

THESIS

THE INFLUENCE OF SOCIAL OSTRACISM ON DRINKING AS A SOCIAL IDENTITY
AMONG WOMEN IN COLLEGE

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ABSTRACT

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According to the social identity theory, social threats can lead to greater identification with one's in-group, and/or greater derogation of out-group members in order to establish or maintain self-esteem (Tajfel & Turner, 1986). The purpose of the present studies is to extend the social identity theory to examine whether college women classify their drinking behaviors as a group identity (light, moderate, heavy drinker), and whether they are likely to associate with their in-group and derogate out-group members when faced with social ostracism. It is hypothesized that when threatened with social ostracism, classification (e.g., self-stereotyping) with a group (light, moderate, heavy drinker) will vary according to the status of the participant's group, with moderate drinkers being viewed as higher status due to the developmental stage and context of the population. An initial survey, followed by an experiment utilizing a social ostracism manipulation was used to test the study's hypotheses. The results indicate that classification with a drinking group is significantly associated with drinking behaviors. Participants who were socially ostracized derogated the out-group with negative stereotypes, but did not classify positively with their in-group. The hypotheses examining the relationship between drinking group and drinking behaviors and out-group and in-group derogation were supported. Implications for prevention are discussed.

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STUDY 1 INTRODUCTION

Social Identity Theory

According to social identity theory (SIT), individuals strive to gain and maintain a positive social identity (Tajfel & Turner, 1979). While SIT has been an important construct in understanding intergroup behaviors (e.g., Amiot & Sansfacon, 2011; Tajfel & Turner, 1979), it has also been an important theory to understand how individuals establish and maintain self-esteem derived from their social identities in the face of social threats, such as ostracism.

Individuals are motivated to gain a positive social identity, which is a result of identifying with a group (Biernat, Vescio, & Green, 1996). Overall, social identities help to define individuals through the comparison of one's in-group identification to other out-group members.

The SIT focuses on three main psychological functions: social identification, social comparison, and psychological distinctiveness (Tasdemier, 2011). First, individuals must identify as having a group membership, and then individuals must be put into a social situation that allows them to make intergroup comparisons. Finally, individuals must perceive that an out-group is comparable, which in turn will increase motivation to gain intergroup differentiation (Tasdemier, 2011). Intergroup differentiation refers to the motivation of an individual to achieve a positive social identity (Tajfel & Turner, 1979). According to the SIT, individuals will try to distinguish themselves from other out-group members by constructing positive characteristics of their in-group.

One way that individuals can more strongly identify with their social groups is through self-categorization processes (Hogg & Reid, 2006). With self-categorization, people aim to maintain similarity with in-group members by behaving according to the perceived behavioral norms of their group (Hogg & Abrams, 2003; Verkooijen, de Vries, & Nielsen, 2007) and they

reconstruct representations of others in order to confirm one's prototype of the group. Individuals use accessible social categories, such as race and gender (Mackie & Smith., 1998), in order to determine how well categorization explains similarities and differences among others (Hogg & Reid, 2006). Also, another form of self-categorization is social classification. Through group classification, individuals have a way of systematically defining others and it allows an individual to define one's self in a particular social environment (Tajfel & Turner, 1979). Overall, through self-categorization, individuals create thoughts, feelings, and perceptions of their own behaviors in order to confirm their prototype of what is considered to be the in-group norm.

Alternatively, when there is a threat against one's social identity, there are different coping mechanisms that individuals use. One response to group level threat, when individuals have low commitment, is that they may leave their in-group and gain access to a higher status group (Ellemers, Spears, & Doosje, 2002). Consistent with the SIT, if individuals are discriminated against due to their in-group status, then they have the ability to change group membership to another social group in order to enhance their social identity (Tajfel & Turner, 1982). When a social group that an individual may strongly identify with is negatively stereotyped, an individual increases their identification with their social group (Biernat, Vescio & Green., 1996).

To date, much of the research testing the tenets of SIT and self-categorization theory have used social identities such as race, gender, and age. More recently, researchers have started examining specific stigmatized social identities, such as whether one identifies with having a chronic illness like HIV or cancer (Katz & Nevid, 2005; Quinn & Chaudoir, 2009), or if one has a substance abuse disorder (Pachankis, 2007). Stigmatized groups are devalued and oftentimes

ostracized by groups with higher status (Mendoza-Denton, Downey, Purdie, Davis, & Pietrzak, 2002), and therefore have many negative stereotypes associated with them (Quinn et al., 2009). For example, individuals who are described as alcoholics or problem drinkers are viewed negatively because of this negative label (Blizard, 1969 as cited in Kilty & Meenaghan, 1977).

Identification as a type of smoker is another type of identity that has been in the literature. Research suggests that identification as a type of smoker is complex (Stuber, Galen, & Link, 2009) and unlike drinking behaviors, has become more socially unacceptable, and causes individuals to not want to identify as a type of smoker (Stuber et al., 2009). Within the last century, there has been an increase in statewide smoking bans in public spaces, and researchers suggest that these public policies have changed the meaning of the term “smoker” to a more negative connotation (Stuber, 2009). Thus, a study conducted by Stuber and colleagues (2009) suggest that 17% of smokers perceived differential treatment because of their smoking habits and 32% discussed the awkwardness involved with socializing with nonsmokers.

Smoker identity among young adults suggests that an individual’s smoking behavior is associated with the smoking norms of peer social groups (Schofield, Pattison, Hill, & Borland, 2001). Furthermore, identification with a type of smoker is related to group norms, suggesting that people use their social groups as sources of information regarding unhealthy behavior (Phua, 2012). Overall, identification as a type of smoker is slightly different from identification with a type of