarily on a desire to use alcohol to increase sociability and sexuality (Balodis et al., 2009; Sheehan & Ridge, 2001; Young et al., 2005). Particularly, many women assert that they drink because alcohol will allow them to be more social and create closer friendships (Balodis et al., 2009; Neal & Fromme, 2007). Additionally, women have increasingly suggested that they view alcohol as a way to be viewed as "sexy" to members of the opposite sex (Balodis et al., 2009; Young et al., 2005). Some

women indicate that men find it attractive when women drink heavily and become intoxicated. This view is an apparent shift from earlier research that indicated that men (not women) were more likely to use alcohol for sexual expectations (Baer, 2002).

These drinking expectations are notable in that they support Deci & Ryan's assertion of the innate need of relatedness (2000a, 2000b). Women express a desire to bond with friends and feel wanted by their peer groups (Holmila & Raitasalo, 2005; Young et al., 2005). The expectation that alcohol will allow women to be more social and/or outgoing actually suggests that women may engage in risky drinking behaviors in an attempt to improve well-being instead of to harm it (Christiansen et al., 2002).

Drinking Motivations in Young Women

In addition to young women's expectancies regarding alcohol use, young women's motivations for heavy drinking have evolved over time. Researchers highlight several motivations for heavy alcohol consumption in young women: egalitarian attitudes (Balodis et al., 2009; deVisser & McDonnell, 2012), sexual outcomes, and social bonding (Brown & Gregg, 2012). In particular, an individual's motivation for drinking will influence and moderate the party context and consequently affect alcohol consumption, negative consequences and other drinking related outcomes.

First, young women may drink more heavily because they view "drinking like a guy" an egalitarian experience (Balodis et al., 2009). In other words, young women may be motivated to drink heavily to eschew traditional gender roles and assert their independence and equal standing in society (Lyons et al., 2006; Lyons & Willott, 2008). As women have become more prominent in the labor force, there has been a

simultaneous rise in risky drinking behaviors (Brown & Gregg, 2012), and professional women are the highest consumers of alcohol (Measham & Ostergaard, 2009).

Additionally, as young women have delayed demographic milestones (e.g., marriage, childbirth, etc.), they have had more opportunities to drink independently as they are bound by fewer familial obligations (deVisser & McDonnell, 2012; Measham & Ostergaard, 2009).

Second, young women are motivated to participate in risky drinking behaviors so as to achieve positive sexual outcomes. Some women believe that men find heavy drinking sexy, and they [women] are more likely to gain a sexual partner when heavily intoxicated (Brown & Gregg, 2012; Swami & Furnham, 2007). This motivation represents a shift from earlier cohorts of young women who were less likely to admit to drinking motivations centered on sexual activity (Agrawal et al., 2007; Brown & Gregg, 2012; Measham & Ostergaard, 2009; Nayak & Kaskutas, 2004).

Finally, young women are motivated to binge drink and participate in risky drinking events due to a desire to build social capital and relatedness to their fellow peers (Rahav et al., 2006; Swami & Furnham, 2007; Tsai, Floyd, Green, & Boyle, 2007; Young et al., 2005). Young women report that they use alcohol as a way to bond with friends and maintain a sense of belonging (Brown & Gregg, 2012). This final motivation of social bonding fits clearly with the previously described theoretical framework and the tenet of relatedness (Deci & Ryan, 2000; Ryan & Deci, 2000a, 2000b).

Thus, a young woman's motivation for drinking can influence her drinking related outcomes by mediating the effect of social context (or party context). For example, it is hypothesized that a young woman with many motivations for drinking and positive alcohol expectancies is more likely to engage in risky drinking behaviors given a risky party context (as compared to a young woman with low drinking motivations and negative alcohol expectancies).

Societal Influences on Young Women's Drinking Behaviors

Young women's drinking expectancies and motivations are shaped by societal gender expectations and norms (deVisser & McDonnell, 2012; Lyons et al., 2006; Lyons & Willott, 2008). Both young men and women have clearly defined expectations regarding what is appropriate for men and women in regards to alcohol consumption (Courtenay, 2000). In particular, young adults describe heavy drinking and drunkenness as a typically "masculine" trait (Courtenay, 2000; Lyons et al., 2006; Lyons & Willott, 2008). Whereas young people acknowledge that women can also become intoxicated and participate in risky drinking events such as binge drinking, young adults oftentimes describe these behaviors as unladylike and deviant (Montemurro & McClure, 2005; Nolen-Hoeksema & Hilt, 2006; Sheehan & Ridge, 2001; Young et al., 2005).

Many factors influence these gender norms, but scholars point to media influences in particular as a specific means to reinforce gender expectations regarding alcohol consumption (Lyons et al., 2006; Lyons & Willott, 2008). For example, in one study of media campaigns, scholars found that public service announcements have a

gender bias in regards to alcohol consumption (Brown & Gregg, 2012). When promoting safe drinking behaviors, Brown and Gregg (2012) found that public service announcements implied that heavy drinking would endanger men due to fatalities and accidental injury, but heavy drinking would embarrass women and cause them to regret their actions. Multiple studies have used this *pedagogy of regret* construct to describe media campaigns aimed at women that imply that heavy drinking is shameful and will lead to later remorse and embarrassment (Brown & Gregg, 2012; deVisser & McDonnell, 2012; Lyons et al., 2006). Additionally, readings of popular magazines show that women are bombarded with mixed messages regarding alcohol consumption. On one hand, drinking like a guy makes a woman appear fun and easygoing, but on the other hand, too much alcohol consumption puts her at risk for being considered slutty and promiscuous (Lyons et al., 2006; Lyons & Willott, 2008).

As a response to these mixed messages about gender norms and alcohol consumption, the bachelorette party has emerged as a socially permissible setting for women to engage in heavy drinking behaviors (Buettner & Khurana, 2014; deVisser & McDonnell, 2012; Montemurro & McClure, 2005). Bachelorette parties represent a rare opportunity for women to drink exclusively with other women and where heavy, “masculine” drinking is encouraged (Montemurro & McClure, 2005). Even though this event specific phenomenon is a rich research opportunity, bachelorette partygoer drinking behavior is understudied (Buettner & Khurana, 2014; Montemurro & McClure,

2005). It is unclear if young women participating in bachelorette parties engage in similar behaviors compared to when they are in mixed gender settings.

1.1.4. Negative Consequences of Alcohol Abuse

Accidental injury is the leading cause of death in persons aged 1-34 years (Hingson, 2000). In deaths caused by accidental injury, alcohol is a contributing factor in one third of all cases. By one estimate, 1,700 young adults aged 18-24 die annually due to alcohol related injuries (Hingson, Wenxing, & Weitzman, 2009). Of course, death due to excessive drinking is just one extreme negative consequence associated with alcohol use among young adults. There are many other consequences that affect young adults who participate in risky drinking behavior, (Park, 2004; Perkins, 2002; Rahav et al., 2006) and women face unique consequences (Epstein et al., 2007; Wilsnack et al., 2000).

Negative Self-Consequences

Alcohol abuse by young adults results in negative consequences to self (Borsari, Murphy, et al., 2007; Dowdall & Wechsler, 2002; Perkins, 2002). Heavy drinkers and those who engage in binge drinking behaviors are more likely to experience negative self-consequences such as low academic achievement, illness, unintended sexual activity, legal problems, and impaired driving (Core Institute, 2013; Knight, Wechsler, Kuo, Seibring, Weitman, et al., 2002; LaBrie et al., 2008; Perkins, 2002; Wechsler et al., 1994; Wechsler & Nelson, 2008). Of students who drink heavily, 56.8% report

experiencing at least one negative consequence after each drinking event (Lewis, Lindgren, Fossos, Neighbors, & Oster-Aaland, 2009).

Negative Consequences to Other

Negative consequences also occur in damage to other persons or property such as vandalism, physical altercations and/or sexual assault (Abbey, 2002; Crawford, Wright, & Birchmeier, 2008; Perkins, 2002). Since college represents an opportunity for many young adults to engage in risky drinking behaviors, the institutions themselves often face negative consequences in the form of damage to building and campus community (Dejong et al., 2007; Ziemelis, Bucknam, & Elfessi, 2002). Several studies indicate that campus crime is related to alcohol abuse and misuse (Fisher, 1998). Researchers have noted that negative consequences to the campus community can result from noise ordinance violations and other negative externalities (Gebhardt, Kaphingst, & Dejong, 2000).

Negative Consequences Unique to Young Women

Women face unique negative consequences as a result of heavy drinking (Abbey, 2002; Crawford et al., 2008; Dowdall & Wechsler, 2002; Ingersoll et al., 2005; Klostermann & Fals-Stewart, 2006; Nolen-Hoeksema & Hilt, 2006). In particular, women who engage in risky drinking behaviors are more likely to be victims of sexual assault and/or rape (Abbey, 2002; Crawford et al., 2008), intimate partner violence (Klostermann & Fals-Stewart, 2006) and accidental pregnancy (Ingersoll et al., 2005).

Half of all sexual assaults involve alcohol, (Abbey, 2002; Crawford et al., 2008; Nolen-Hoeksema & Hilt, 2006) typically consumed by both the perpetrator and victim

(Dowdall & Wechsler, 2002). Perpetrators of sexual assault often use the intoxication level of both themselves and/or the victim to justify sexual assault and rape (Crawford et al., 2008; Devries et al., 2014; Waller et al., 2012). One study of sexual assault victims found that victims who engaged in risky drinking behaviors were more likely to put themselves in riskier situations in the future and less likely to perceive such situations as risky (Crawford et al., 2008).

Furthermore, heavy drinking young women are more likely to be victims of intimate partner violence (Caetano, McGrath, Ramisetty-Mikler, & Field, 2005; Kaysen et al., 2007; Klostermann & Fals-Stewart, 2006). Data shows that 20% of men report to drinking prior to engaging in acts of intimate partner violence (Klostermann & Fals-Stewart, 2006), and many studies show that women who drink heavily are more likely to partner with men with similar drinking habits (Abbey, 2002; Nolen-Hoeksema & Hilt, 2006).

Finally, women who engage in risky drinking behaviors are at greater risk for alcohol exposed pregnancy, a uniquely female consequence (Ingersoll et al., 2005). Young women binge drinkers were more likely to use contraceptives ineffectively, thus placing themselves at an increased likelihood of unintentional pregnancy (Ingersoll et al., 2005; Nayak & Kaskutas, 2004).

1.1.5. Predictors of Drinking Outcomes

Extant literature suggests several predictors that influence negative outcomes of risky drinking behaviors (Borsari, Murphy, et al., 2007; Cameron & Campo, 2006;

Clapp et al., 2003; Clapp et al., 2008; Sher & Rutledge, 2007). Utilizing Ryan & Deci's (2000b) framework, these predictors will influence the social context of drinking environment that will in turn influence a young women's sense of relatedness and consequently affect well-being. For the purposes of this study, six predictors comprise party (i.e., social) context: party location, party composition and/or drunkenness of other individuals, underage alcohol consumption, cost of alcohol, drinking games and protective factors. Party context will in turn influence outcomes such as alcohol consumption and negative consequences but be mediated drinking motivations and sense of belonging as described in Figure 2.

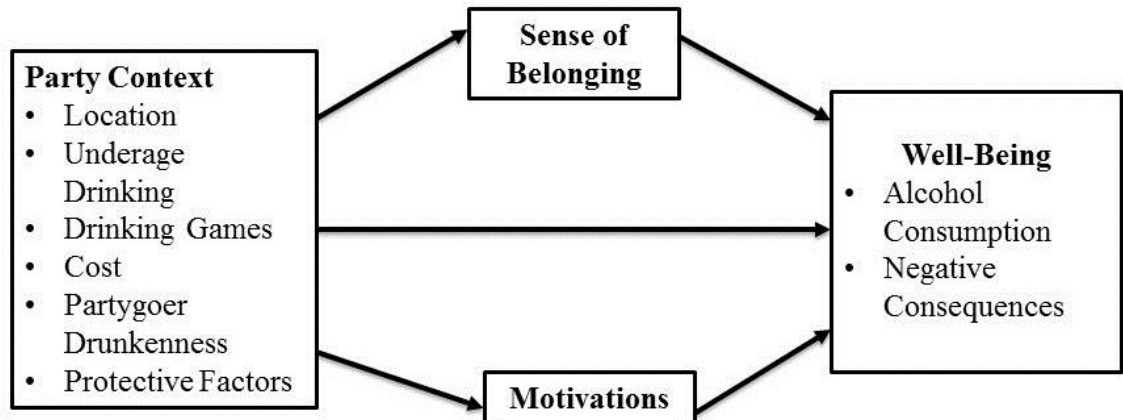


Figure 2. Social Context in Self-Determination Theory.

Party Location

First, the location of the drinking event greatly influences alcohol consumption by party attendees and also negative outcomes experienced by attendees. For example, studies show outcome differences based on party location such as private house party, fraternity party or public bar (Clapp et al., 2003; Clapp et al., 2008; Clapp et al., 2006). Typically, public locations such as bars are thought to be safer drinking locations in a college setting (Clapp et al., 2003), but the evidence is not conclusive (Clapp et al., 2006). Furthermore, attendees at parties held at fraternity houses become more intoxicated and had higher blood alcohol contents than attendees at private house parties (Kent E. Glindemann & Geller, 2003). These studies indicate a clear correlation between party location and outcomes; yet all of these studies focused on mix-gender drinking environments. There is little research regarding party location and its effects on alcohol consumption in a female only environment (e.g., bachelorette parties), but it seems likely that a girl's night in at a private residence would appear less risky than a girl's night out.

Party Composition

In addition to the party location, the composition of party attendees influences alcohol outcomes for young adults (Clapp et al., 2003; Clapp et al., 2008; Clapp et al., 2006; DuRant et al., 2007). Multiple studies indicate that parties with many other intoxicated individuals increase alcohol consumption of party attendees and influence negative outcomes (Clapp et al., 2003; Clapp et al., 2006; DuRant et al., 2007). Interestingly, attendees at large parties actually had lower blood alcohol contents, possibly due to the increased competition for the limited alcohol supply (Clapp et al.,

2008). Whereas, these studies indicate that certain party composition characteristics are associated with negative alcohol related outcomes, it is possible that heavy drinkers seek out these types of environments to promote their drinking behaviors.

Underage Alcohol Consumption

Studies show that parties with many attendees under the age of 21 who are consuming alcohol may contribute to the riskiness of the party context (Clapp et al., 2006; Hingson et al., 2008). In fact, some studies of young adult drinking patterns shows that the presence of minors may directly influence increased alcohol consumption (Clapp et al., 2006). Because minors are more likely to procure alcohol from someone they know, as opposed to a stranger at a liquor store, bachelorette parties represent an opportunity for minors to easily access alcohol (Fabian et al., 2008), which can lead to a riskier context. Party contexts where underage drinking is present are considered riskier and more likely to produce negative outcomes (Buettner & Khurana, 2014; Erickson, Lenk, Toomey, & Fabian, 2008).

Cost of Alcohol

Young adults with higher disposable income, who spend more money on alcohol are more likely to engage in risky drinking behaviors (Martin et al., 2009; Spear, 2002). In particular, students with higher spending money consume more alcohol and experience more negative consequences as a result (Martin et al., 2009).

Drinking Games Present

Many studies measure the extent to which young adults participate in drinking games such as beer pong, card games, beat the clock, etc. (Clapp et al., 2008). These

studies indicate that young adults who participate in drinking games both consume more alcohol (Clapp et al., 2003; Clapp et al., 2008) and also experience more negative consequences (Borsari et al., 2007; Clapp et al., 2000).

Protective Factors

The use of protective factors by young adults also influences alcohol consumption and negative consequences (Clapp et al., 2003; Clapp et al., 2006; Clapp et al., 2000). In party contexts where food is present and consumed, negative consequences are reduced. In other words, the protective factor of having food available moderates the risky party context. Additional protective factors such as bartenders serving alcohol, creating a safety plan, and designating drivers are all examples of protective factors employed by young adults (Buettner & Khurana, 2014; Clapp et al., 2000).

In sum, party location, composition, minor consumption, cost of alcohol, drinking games, and protective factors contribute to the social context (e.g., party context) of any drinking event. This social context will influence well-being and be mediated by sense of belonging and drinking motivations. It is clear that bachelorette parties represent a unique opportunity to investigate female specific drinking events to determine predictors of heavy drinking behaviors.

1.1.6 Event Specific and Themed Parties as Social Context

Event specific and themed parties represent different examples of social contexts that can influence alcohol consumption. Bachelorette parties represent a type of event

specific party as they focus on a particular event and sometimes have unique characteristics. Young adults who participate in theme parties or event specific drinking are also more likely to experience negative consequences associated with heavy drinking (Borsari, Murphy, et al., 2007; Clapp et al., 2008; Neal & Fromme, 2007; Neal, Sugarman, Hustad, Caska, & Carey, 2005; Neighbors, Oster-Aaland, Bergstrom, & Lewis, 2006; Neighbors et al., 2007). Research on celebratory and special event drinking instances suggests that college students drink more during special events such as sporting events and holiday celebrations (Glassman, Werch, Jobli, & Bian, 2007; K. E. Glindemann, Wiegand, et al., 2007). Scholars delineate special event drinking into *community events* that all individuals experience simultaneously (e.g., New Year's Eve, Thanksgiving, the Super Bowl) and *personal events* that individuals experience at unique time points (e.g., 21st birthday celebrations, weddings) (Neighbors et al., 2007). Bachelorette parties can be construed as a type of celebratory drinking event, specifically a personal event.

Current literature suggests that during community events, particularly college football games, students consume more alcohol than during a comparison non-game day weekend (Glassman et al., 2007; Neal et al., 2005). Again, researchers noted differential effects for men and women, with women displaying different motivations such as social inclusivity for heavy drinking that predicted alcohol consumption during game day events (Neal & Fromme, 2007).

Furthermore, community events such as holiday celebrations affect student drinking behaviors but that the effect of these holidays is moderated by day of week

(Glindemann, Wiegand, et al., 2007). A later study confirmed this finding that holiday celebrations encouraged higher drinking rates as compared to typical weekday drinking but not weekend drinking (Woodyard & Hallam, 2010). Yet, the results appear to be inconclusive as other research suggests that holiday drinking events may increase drinking rates as compared to weekend rates (Neighbors et al., 2011).

Personal events such as 21st birthday parties appear to influence drinking rates (Lewis et al., 2009; Neighbors et al., 2006; Neighbors, Spieker, Oster-Aaland, Lewis, & Bergstrom, 2005). During 21st birthday celebrations, 90% of students report consuming alcohol, with 61% reaching a blood alcohol content greater than the state legal limit (Neighbors et al., 2005). Interestingly, students who experienced more negative consequences were those who were not normally heavy drinkers but who consumed a large amount of alcohol during their 21st birthday celebrations (Lewis et al., 2009).

Finally, recent scholarship suggests that bachelorette parties follow similar patterns of high-risk drinking activity typically associated with special event drinking (Buettner & Khurana, 2014; Montemurro & McClure, 2005). Yet, there is very limited literature evaluating the drinking behaviors of young women as they participate in bachelorette parties. Due to the unique characteristics associated with women drinkers, it is unclear if heavy drinking in a female only environment will replicate similar findings regarding party location and composition and negative alcohol related outcomes.

1.2.The Present Study

As described above, bachelorette parties represent a rare opportunity to investigate drinking behaviors of young women in a female only drinking location (Montemurro & McClure, 2005). At bachelorette parties, young women are encouraged to “drink like a guy” representing the antithesis of typical gender norms and expectations (Young et al., 2005). The few bachelorette party studies in existence represent an important step in understanding the behaviors that occur at these drinking events (Buettner & Khurana, 2014; Montemurro & McClure, 2005), yet these studies have several limitations, specifically regarding design and scope. This study addressed these limitations and extended the literature to include insight and analysis into drinking motivations and expectations.

First, extant literature on bachelorette parties rely on small, convenience samples (Buettner & Khurana, 2014; Montemurro & McClure, 2005). For example, in the Montemurro and McClure (2005) study, the authors interviewed a convenience sample of 51 individuals using a snowball sampling technique. This method resulted in a highly homogenous sample of almost entirely white participants (94%) who overwhelmingly identified as being part of the middle and/or upper class (88%). In the Buettner and Khurana (2014) study, similar limitations exist; a larger ($n=122$) convenience sample was utilized, yet the vast majority of respondents were white and highly educated (i.e. 80% report obtaining a 4 year degree or higher). In the present study, I employed a random sampling technique, which yielded more participants ($n=445$) and a more representative dispersion of socioeconomic status. However, since

the sample was recruited at a university, increased variability of educational levels remains a limitation.

In addition to sampling techniques and size, both existing studies are limited in their scope of negative consequences (Buettner & Khurana, 2014; Montemurro & McClure, 2005). Both studies measure drunk driving and riding with a drunk driver as an outcome variable; however, many measures of drinking related problems are far more encompassing to include other negative consequences such as hangover, illness, sexual assault, etc. (Core Institute, 2013). Furthermore, in the Buettner and Khurana (2014) study, protective factors were measured singularly (e.g., Did the party organizers or the party attendees have a “safety plan” for when the party was in public places?), which makes it difficult to account for the variability of safety plans. In this study, I expanded the scope of the protective factor domain to tease out differences in behaviors.

Finally, the literature surrounding bachelorette party drinking behaviors could be better served by explicit connections to drinking motivations of young women (Ryan & Deci, 2000a). In the Montemurro and McClure (2005) study, the authors suggest that young women seem to drink heavily due to an attempt to bond with other attendees and promote togetherness. Yet, this sentiment and hypothesis could be extended further by specifically asking young women for their motivation for drinking. Explicit data on drinking motivations could be useful in analyses to predict and mediate drinking outcomes and link back to preexisting theories such as Ryan and Deci (2000a, 2000b).

Specifically, three research questions are pertinent to explore these issues of party context and its influence on outcome variables. Figure 3 shows the hypothesized model.

Research question 1: What is the *direct effect* of party context on alcohol consumption and negative consequences of bachelorette party attendees? It is hypothesized that a risky party context (as measured by high cumulative risk) will increase alcohol consumption (H1). It is hypothesized that a risky party context will increase negative consequences (H4).

Research question 2: To what extent does one's sense of belonging *mediate* the effect of party context on alcohol consumption and negative consequences? It is hypothesized that individuals who have a high sense of belonging will mediate the risky drinking environment and consume less alcohol than those who do not have a high sense of belonging (H2). It is hypothesized that individuals who have a high sense of belonging will mediate the risky drinking environment and experience fewer negative consequences (H5).

Research question 3: To what extent does one's motivation for drinking *mediate* the effect of party context on alcohol consumption and negative consequences? It is hypothesized that individuals with high motivations to drink will mediate the risky drinking context by consuming more alcohol than those who do not have high

motivations to drink (H3). It is hypothesized that individuals with high motivations to drink will mediate the risky drinking context by experiencing more negative consequences (H6).

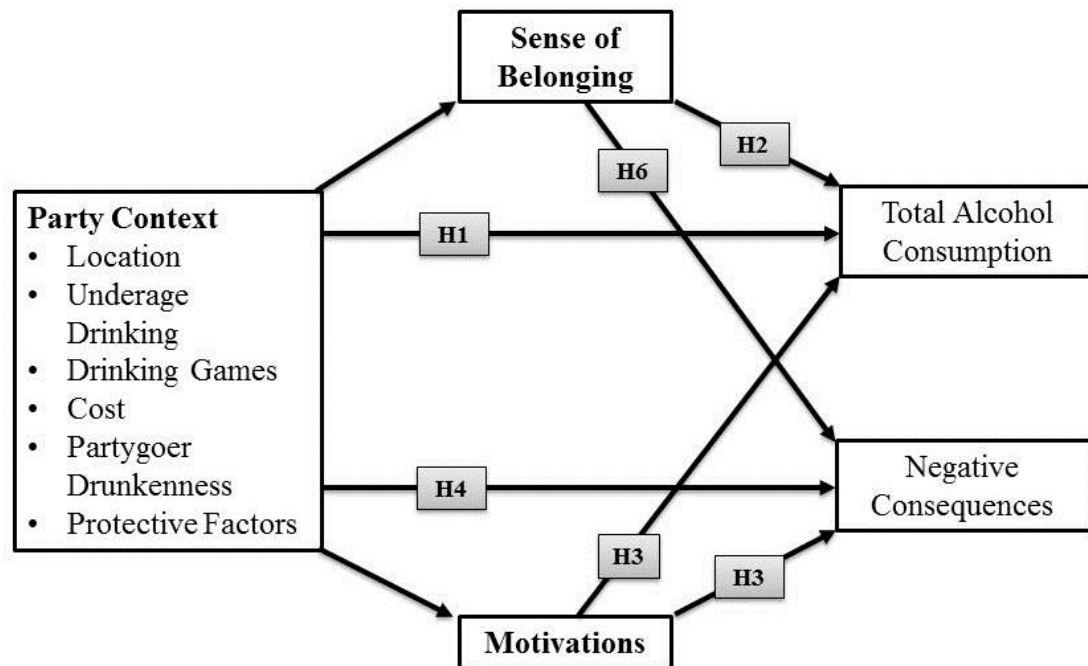


Figure 3. Influence of Party Context and Mediating Variables on Well Being.

In sum, the literature on young women's drinking behaviors at bachelorette parties is in its infancy and is ripe for future research. Particularly, examining the ways in which young women consume alcohol in a single gender setting can shed light on the gender gap in alcohol consumption literature (Balodis et al., 2009; Keyes et al., 2008; Wilsnack, Wilsnack, Kristjanson, Vogeltanz-Holm, & Gmel, 2009) and provide direction for future intervention research. This study addresses the current gaps in literature by utilizing a random and larger sample, expanding negative consequences

measured and incorporating sense of belonging of party attendees as a predictor in data analysis.

Chapter 2: Methods

2.1. Overview of Design

For this study the Office of the Registrar at a Midwestern university provided a stratified random sample of 4,000 full-time senior women. The sample was stratified across race and ethnicity. As this is a targeted sample of senior women, rank in school and gender were already isolated.

Response rates to the survey exceeded initial estimations. Exploratory research suggested that 15% of collegiate students have attended a bachelorette party (Buettner, 2013), and online data collection with college students yields approximately 30% response rates. (Martin et al., 2009; Neighbors et al., 2005; Woodyard & Hallam, 2010). The target number of respondents was 200 to provide a large enough sample for planned analyses. Yet, a total of 445 individuals began the survey, and 394 completed the survey in its entirety. This represents an 11.4% attrition rate of survey respondents.

Compared to previous studies, survey respondents were more diverse with 90.2% of respondents describing themselves as White/Caucasian. While this statistic is not representative of the United States in its entirety, it is representative of the large, Midwestern university from which this data was gathered. It also represents a more diverse sample than previously reported in the literature (Montemurro & McClure, 2005). Additionally, the socioeconomic status of survey respondents was more varied

with over 50% of respondents indicating that their household income is less than \$10,000. However, this item will be discussed in the limitations section as there is some possible measurement error surrounding its implementation. All demographic data can be viewed in Table 1.

Table 1.

Demographic Characteristics of Participants

	N	%
Ethnicity		
Hispanic or Latino	13	3.4
Non-Hispanic or Latino	375	96.6
Race		
American Indian	2	.5
Asian	16	4.1
Black/African	7	1.8
American		
Multi-racial	13	3.4
White	349	90.2
Income ¹		
<\$10,000	151	39.1
\$10,000-\$30,000	86	22.3
\$30,000-\$50,000	34	8.8
\$50,000-\$70,000	27	7.0
\$70,000-\$90,000	35	9.1
>\$90,000	53	13.7
Religious Involvement ²		
Never	91	23.3
Once	57	14.6
Several Times	138	35.4
Two or more times	42	10.8
One a week	62	15.9

Note. 1. The limitations section will discuss possible measurement error with the question measuring income. 2. Religious Involvement measured by the question: “In the past 12 months, how often have you attended religious services?”

2.2. Procedures

Eligible participants were emailed an explanatory email describing the survey with a unique link to the web-based survey (Dejong, 2002; Dejong et al., 2006; Dejong et al., 2007). Participants were considered eligible if they had attended a bachelorette party, either as the bride or guest, in the last 12 months. Non-completers were emailed reminders every two days. The survey was active for one week.

Upon reading the email, students clicked on a link to complete the study. Here, participants read detailed, standard consent information regarding voluntary participation, confidentiality, and study information (a one-time survey that contains 59 items and will take approximately 15 minutes to complete). Participants in the online survey were entered into a drawing for one of five \$50 gift certificates from Amazon. Winners of the drawing were notified within one week of survey completion and payment was distributed at that time.

2.3. Measures

2.1.1. Alcohol Consumption

Young women's consumption of alcohol during the bachelorette party was measured using a self-report survey modeled from the Core Alcohol and Drug Survey: Long Form (Core Institute, 2013). This instrument is widely used in drug and alcohol research among college aged individuals (Dowdall & Wechsler, 2002). Two (2) separate items measured alcohol consumption as a continuous variable. The first question reads, "How many drinks did you consume the day of the party, before the

party began? A drink is a bottle of beer, a glass of wine, a wine cooler, a shot glass of liquor or a mixed drink.” The second question reads, “How many drinks did you consume the day of the party, after the party began?” Items showed a range of reliability (Cronbach’s $\alpha = .67-.94$). The researcher created a third variable *total drinks* that was a summation of the drinks consumed before and during the party. This variable was used as the dependent variable in subsequent analyses.

To be an eligible participant in this study, individuals must have attended a bachelorette party in the last 12 months. Thus, the alcohol consumption items asked respondents to recall drinking behaviors from up to 12 months prior. Substantial literature on alcohol research methodology supports the assertion that self-report of alcohol consumption is a reliable measure (Del Boca & Darkes, 2003; Del Boca & Noll, 2000; Feunekes, Van't Veer, van Staveren, & Kok, 1999) and individuals can recall alcohol use for up to five years with reliability (Czarnecki, Russell, Cooper, & Salter, 1990).

2.1.2 Negative Consequences

An additional item on the bachelorette party survey measured negative consequences of the bachelorette party attendee. This question, modified from the Core Alcohol and Drug Survey: Long Form allowed the participant to indicate all negative consequences experienced (Core Institute, 2013). In particular, participants indicated if they have experienced: a hangover, trouble with authorities, damaged property, fight, vomiting, drunk driving, memory loss and/or sexual assault. This item shows high test-

retest reliability ($r=.71$), and reliability ($\alpha = .89$). This variable is a continuous variable with a range from 0 to 12.

2.1.3. Mediating Variables

Motivation for drinking. To measure drinking motivations and expectancies, I used the Leigh and Stacy (1993) Alcohol Expectancies Scale. This instrument contains 34 items that measure the respondent's beliefs about alcohol use. This instrument contains questions that measure both alcohol expectancies (i.e., what individuals expect alcohol to do) and motivations (i.e., why individuals drink alcohol). Sample questions include: "When I drink alcohol, I am more accepted socially" and "When I drink alcohol, I am more outgoing." Respondents answer using a likert scale to indicate how likely these events are. This scale has high internal reliability ($r=.88-.94$) (Leigh & Stacy, 2004).

The Alcohol Expectancies Scale is scored to produce two scores: positive expectancies and negative expectancies regarding alcohol. It is hypothesized in this model that individuals with a positive expectancy regarding alcohol (and consequently higher motivation for drinking) will consume more alcohol. Positive expectancies range from 19-114, and negative expectancies range from 15-90.

Sense of Belonging. Sense of belonging was measured by a self-report measure, The Sense of Belonging Instrument – Psychological (Hagerty et al., 1995; SOBI Manual). On this measure, individuals reported their perception of connectedness to individuals. A sample question reads, "I often wonder if there is any place on earth where I really fit in." Individuals answered 18 questions on a 4 point Likert scale (1=strongly agree,

4=strongly disagree). Scores were summed and possible scores range from 21 to 72. This measure shows high internal reliability ($r=.72-.93$) and high test-retest reliability ($\alpha=.84$).

To measure sense of belonging and connectedness specifically at the bachelorette party, one item was created modeling the SOBI-P language that read, “At the bachelorette party, I felt like an outsider.” The same 4-point Likert scale was used, and this item was scored separately as the variable *sense of belonging – party*.

2.1.4. Independent Variables

Party Location. Participants indicated if the bachelorette party occurred in a private residence or at a public space (e.g., bar, restaurant). This dichotomous variable was coded (0 = in, 1 = out). Party location has been correlated with alcohol consumption and negative consequences in several past studies (Clapp et al., 2006; Clapp et al., 2000).

Drinking Games. Bachelorette party attendees indicated if they participated in drinking games during the course of the party. This dichotomous variable was coded (0 = no drinking games, 1 = drinking games present). Young adults who participate in drinking games during a party are more likely to consume greater quantities of alcohol and experience negative consequences (Clapp et al., 2003; Clapp et al., 2006).

Underage Drinking. Two (2) items were used to measure underage drinking at the bachelorette party. First, respondents indicated if any partygoers were under the age of 21 (dichotomous variable). Second, they indicated if these attendees consumed

alcohol. This variable was coded (0 = no underage drinking, 1 = underage drinking). Party contexts where underage drinking is present are considered riskier and more likely to produce negative outcomes (Buettner & Khurana, 2014; Erickson, Lenk, Toomey, & Fabian, 2008).

Partygoer Drunkenness. Respondents indicated if any other participants were intoxicated (other than themselves). Responses were coded as a dichotomous variable (0 = no, 1 = yes). Studies indicate that parties with individuals who attend parties with many other intoxicated guests are more likely to binge drink and experience negative consequences (Clapp et al., 2006).

Cost of Alcohol. This item assessed how much bachelorette party attendees spent on alcohol consumption for themselves and other party attendees. Respondents will either indicate that they spent less than \$20 on alcohol (e.g., approximately 4 drinks or less which is parallel to the definition of binge drinking) or more than \$20 on alcohol. Responses were coded (0 = low alcohol cost, 1 = high alcohol cost). Young adults with higher disposable income, who spend more money on alcohol are more likely to engage in risky drinking behaviors (Martin et al., 2009; Spear, 2002).

Safety Plan. Participants were asked to indicate if the party organizers had developed a safety plan. The language of this question reads, “Did the party organizers have a “safety plan” for when the party was in public places (e.g., designated drivers, making sure no one went off with a guy when she was drunk). Responses were coded (0 = no, 1 = yes). Most literature suggests that individuals who utilize protective factors while consuming alcohol will experience fewer negative outcomes (Clapp et al., 2000;

Schulenberg & Maggs, 2002). However, recent studies indicate that protective behaviors and safety plans may actually encourage risky behaviors and alcohol consumption (Buettner & Khurana, 2014).

Drinking Risks Cumulative Risk Factor. A cumulative risky party context variable was created by counting the number of risk indicators described above. I used exploratory and confirmatory factor analysis to examine if the six indicators above loaded on a single variable. Three of the independent variables: drinking games, partygoer drunkenness, and cost of alcohol all loaded on the *drinking risks* variable. This will be explained in the section on confirmatory factor analysis. These three independent variables have been shown to indicate a risky party context that in turn influences alcohol consumption and negative consequences associated with alcohol use by young women (Balodis et al., 2009; Borsari, Murphy, et al., 2007; Clapp et al., 2003; Clapp et al., 2008; Sher & Rutledge, 2007). This variable ranges from 0-3 (0 = no drinking risk factors present, 3 = all drinking risk factors present). A high score of three would indicate high drinking risks.

Environmental Risks Cumulative Risk Factor. Results of the exploratory and confirmatory factor analysis indicated a second variable: *environmental risks*. This cumulative risk index ranges from 0-2 (0 = no risks, 2 = two risks) and is composed of the safety plan and party location variable. Both of these variables refer to the situational and environmental risks associated with drinking behaviors.

Based on the results of the exploratory factor analysis, each factor was summed to indicate a low risk drinking environment to a high risk drinking environment.

Control Variables. Several variables are shown to be associated with young women's alcohol consumption and negative alcohol related consequences. These variables were controlled for in the model. Race/ethnicity was coded as dummy variables with three categories: Hispanic, Black and Other (i.e., Asian, American Indian, Multi-racial). White, non-Hispanic was used as the reference category. Research shows that black and Asian young adults are less likely to consume alcohol and/or engage in binge drinking behaviors as compared to white peers (Borsari et al., 2007; Caetano et al., 1998). In particular, African Americans are more likely to increase alcohol consumption as older adults as opposed to as young adults (Caetano et al., 1998).

Socioeconomic status was coded as a continuous variable (0 = \$10,000 or less, 1 = \$10,000 - \$30,000, 2 = \$30,000 - \$50,000, 3 = \$50,000 to \$70,000, 4 = \$70,000 to \$90,000, and 5 = More than \$90,000). Literature shows that individuals with greater disposable income and from higher socioeconomic status groups are more likely to consume greater quantities of alcohol (Martin et al., 2009; Spear, 2002).

Literature suggests that age of onset influences future drinking habits (Cranford et al., 2006; Hingson, 2000; Masten, Faden, Zucker, & Spear, 2008; Prescott & Kendler, 1999). Participants indicated when they first consumed alcohol, and this variable was coded as a continuous variable to indicate when participants began consuming alcohol (1 = does not use alcohol, 2 = under 10, 3 = 10-11, 4 = 12-13, 5 = 14-15, 6 = 16-17, 7 = 18-20, 8 = 21-25, 9 = 26+).

Religious involvement also can affect drinking related outcomes (Borsari, Murphy, et al., 2007; Patock-Peckham, Hutchinson, Cheong, & Nagoshi, 1998). Thus, religious influence was controlled for as well by describing participants as highly religious (e.g., attended a religious service once a week), religious (e.g., attended a religious service two or more times a month), moderately religious (e.g., attended a religious service several times in the last year), tangentially religious (e.g., attended a religious service once in the last year) or non-religious (e.g., never attended a religious service in the past year). These variables were coded (5=highly religious, 4 = religious, 4=moderately religious, 2 = tangentially religious, 1 = non-religious).

2.4. Data Analytic Strategy

In the preliminary analysis, analyses were conducted on the complete data (i.e., $n=394$) in order to develop several working models. For example, any cases with missing data were excluded from this stage of the analysis. SPSS v. 21 was utilized to conduct the preliminary data analysis. Before the preliminary data analysis, reports detailing the extent of missingness of each variable were created. Results are described in later sections. Initial t-tests were conducted to determine if there were significant differences between individuals who completed the survey in its entirety and those who dropped out.

SPSS v. 21 produced descriptive statistics for independent variables of interest, mediating variables and outcome variables. Exploratory factor analysis was used to determine if the six independent variables that were theorized as composing the *party*

context variable did indeed all load on one independent factor. Factors that loaded as .40 or greater were considered *significant* and were included in the cumulative party context variable (Ford, MacCallum, & Tait, 1986).

After confirmatory factor analysis was completed, SPSS v.21 was used to conduct multiple regressions to answer the three research questions presented. The following relationships were investigated: (1) the *direct effects* of bachelorette party context on alcohol consumption (2) the *mediating effect* of sense of belonging on party context and alcohol consumption; (3) the *mediating effect* of drinking motivations on party context and alcohol consumption. Due to problems with the negative consequences measure, final analysis was not completed on this outcome variable.

After initial relationships were determined, missing data techniques were evaluated. Whereas SPSS v. 21 is compatible with multiple imputation to treat missing data, a multiple imputation dataset produced in SPSS is not able to produce all necessary regression statistics (i.e., pooled R^2). Thus, STATA v. 13 was used to produce two path analyses to test the hypotheses using *sem*. By doing so, STATA's Full Information Maximum Likelihood (FIML) approach to missing data was utilized.

In STATA a model was created to test the research questions and hypotheses. First, a confirmatory factor analysis was conducted to affirm the results of the exploratory factor analysis conducted previously in SPSS. Next, a path analysis model, utilizing alcohol consumption as the outcome variable, tested hypotheses one, two and three.

To determine model fit, (1) the p-value of the χ^2 - statistic should be greater than .05, (2) the root mean square error of approximation (RMSEA) should be less than .08, and (3) the comparative fit index (CFI) should be greater than .90 (Baron & Kenny, 1986; Browne & Cudeck, 1993).

Chapter 3: Results

In this section, results will be presented for the outcome variable: alcohol consumption. First, I will discuss the direct effects of *party context* (i.e., the factors drinking risks and environmental risks) on alcohol consumption. Next, I will describe the mediating effects of positive alcohol expectancies on drinking risks and alcohol consumption.

3.1. Missing Data

The survey was emailed to 4,000 senior women, and 445 women began the survey, yielding a response rate of 11.13%. Past studies suggested that 15% of college women had attended a bachelorette party (Buettner, 2013), and online surveys of college students typically result in a 30% response rate (Neighbors et al., 2005). Thus, the 11.13% response rate exceeds preliminary estimates of a 5% response rate.

Of the 445 respondents that began the survey, 394 completed the survey in its entirety. This was measured by the last question on the survey that asked respondents if they wished to submit their results. At the item level, response rates varied by survey item, but initial survey items had a high level of completion (e.g., 96-99% completion rates). It was observed that non-completers stopped completing the survey at two distinct time points: (1) before/during the Alcohol Expectancies Scale and (2) the Sense

of Belonging Inventory – Psychological measure. The limitations regarding survey construction and response rates will be discussed at length in the limitations section.

At the item level, 16 participants (3.4%) did not report the total drinks consumed for the first outcome variable, which indicates a relatively high level of item completeness.

However, limitations in the negative consequences measure became apparent after examining the missing data for this item. Due to the phrasing of the item, the negative consequence item had a high percentage of missing data. The item asked respondents to indicate all of the negative consequences experienced at the party, but there was no option for “none” or “not applicable.” As a result, 68.6% of respondents did not indicate a response for this item. This high degree of missing data will be discussed at length in the limitations section as it calls into question the validity of this survey item. Additionally, this measurement error made it impossible to accurately measure the intended outcome variable as it was unclear if participants did not answer this item because they had not experienced any negative consequences or because they were skipping this particular item. As a result, I chose to remove this outcome variable from the analysis due to the extreme measurement error involved. The remainder of the results and analysis will focus on outcome variable one: alcohol consumption as a measure of well-being.

In terms of the two independent variables measuring party context, 41 (9.2%) and 37 (8.3%) participants did not respond to items determining *drinking risks* (i.e., partygoer drunkenness, cost, and drinking games) and *environmental risks* (i.e., party

location and safety plan) respectively. These two variables will be discussed at length in the section on confirmatory factor analysis for the party context construct.

Finally, the mediating variables had higher missing data rates. For example, 59 participants (13.3%) did not complete the Sense of Belonging Inventory – Psychological. Additionally, 64 participants (14.4%) did not complete the Alcohol Expectancies Scale.

Though missing data was treated utilizing the Full Information Maximum Likelihood (FIML) technique in STATA, initial t-tests were performed to identify any significant differences between completers and non-completers on key outcome variables. Total alcohol consumption was placed early in the survey order, so almost all (96.6%) respondents answered this item. On this measure, there were no significant differences between completers and non-completers, $t(382) = -.624, p = .536$.

Most computer software defaults to listwise deletion of missing data. Scholars do not recommend using listwise or pairwise deletion techniques as these methods can introduce bias if missing data is not missing completely at random (Acock, 2005). I completed the final analysis in STATA v. 13, utilizing the Full Information Maximum Likelihood (FIML) approach to handle missing data. Given that my data of interest concerns only a small number of continuous variables, Johnson and Young (2011) recommends the FIML approach to missing data (Allison, 2000). Acock (2005) concurs and states, “it is difficult to know whether multiple imputation or full information maximum likelihood estimation is best, but both are major advances over traditional approaches” (p. 1026).

3.2. Factor Analysis

To create a more parsimonious model, I conducted exploratory factor analysis in SPSS v. 21 on the six independent variables that theoretically constitute *party context*. Recent advances in statistical research indicate that using both exploratory and confirmatory analysis of categorical variables is appropriate (Baston & Pereira, 2012; Holgado-Tello et al., 2008). To perform an effective factor analysis on categorical data, polychoric correlation coefficients should be used instead of the Pearson coefficient (Baston & Pereira, 2012; Holgado-Tello et al., 2008). Additionally, the weighted least squares method of estimation should be used (Holgado-Tello et al., 2008).

First, I conducted exploratory factor analysis using the promax rotational method as recommended by Matasunaga (2010). After doing so, a visual analysis of the scree plot indicated two discreet factors. Additionally, examination of the Eigenvalues indicated that two factors had Eigenvalues greater than one (e.g., Factor 1 Eigenvalue = 2.15, Factor 2 Eigenvalue = 1.20).

Next, I examined the independent variables to determine how they loaded on each of the two factors. The independent variables partygoer drunkenness (.68), drinking games present (.70) and high cost (.48) all loaded on factor one, *drinking risks*. As previously stated, items with a loading greater than .40 are considered significant (Ford et al., 1986). Additionally, location (.92) and safety plan utilized (.45) loaded on a second factor, *environmental risks*. Factor loadings are presented in Table 2.

Table 2.

Exploratory Factor Analysis for Party Context

	n	%	Factor	
			1	2
Factor 1 – Drinking Risks				
Partygoer Drunkenness	345	78.9	.68	.08
Drinking Games Occurred	286	69.6	.70	-.21
High Cost	262	58.9	.48	.09
Factor 2 – Environmental Risks				
Girls’ Night Out Location	321	72.1	.005	.92
Safety Plan Occurred	236	57.8	.12	.45
Unloaded Item				
Underage Drinking Present	130	29.5	.13	-.19
Eigenvalue			2.15	1.20
Percentage of variance explained			35.87	19.98

Note. Independent variables did not load on one, singular measure of risky party context. Instead, variables loaded on two discreet latent variables: drinking risks and environmental risks. Underage drinking present did not load on either factor. *Factor loadings >.40 are significant and are bolded.

The loadings onto two factors ran counter to my hypothesis that all party context items would load on a single factor. Instead these two factors can best be described as *drinking risks* (factor one) and *environmental risks* (factor two). The three independent variables that loaded on drinking risks are all related to alcohol consumption and intoxication level (i.e., how much was spent to buy alcohol, how intoxicated other guests were and how alcohol was consumed via drinking games). Thus factor one will henceforth be described as the *drinking risks* variable. The two items in factor two describe the party setting (i.e., where the party was located and whether the party

provided guests with safety plan). Thus, for the remainder of the analysis, this factor will be described as *environmental risks*.

3.1.1. Confirmatory Factor Analysis

To confirm these factors loadings, I conducted confirmatory factor analysis in STATA. Results of the confirmatory factor analysis did indeed confirm these preliminary findings. Again, five of the six independent variables loaded significantly on the two variables with an appropriate model fit of $\chi^2(4)=16.194, p = .003$, CFI=.600, RMSEA = .090. Factor loadings greater than .40 are considered significant (Ford et al., 1986). Factor loadings are described in Table 3.

Table 3.

Factor Loadings in Confirmatory Factor Analysis

Construct	Factors	
	1	2
Partygoer Drunkenness	.79	
Drinking Games	.51	
Cost	.52	
Type		.79
Safety Plan		.61

The results of the confirmatory factor analysis do in fact confirm findings in exploratory factor analysis and indicate that two discreet factors exist.

3.3. Descriptive Statistics

Most participants reported consuming alcohol at some point during the bachelorette party. Only 12.8% of respondents reported consuming no alcohol. Meanwhile, the vast majority of participants (70.4%) consumed four or more alcoholic beverages during the course of the night. In other words over two thirds of participants engaged in binge drinking behaviors. The frequencies of total drinks consumed are presented in Table 4.

Table 4.

Alcohol Consumption Frequencies

Outcome Variable	n	%
<i>Total Drinks</i>		
0	55	12.8
1-3	72	16.8
4-6	134	31.2
7-9	91	21.2
10-12	44	10.3
13-15	23	5.4
16-18	7	1.6
19+	3	.7

3.4. Bivariate Correlations

To initially investigate the relationship between the two outcome variables and the respective independent and mediating variables, bivariate correlation analysis was first performed on the continuous variables.

This analysis showed that age of party attendee had a positive association with total drinks consumed ($r=.14, p=.006$). This association seems logical as some attendees indicated that they did not consume alcohol since they were under the age of 21.

Additionally, both an individual's sense of belonging at the party ($r=.17, p=.001$) and overall sense of belonging as measured by the SOBI-P ($r=.14, p=.008$) were positively associated with total drinks consumed. This does not support the hypothesis that individuals who feel highly connected and feel a sense of belonging will be less likely to consume alcohol. Instead, it implies that individuals with a high sense of belonging will consume greater quantities of alcohol than less connected individuals, possibly as a way to bond with peers. Finally, positive alcohol expectancies were moderately correlated with total drinks consumed ($r=.33, p=.000$), which again is consistent with the hypothesis. Individuals who have positive thoughts and expectations regarding alcohol consumption are more likely to consume alcohol.

Interestingly, protective factors employed was significantly correlated to total drinks consumed at ($r=.37, p=.001$). The direction of the relationship between protective factors and alcohol consumption is surprising. The positive relationship

implies that as individuals utilize more protective factors, they increase their alcohol consumption. This finding will be explored in detail in later analyses.

Table 5.

Means, Standard Deviations, and Bivariate Correlations

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9
1. Number Guests	12.63	7.13	—								
2. Total Drinks	5.86	4.33	.03	—							
3. Age	21.59	2.08	-.05	.14**	—						
4. SOB Party ¹	3.37	.77	.07	.17**	.03	—					
5. SOBI-P ²	58.58	10.44	.12*	.14**	-.04	.65**	—				
6. Positive Expectancies ³	76.83	12.09	-.11*	.33**	-.003	.05	-.03	—			
7. Negative Expectancies ⁴	45.10	8.85	-.02	.07	.08	-.14**	-.18**	.35**	—		
8. Protective Factors (0-6)	1.96	1.91	-.11*	.17**	.06	.09	.06	.08	-.05	—	
9. Factor 1	1.31	.81	-.03	.59**	.10	.08	.10	.26**	.12*	.18**	—
10. Factor 2	2.12	1.03	-.15**	.30**	.14*	.04	.07	.13*	-.01	.76**	.32**

Note. 1. Sense of Belonging at Party was measured on a scale of 1-6. 2. Sense of Belonging Instrument – Psychological was measured on a scale of 0-72. 3. Positive Expectancies was measured on a scale of 19-114. 4. Negative Expectancies was measured on a scale of 15-90. * $p < .05$, ** $p < .01$.

3.5. Direct Effects of Party Context on Alcohol Consumption

To test research question one (i.e., direct effects of party context on alcohol consumption), a model was created with excellent fit as indicated by $\chi^2(14)=10.30$, $p=.74$; CFI=1.00; RMSEA=.02. In addition to a strong model fit, there were significant pathways between both independent variables *drinking risks* and *environmental risks* and total alcohol consumption. Total alcohol consumption was significantly predicted by drinking risks ($\beta =.44$, $p<.001$). Furthermore, environmental risks also showed significant direct effects on alcohol consumption ($\beta =.13$, $p<.01$).

Thus, hypothesis one was confirmed that alcohol consumption was directly predicted by party context. It appears that the direct effect for drinking risks was greater than that of environmental risks, implying that alcohol consumption may be more heavily influenced by variables such as cost of alcohol, presence of drinking games and partygoer drunkenness.

Table 6 and Figure 4 display the model coefficients, standard errors and confidence intervals along with the model itself.

Table 6.

Mediation of the Effects of Party Context on Alcohol Consumption through Alcohol Expectancies and Sense of Belonging

	Alcohol Consumption			
	<i>B</i>	<i>SE</i>	95% <i>CI</i>	β
<i>Covariates</i>				
Race – Black ¹	-3.33	1.35	[-5.98, -.69]	-.10
Religious	-.39**	.15	[-.61, -.03]	-.12
Age Onset	-.36	.14	[-.63, .09]	-.11
<i>Predictors</i>				
Drinking Risks	1.9***	.18	[1.5, 2.2]	.44
Environmental Risks	.62**	.22	[.22, 1.1]	.12
<i>Mediators</i>				
Sense of Belonging	.04*	.02	[.01, .08]	.10
Negative Alcohol Expectancies	-.04	.08	[-.08, .004]	-.08
Positive Alcohol Expectancies	.09***	.000	[.6, .12]	.25
<i>Indirect Effects</i>				
Drinking Risks → Positive Alcohol Expectancies	.29	.08	[.14, .44]	

Note: $\chi^2(14)=10.40$, $p=.74$; CFI=1.00; RMSEA=.000

* $p<.05$; ** $p<.01$; *** $p<.001$; 1: The reference category was White, non-Hispanic.

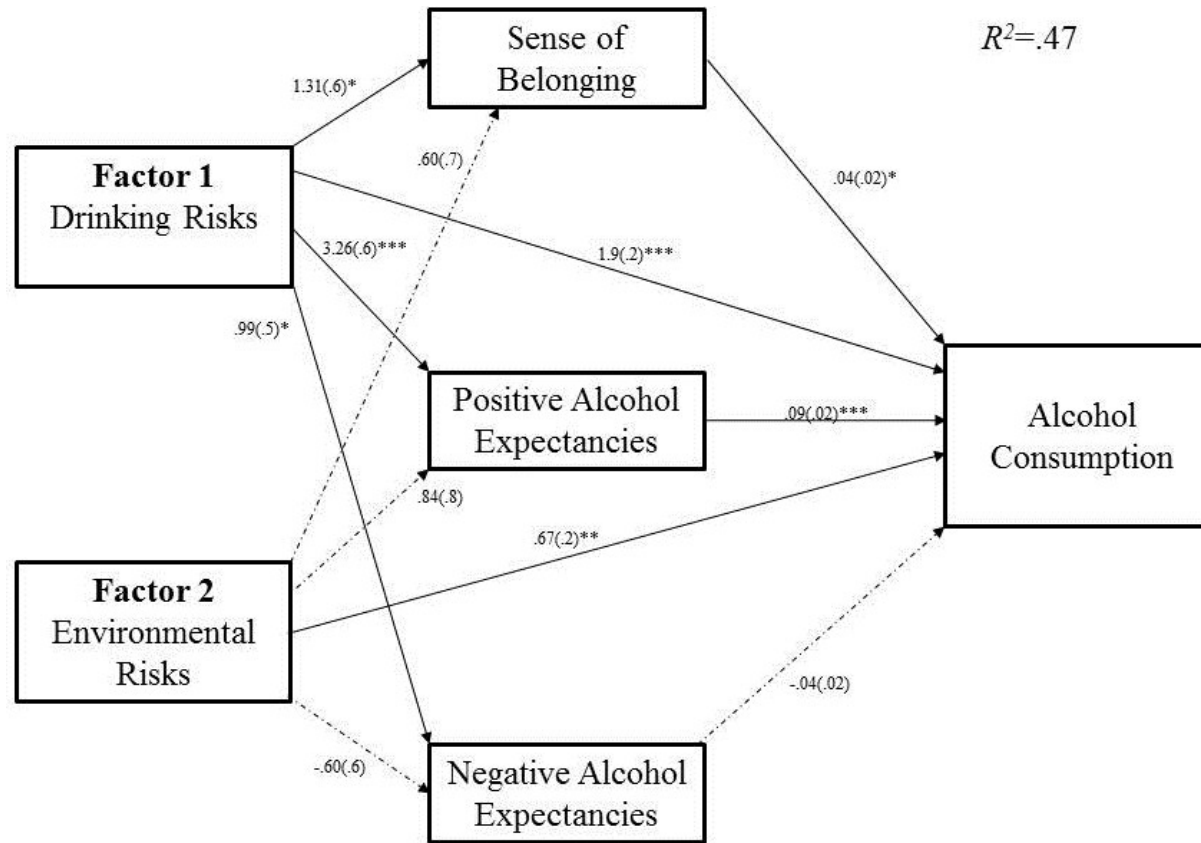


Figure 4. Results of the Mediation Model in Multilevel Structural Equation Modeling on Alcohol Consumption.

Note. Model coefficients are noted in their unstandardized form. Standardized coefficients are located in Table 6. Model Fit: $\chi^2(14)=10.40$, $p=.74$; CFI=1.00; RMSEA=.000. A solid line indicates significant effects. A dashed line indicates non-significant effects. * $p<.05$; ** $p<.01$; *** $p<.001$

3.6. Direct Effects on Mediating Variables

The two factors: drinking risks and environmental risks were reviewed to see if either factor had a direct effect on the hypothesized mediating variables. Drinking risks had a direct and significant effect on all three mediating variables: sense of belonging, positive alcohol expectancies, and negative alcohol expectancies.

In all three instances, the direction of the relationship was positive. Thus, participants who attended a party with high drinking risks were more likely to indicate a higher sense of belonging ($\beta = .12, p = .02$). Additionally, young women attending a bachelorette party with high drinking risks were more likely to indicate higher positive and negative expectancies ($\beta = .27, p < .001$ and $\beta = .12, p = .045$ respectively). This is an interesting finding that will be discussed in the discussions section as the results seem counter-intuitive.

The variable environmental risks showed no significant effect on any of the three mediating variables.

3.7. Mediation Effects on Alcohol Consumption

In addition to the direct effects of *party context*, the mediation model in Figure 4 can also test hypotheses two and three. This model supports that two of the three hypothesized mediating variables had a significant and direct relationship with alcohol consumption. Both sense of belonging ($\beta = .10, p = .02$) and positive alcohol expectancies ($\beta = .25, p < .001$) have significant, direct effects on alcohol consumption.

The pathway between negative alcohol expectancies and alcohol consumption was non-significant. This indicates that individuals with a high sense of belonging and positive expectancies regarding alcohol were predicted to have higher levels of alcohol consumption.

However, only positive alcohol expectancies actually provided a mediating effect between drinking risks and alcohol consumption ($B = .29$ $p < .001$). In other words, individuals who attended bachelorette parties with more intoxicated guests, drinking games and higher cost of alcohol, consumed more alcohol. Additionally, if these individuals had positive expectancies surrounding alcohol, these expectancies mediated the total alcohol consumption.

In sum, this model explained a large portion of variance in alcohol consumption ($R^2 = .47$). Race, income, religious involvement and age of onset were all controlled for in this model.

3.8. Direct Effects on Negative Consequences

Unfortunately, the negative consequences measure was seriously flawed in its design and the subsequent data provided. Because over two-thirds of respondents had missing data for this item, it did not seem appropriate to analyze the item and use it in subsequent models.

Chapter 4: Discussion

The results of this study confirm that the social context of a female only drinking environment, such as a bachelorette party, has a direct effect on a young woman's personal well-being, particularly in terms of alcohol consumption. Drinking location, party composition, characteristics and protective factors all predicted a direct effect on alcohol consumption among study participants. Whereas these predictors were previously shown to influence outcomes in studies on young adult drinking behaviors (Clapp et al., 2003; Clapp et al., 2008; Clapp et al., 2006), prior to this study, there was little to no evidence that these similar effects would be replicated in a female only drinking environment.

In particular, the evidence that protective factors and the use of safety plans loads with other social context risk factors represents an important development in our understanding of high-risk social contexts female only drinking environments. This finding confirms the work of Buettner and Khurana (2014) and serves to illustrate that commonly held assumptions regarding the effectiveness of safety plans (Dejong & Langford, 2002) may be inaccurate when applied to bachelorette parties and female only drinking environments.

Furthermore, aspects of the Ryan and Deci theoretical framework are confirmed by this study as it supports the idea that the effect of social context on well-being is

mediated by motivation, particularly surrounding alcohol motivations and expectancies. In essence, a young woman's motivations for alcohol use will influence how much alcohol she will consume at a bachelorette party, or possibly other female only drinking settings, given the party context.

4.1. Direct Effects of Party Context

As hypothesized, social context directly predicts personal well-being as measured by alcohol consumption. In particular, drinking risks are highly predictive of this outcome variable. The drinking risk variable is composed of cost of alcohol, partygoer intoxication level (i.e., drunkenness) and presence of drinking games. Previous literature has suggested that these constructs influence alcohol consumption and negative consequences, but no study to date has measured them in a female only drinking environment, particularly a bachelorette party.

Additionally, environmental risks are predictive of alcohol consumption as shown in the model in Figure 4. Environmental risk is composed of both party setting and protective strategies employed. This finding implies that perhaps engaging in protective factors/safety plans encourages participants to consume more alcohol, but due to the faulty negative consequences measure it is unclear if consuming more alcohol leads to greater negative consequences.

This is an opportunity for future exploration in a later study. The results of this study simply indicate that there is a direct effect on safety plan usage and alcohol consumption. Previous studies indicate that heavy alcohol consumption leads to

increased negative consequences (Dowdall & Wechsler, 2002; LaBrie et al., 2008; Park, 2004; Perkins, 2002). Future studies could investigate if safety plan usage and increased alcohol consumption also lead to an increase in negative consequences. Because conventional wisdom of alcohol intervention implies that using safety plans makes one safer, it is possible that while alcohol consumption increased as a result of safety plans, negative consequences did not. However, this cannot be determined from this study alone, and this presents an important opportunity for future research.

In addition to social context, two of the three hypothesized mediating variables had a direct and clear effect on alcohol consumption. Sense of belonging, or connectedness, of the participant had a direct, positive effect on alcohol consumption. In other words, a young woman with a higher sense of belonging and connectedness to other party attendees was more likely to consume more alcohol. Whereas, the direction of this relationship ran counter to the initial hypothesis, it does seem logical. Initial hypotheses predicted that individuals with a low sense of belonging would drink more in an attempt to “fit in” with peers. However, this may be a mischaracterization of earlier research. For example, in a previous bachelorette party study, Montemurro and McClure (2005) found that attendees indicated that they drank heavily as a means of bonding.

Thus, perhaps individuals with a high sense of belonging feel this way because they are able to bond with peers through alcohol consumption and continue to consume alcohol to feel connected with their peers (Balodis et al., 2009; Montemurro & McClure, 2005; Neal & Fromme, 2007). Yet, for this particular relationship it is unclear if women

are drinking to feel connected or those who feel more connected drink more. Given the measure of sense of belonging, the latter suggestion seems more likely.

However, the direct effect of positive alcohol expectancies also serves to confirm that young women with positive thoughts and motivations for consuming alcohol are more likely to consume alcohol. If young women believe that alcohol will make them social, friendly and sexy, they are more likely to consume more alcohol (Balodis et al., 2009; Young et al., 2005). Interestingly, the negative alcohol expectancies did not have a direct effect on alcohol consumption. Since these measures were two sub-scales of a larger measure Alcohol Expectancies Scale, it seemed logical that one with negative expectancies would consume less. However, this direct effect was non-significant, yet there may be reasons for this.

The negative expectancies items appeared to measure *consequences* of drinking that the respondent viewed as negative. For example, an individual with high negative expectancies of alcohol would assume that alcohol consumption makes her mean, clumsy, uncoordinated, sick, etc. The measure did not ask individuals to indicate any moral reasoning for viewing alcohol in a negative light. Several respondents wrote in the free response section of the survey that the reason they did not consume alcohol was because they “don’t drink” or “we do not believe drinking is morally correct.”

Extant literature suggests that individuals who are highly religious and consider alcohol consumption immoral are less likely to consume alcohol (Borsari, Murphy, et al., 2007; Patock-Peckham et al., 1998). Thus, it is possible that negative expectancies that

measured morality would have a stronger correlation with decreased alcohol consumption (i.e., those who believe consuming alcohol is morally wrong would consume less).

4.2. Mediation Effects on Alcohol Consumption

It was hypothesized that several factors would mediate the effect of party context on alcohol consumption. In particular, hypothesis two indicated that a party attendee's sense of belonging would mediate the effects of party context on alcohol consumption. The working model did not show any mediation effects for sense of belonging. However, drinking risks showed a direct effect on sense of belonging, and sense of belonging showed a direct effect on alcohol consumption. In essence, higher drinking risk produced higher sense of belonging, and higher sense of belonging contributed to greater alcohol consumption. Yet, there was still no indirect/mediation effect on sense of belonging. There may be reasons for this anomaly.

First, the Sense of Belonging Inventory – Psychological instrument measured sense of belonging as a general concept or psychological state, not in relation to the specific bachelorette party. Scholars maintain that sense of belonging may be situation dependent (Gracia & Herrero, 2004), and that while an individual may have a high sense of belonging in general, he/she may not feel socially connected in a given setting (Lee, Keough, & Sexton, 2002). While one item was added to the inventory to attempt to measure sense of belonging at the bachelorette party in particular, it is possible that this measure did not accurately capture the connectedness of individuals at the particular event and in the particular social context in question.

Next, the mean score on the Sense of Belonging Inventory – Psychological instrument for bachelorette party attendees was 58.58($SD=10.44$), on a scale of 21-72. The distribution of these scores is not normal, and in fact, skews negatively. In other words, party attendees seemed to measure a higher sense of belonging than the average population (Hagerty & Patusky, 1995; Hagerty, Williams, Coyne, & Early, 1996). It is possible that individuals who choose to attend a bachelorette party feel more connected and have a higher sense of belonging. Perhaps individuals with a low sense of belonging are less likely to be invited to and/or attend bachelorette parties. If that is the case, that could be yet another reason why the sense of belonging/connectedness measure did not mediate the effects of party context on alcohol consumption.

Whereas sense of belonging did not show a mediating effect on the alcohol consumption outcome variable, positive expectancies related to alcohol did. Individuals who were highly motivated to drink and had positive expectancies about what alcohol could do for them (i.e., make them more sociable, sexually attractive, fun, etc.) were more likely to consume alcohol. This positive expectancy mediated the effect of drinking risks on alcohol consumption.

Finally, negative expectancies did not have a mediating effect on either party context variable and alcohol consumption. This is surprising since there was a significant mediating relationship with positive expectancies. As mentioned previously, this could be due to the fact that the negative expectancies items more closely measure negative *consequences*. A more refined measure of negative expectancies that took into consideration both 1) negative consequences and 2) moral implications of alcohol

consumption may be better situated to accurately capture negative expectancies and motivations for consuming alcohol, which would more closely align to alcohol consumption. A recent study shows that inventories measuring moral reasoning for alcohol consumption indicate a correlation between those who do not consume alcohol for moral reasons and lower levels of alcohol consumption (Luhtanen & Crocker, 2005).

Nonetheless, the results of this study affirm the Ryan and Deci model. Party context (both drinking risks and environmental risks) had a direct impact on the alcohol consumption measure of personal well-being. This salient point confirms earlier work that party context directly impacts an individual's well-being (Clapp et al., 2003; Nayak & Kaskutas, 2004; Neighbors et al., 2011). In addition, this direct effect was mediated by individual motivation as measured by positive alcohol expectancies. However, an individual's connectedness, while having a direct effect on alcohol consumption, did not appear to mediate the relationship of social context on well-being. In previous studies, individuals who attended bachelorette parties reported drinking to feel connected to peers (Montemurro & McClure, 2005). The fact that in this study, connectedness did not mediate party context and its effect on alcohol consumption could be related to the idea that individuals who attend bachelorette parties are more social, on average, than those who do not attend parties. Thus, there may be less variance in the measure of connectedness and sense of belonging to see any mediating effect.

4.3. Limitations

Whereas this study represents an important step forward in our knowledge regarding drinking behaviors in a female only drinking environment, particularly the bachelorette party, there are several limitations in survey design and measurement along with generalizability to the population.

First, the measure of negative consequences was flawed. The survey item asked individuals to indicate all the negative consequences experienced but did not have an option to indicate that no negative consequences occurred. As a result, this particular survey item had a missing data rate of 68.6%. This question should be redesigned in the future to have an option to indicate that no negative consequences occurred. As written, the question was impossible to interpret meaningfully in analyses.

Even with the percentage of missingness with this survey item, the question itself could be redesigned to provide researchers with most useful information. The item was taken from the CORE alcohol survey (Core Institute, 2013), a widely used and valid measure of alcohol use in young adults. However, the original item (from which I adapted the question) was intended to measure negative consequences in the last 30 days. It is unlikely that consequences that may occur in the last 30 days would all occur in a singular event, such as the bachelorette party measured in this study. Thus, there was little variance in this measure (i.e., only 30% of participants completed this item by experiencing at least one negative consequence). A measure that examined more subtle negative consequences likely to occur in a 24 hour period (i.e., losing an item, getting

into an argument, engaging in unprotected sexual intercourse, using other illicit substances, etc.) may have provided more variability in the data.

Limitations also exist surrounding the item measuring participant's level of income. The item asked participants to report their annual income; however, accurately capturing family socioeconomic status from young adults is challenging for two reasons. First, some respondents may have only reported their annual income, regardless if they continued to receive financial support from their family. For example, 39.1% of respondents indicated that they earned less than \$10,000 a year. Yet, in the state from which the sample was drawn, the per capita income in the past 12 months is \$25,857 (United States Census, 2013). It seems likely that participants indicated how much money they, as a college student, earned each year irrespective of any financial contribution from their family members. Second, evidence states that young adults are less familiar with their family income and that self-report specifically on income-level may be unreliable. Instead, questions concerning maternal level of education may have been more appropriate (Boyce, Torsheim, Currie, & Zambon, 2006). Whereas this item is problematic, much literature discussed the difficulty of measuring college student family income, and this is a known challenge in research on young adults.

Furthermore, all questions concerning demographic information were placed at the end of the survey. This was done intentionally, as most survey methodology research recommends placing demographic information at the end of the survey so as to not bias survey respondents (Burns et al., 2008). However, because some individuals quit the survey, that demographic data was lost. It is impossible to know if particular

demographic subgroups quit at different rates without this key information. Even without this demographic information, I was able to analyze outcome variables to see if there were differences among survey finishers and non-finishers. These results were non-significant, so it appears that those who did not finish the survey most likely did not differ greatly from those who did complete it in its entirety.

Additionally, the data collected as part of this study was self-report from participants. Whereas self-report data has some limitations, it is widely regarded as an acceptable data collection method (Del Boca & Noll, 2000). Furthermore, this study was retrospective in nature. Participants were asked to report on bachelorette party behaviors that occurred anywhere from 0-12 months prior. Literature suggests that individuals are able to recall alcohol consumption accurately (Del Boca & Darkes, 2003; Del Boca & Noll, 2000; Feunekes, Van't Veer, van Staveren, & Kok, 1999) for up to five years with reliability (Czarnecki, Russell, Cooper, & Salter, 1990).

In Ryan and Deci's theoretical framework (2000a; 2000b) the authors describe the influence that an individual's motivation has on outcomes such as well-being. In this study, I also hypothesized that an individual's motivation for drinking alcohol would mediate the party context and influence outcome variables. Previous research shows that questions such as "I drink alcohol because I am more accepted socially" or "I drink alcohol because it makes me feel happy" are aspects of alcohol motivations (Wild, Cunningham and Ryan, 2006). These questions are reflected on the Alcohol Expectancies Scale used in this study. However, it is possible that the Alcohol Expectancies Scale measures alcohol expectancies only, and that this is a separate and

unique construct from alcohol motivations (Anderson et al., 2011; Cronin, 1997).

However, many studies use items similar to those on the Alcohol Expectancies Scale to measure aspects of motivations (Galen & Rogers, 2004).

Finally, the sample of respondents for this survey limits the generalizability of these results. Whereas the sample of respondents was more racially and ethnically diverse than previous studies (Buettner & Khurana, 2014; Montemurro & McClure, 2005), the respondents were all highly educated as they were all enrolled in their senior year of college. Thus, the behaviors exhibited may not be representative of all bachelorette party attendees, particularly of those with less education and a lower socioeconomic status. Finally, while the bachelorette party represents an important snapshot of female only drinking environments and the way that young women consume alcohol while drinking only with other women, it is not all encompassing. We do not yet know if bachelorette party behaviors are generalizable to other female only drinking environments, so this is an area for further research.

4.4. Future Directions

The results of this study represent an important direction in the literature on binge drinking behaviors in young women, particularly in female only and event specific drinking contexts. Yet, these results present opportunities for future areas of research and scholarship.

First, while it seems clear that the use of safety plans and protective factors contribute to increased alcohol consumption, it is not clear from this study if the

increased alcohol consumption contributed to greater negative consequences. Past scholarship asserts that there is a connection (Dowdall & Wechsler, 2002; Rahav et al., 2006). Future studies could examine this connection to determine if there is a significant relationship.

Additionally, a portion of bachelorette party attendees (20%) reported attending a destination bachelorette party (i.e., traveled a considerable distance to attend, such as Las Vegas or Nashville). It seems likely that party attendees with higher disposable incomes would be more likely to travel considerable distances given the cost inherent in such a trip. No literature to date examines bachelorette parties by type: destination as opposed to in-town events. It would be interesting to determine if a bachelorette party at a destination contributed to increased risk for attendees. This would be an area for future research that is yet to be explored.

Furthermore, a more refined measure of socioeconomic status would allow future researchers to determine if the phenomenon of bachelorette party binge drinking behaviors is specific to those with a higher socioeconomic status. This study confirms that the more money spent on alcohol, the more alcohol consumed (Martin, 2009). It seems likely that those with more disposable income would be more likely to attend a bachelorette party. While the sample in this study was random, all participants were still college attendees. College attendees are more likely to be from a higher socioeconomic status than the general population, so it would be interesting to see if this same phenomenon occurred in a random sample of the general population.

4.5. Implications for Practice

The results of hypothesis one show that there are real and measurable direct effects of party context on alcohol consumption. Almost all of these variables are malleable and subject to change. Thus for a practitioner, such as a health educator, medical professional, or university administrator, programming and interventions can be developed to address these particular factors.

In particular, many alcohol awareness programs attempt to teach young adults to “drink safely” by utilizing features of safety plans such as designating a driver, alternating alcoholic beverages with water, eating food throughout the night, etc. In this study, utilizing a safety plan increased alcohol consumption. Thus, for a practitioner, reframing existing alcohol awareness programs to focus on the **why** of safety plans may be beneficial. For example, it is possible that young adults are hearing the message that a safety plan is an important feature (i.e., 57% of participants reportedly used a safety plan). However, young adults may feel that by simply engaging in a safety plan they are protected and can consume more alcohol than those without a safety plan.

Furthermore, the other factors that had a direct effect on alcohol consumption included participating in drinking games, the drunkenness of other attendees, the cost of alcohol and party location. Whereas it may not be feasible to control the amount of money participants can spend on a bachelorette party, it is possible for alcohol programming to discuss these known risk factors. As bachelorette parties and female only drinking environments evolve, practitioners may want to develop programming to target these event specific occurrences.

Finally, the results of this study confirm that a young woman's alcohol motivations and expectancies can mediate her alcohol consumption and possibly negative consequences experienced. Both sense of belonging and alcohol motivations had not been previously explored as possible mediating factors in previous literature on bachelorette parties. This implies that practitioners may need to tailor alcohol interventions to the particular individual. An approach would differ between an individual who is highly motivated to drink and believes that alcohol has many positive associations and an individual who has negative alcohol expectancies.

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Appendix A: Measures

Study Title: Bachelorette Party Study

Researcher(s): Laura A. Walaszek, MA, and Dr. Cynthia K. Buettner, The Ohio State University

Purpose: This survey is part of study about bachelorette parties and the behaviors of bachelorette party goers. We are asking a random sample of female college seniors who have participated in a bachelorette party in the past 12 months to complete the survey.

This study is being conducted by Laura A. Walaszek and Dr. Cynthia Buettner at The Ohio State University. Please consider the information below carefully. If you decide to participate, completion of the questionnaire indicates your consent.

Your participation is voluntary. You must be 18 or older to participate.

Procedures/Tasks: The study consists of completing a one-time 10-15 minute online survey related to bachelorette parties. All of your information is completely anonymous and confidential. You may choose to ignore questions if you wish and you may leave the survey site at any time. If you decide to stop participating in the study, there will be no penalty to you, and you will not lose any benefits to which you are otherwise entitled. Your decision will not affect your future relationship with The Ohio State University.

Risks and Benefits: There are no known benefits to participation in this study. Potential risks are limited to revelation of embarrassing personal behavior. However, we have made every effort to eliminate this risk by making sure that your personal contact information is in no way associated with your survey answers.

Confidentiality: Although every effort to protect confidentiality will be made, no guarantee of internet security can be given as, although unlikely, transmissions can be intercepted and IP addresses can be identified.

Efforts will be made to keep your study-related information confidential. However, there may be circumstances where this information must be released. For example, personal information regarding your participation in this study may be disclosed if required by state law. Also, your records may be reviewed by the following groups (as applicable to the research):

- Office for Human Research Protections or other federal, state, or international regulatory agencies;
- The Ohio State University Institutional Review Board or Office of Responsible

Research Practices;

Participant Rights: You may refuse to participate in this study without penalty or loss of benefits to which you are otherwise entitled. If you are a student or employee at Ohio State, your decision will not affect your grades or employment status.

If you choose to participate in the study, you may discontinue participation at any time without penalty or loss of benefits.

An Institutional Review Board responsible for human subjects research at The Ohio State University reviewed this research project and found it to be acceptable, according to applicable state and federal regulations and University policies designed to protect the rights and welfare of participants in research.

Contacts and Questions:

If you have any questions regarding this research, you may contact Laura Walaszek, M.A., 387 Newton Hall, 292-5975, walaszek.3@osu.edu

For questions about your rights as a participant in this study or to discuss other study-related concerns or complaints with someone who is not part of the research team, you may contact Ms. Sandra Meadows in the Office of Responsible Research Practices at 1-800-678-6251.

- ☐ I agree
- ☐ I do NOT consent

Have you attended a bachelorette party in the last 12 months?

- ☐ Yes
- ☐ No

Please answer the questions based on the most recent bachelorette party you attended in the past twelve months.

Please provide the town and state where the bachelorette party occurred.

Town

State

How long ago was the party held?

- ☐ 1-3 months ago
- ☐ 4-6 months ago

- ☐ 7-12 months ago

Type of party (please check the description that is most like the party you attended)

- ☐ Girls' night in (at-home party, wine party, spa, sex toy, or negligee party)
- ☐ Girls' night out (going to a bar, restaurant, night club)

Was this a destination bachelorette party (i.e., traveled to Las Vegas, Put-In-Bay, etc.)?

- ☐ Yes
- ☐ No

If yes, approximately how many miles did you travel to attend?

Describe the elements that were present at the bachelorette party (check all that apply)

- ☐ Stripper
- ☐ Drinking games
- ☐ Bride task list
- ☐ Scavenger hunt
- ☐ Sexy gifts
- ☐ Matching outfits
- ☐ Theme

If there was a theme, please describe.

Did you decorate for the bachelorette party?

- ☐ Yes
- ☐ No

If yes, please describe.

Was the bride younger than 21?

- ☐ Yes
- ☐ No

Were any party attendees younger than 21?

- ☐ Yes
- ☐ No

If yes, did any of these attendees drink alcohol?

- ☐ Yes
- ☐ No

Who organized the party? (If more than one person organized, please choose the main organizer.)

- ☐ Bridal party members
- ☐ Friend of bride not in bridal party
- ☐ Bride's family member not in bridal party
- ☐ Bride
- ☐ Other (please specify)

How many people attended the party?

During the bachelorette party, how much did you spend on alcoholic drinks?

- ☐ Less than \$10
- ☐ \$10-\$19
- ☐ \$20-\$39
- ☐ \$40-\$59
- ☐ \$60-\$99
- ☐ \$100 or more

How many drinks* did you consume the day of the party, before the party began?

** A drink is a bottle of beer, a glass of wine, a wine cooler, a shot glass of liquor or a mixed drink.*

How many drinks* did you consume once the party officially began?

** A drink is a bottle of beer, a glass of wine, a wine cooler, a shot glass of liquor or a mixed drink.*

Were any of the party attendees (other than yourself) drunk?

- ☐ Yes
- ☐ No

Here is a list of some effects or consequences that some people experience after drinking alcohol. How likely is it that these things happen to you when you drink alcohol? Please circle the number that best describes how drinking alcohol would affect you.

(If you do not drink at all, you can still fill this out: Just answer it according to what you think would happen to you if you did drink.)

WHEN I DRINK ALCOHOL:

HOW LIKELY IS IT THAT THIS WOULD HAPPEN?

	No chance	Very unlikely	Unlikely	Likely	Very likely	Certain to happen
1. I am more accepted socially	1	2	3	4	5	6
2. I become aggressive	1	2	3	4	5	6
3. I am less alert	1	2	3	4	5	6
4. I feel ashamed of myself	1	2	3	4	5	6
5. I enjoy the buzz	1	2	3	4	5	6
6. I become clumsy or uncoordinated	1	2	3	4	5	6
7. I feel good	1	2	3	4	5	6
8. I get into fights	1	2	3	4	5	6
9. I can't concentrate	1	2	3	4	5	6
10. I have a good time	1	2	3	4	5	6
11. I have problems driving	1	2	3	4	5	6
12. I feel guilty	1	2	3	4	5	6
13. I get a hangover	1	2	3	4	5	6
14. I feel happy	1	2	3	4	5	6
15. I get a headache	1	2	3	4	5	6
16. I am more sexually assertive	1	2	3	4	5	6

WHEN I DRINK ALCOHOL:**HOW LIKELY IS IT THAT THIS WOULD HAPPEN?**

	No chance	Very unlikely	Unlikely	Likely	Very likely	Certain to happen
17. It is fun	1	2	3	4	5	6
18. I get mean	1	2	3	4	5	6
19. I have problems with memory and concentration	1	2	3	4	5	6
20. I am more outgoing	1	2	3	4	5	6
21. It takes away my negative moods and feelings	1	2	3	4	5	6
22. I have more desire for sex	1	2	3	4	5	6
23. It is easier for me to socialize	1	2	3	4	5	6
24. I feel pleasant physical effects	1	2	3	4	5	6
25. I am more sexually responsive	1	2	3	4	5	6
26. I feel more sociable	1	2	3	4	5	6
27. I feel sad or depressed	1	2	3	4	5	6
28. I am able to talk more freely	1	2	3	4	5	6
29. I become more sexually active	1	2	3	4	5	6
30. I feel sick	1	2	3	4	5	6
31. I feel less stressed	1	2	3	4	5	6
32. I am friendlier	1	2	3	4	5	6
33. I experience unpleasant physical effects	1	2	3	4	5	6
34. I am able to take my mind off my problems	1	2	3	4	5	6

Did you travel **during** the party? (e.g. from one bar to another, from a residence to a restaurant)

- ☐ Yes
- ☐ No

If yes, what was your main mode of transportation?

- ☐ Walk
- ☐ Public transportation
- ☐ Cars without designated drivers
- ☐ Cars with designated drivers
- ☐ Pre-arranged hired drivers
- ☐ Taxis
- ☐ Other (please specify)

How did you travel home **at the end** of the party?

- ☐ Walk
- ☐ Public transportation
- ☐ Cars without designated drivers
- ☐ Cars with designated drivers
- ☐ Pre-arranged hired drivers
- ☐ Taxis
- ☐ Other (please specify)

Please indicate if you experienced the following at any time during the day of the party:

- ☐ Had a hangover
- ☐ Got in trouble with police, residence hall or other college authorities
- ☐ Damaged property, pulled a fire alarm, etc.
- ☐ Got into an argument or fight
- ☐ Got nauseous or vomited
- ☐ Drove a car while under the influence
- ☐ Rode in a car with a driver who was under the influence

- ☐ Had memory loss
- ☐ Did something I later regretted
- ☐ Got arrested for DWI/DUI
- ☐ Was taken advantage of sexually
- ☐ Was hurt or injured

Did the party organizers or the party attendees have a "safety plan" for when the party was in public places? (e.g. designated drivers, making sure no one went off with a guy when she was drunk)

- ☐ Yes
- ☐ No
- ☐ N/A (party took place in a private residence)

If yes, please check all of the actions you engaged in during the bachelorette party:

- ☐ Designated a driver
- ☐ Traveled as a group
- ☐ Ate food throughout the event
- ☐ Alternated drinking water with drinking alcoholic drinks
- ☐ Monitored drinks to make sure they were not left unattended
- ☐ Planned in advance your total alcohol consumption

The following was available at the bachelorette party:

- ☐ Snacks and/or appetizers
- ☐ Full meal (i.e., dinner)
- ☐ Snacks/appetizers AND full meal
- ☐ No food was available

What is your relationship to the bride?

- ☐ Friend of the bride
- ☐ Relative of the bride
- ☐ Friend of the groom
- ☐ Relative of the groom
- ☐ Other (please specify)

What was your age at the time of the party?

How old was the bride at the time of the party?

Instructions: Here are some statements with which you may or may not agree. Using the key listed below, circle the number that most closely reflects your feelings about each statement.

KEY:

1 = Strongly Agree

2 = Agree

3 = Disagree

4 = Strongly Disagree

	Strongl y Agree	Agre e	Disagre e	Strongl y Disagre e
1. I often wonder if there is any place on earth where I really fit in.	1	2	3	4
2. I am just not sure if I fit in with my friends.	1	2	3	4
3. I would describe myself as a misfit in most social situations.	1	2	3	4
4. I generally feel that people accept me.	1	2	3	4
5. I feel like a piece of a jig-saw puzzle that doesn't fit into the puzzle.	1	2	3	4
6. I would like to make a difference to people or things around me, but I don't feel that what I have to offer is valued.	1	2	3	4
7. I feel like an outsider in most situations.	1	2	3	4
8. I am troubled by feeling like I have no place in this world.	1	2	3	4
9. I could disappear for days and it wouldn't matter to my family.	1	2	3	4
10. In general, I don't feel a part of the mainstream of society.	1	2	3	4
11. I feel like I observe life rather than participate in it.	1	2	3	4
12. If I died tomorrow, very few people would come to my funeral.	1	2	3	4

13. I feel like a square peg trying to fit into a round hole.	1	2	3	4
14. I don't feel that there is any place where I really fit in this world.	1	2	3	4
15. I am uncomfortable that my background and experiences are so different from those who are usually around me.	1	2	3	4
16. I could not see or call my friends for days and it wouldn't matter to them.	1	2	3	4
17. I feel left out of things.	1	2	3	4
18. I am not valued by or important to my friends.	1	2	3	4

At what age did you first use alcohol (beer, wine, liquor)?

- ☐ Did not use
- ☐ Under 10
- ☐ 10-11
- ☐ 12-13
- ☐ 14-15
- ☐ 16-17
- ☐ 18-20
- ☐ 21-25
- ☐ 26+

Within the last year about how often have you used alcohol (beer, wine, liquor)?

- ☐ Every day
- ☐ 5 times/week
- ☐ 3 times/week
- ☐ Once/week
- ☐ Twice/month
- ☐ 6 times/year
- ☐ Once/year
- ☐ Did not use

Think back over the last 30 days. Excluding the bachelorette party, how many times have you had four or more drinks* in a sitting?

**A drink is a bottle of beer, a glass of wine, a wine cooler, a shot glass of liquor or a mixed drink.*

- ☐ None
- ☐ Once
- ☐ Twice
- ☐ 3-5 times
- ☐ 6-9 times
- ☐ 10-14 times
- ☐ 15 or more times

Average number of drinks* you consume a week.

**A drink is a bottle of beer, a glass of wine, a wine cooler, a shot glass of liquor or a mixed drink.*

At any time in the last 12 months have you had 4 or more drinks at any of the following events:

**A drink is a bottle of beer, a glass of wine, a wine cooler, a shot glass of liquor or a mixed drink.*

- ☐ Sporting event
- ☐ Birthday celebration
- ☐ Holiday celebration (e.g., Halloween, St. Patrick's Day, etc.)
- ☐ Wedding

During the past 30 days, to what extent have you engaged in any of the following behaviors?

	Zero times	One time	Two times	3-5 times	6-9 times	10 or more times
Had a hangover						
Been in trouble with police, residence hall or college authorities						
Damaged property, pulled fire alarm, etc.						

Got into an argument or fight						
Got nauseated or vomited						
Driven a car while under the influence						
Had a memory loss						
Done something I later regretted						
Been arrested for DWI/DUI						
Have been taken advantage of sexually						
Been hurt or injured						
Had unprotected sex						

Marital Status

- ☐ Single
- ☐ Married
- ☐ Separated
- ☐ Divorced
- ☐ Widowed
- ☐ Cohabiting

Were you pregnant at the time of the party?

- ☐ Yes
- ☐ No

Do you have children?

- ☐ Yes
- ☐ No

What is your ethnicity?

- ☐ Hispanic or Latino
- ☐ Not Hispanic or Latino

What is your race?

- ☐ American Indian or Alaskan Native
- ☐ Asian
- ☐ Black or African American
- ☐ Native American or Other Pacific Islander
- ☐ White

- ☐ Multi-racial

Please indicate your household income range:

- ☐ Less than \$10,000
- ☐ \$10,000-\$30,000
- ☐ \$30,000-\$50,000
- ☐ \$50,000-\$70,000
- ☐ \$70,000-\$90,000
- ☐ More than \$90,000

In the past 12 months, how often have you attended religious services?

- ☐ Never
- ☐ Once
- ☐ Several times
- ☐ Two or more times a month
- ☐ Once a week

Thank you for participating in our survey. Would you like to be entered into the drawing for one of five \$50 gift certificates for Amazon?

If you click YES, you will be redirected to enter your contact information (this allows us to keep your answers here anonymous). Your survey responses will be saved when you select the YES.

- ☐ Yes
- ☐ No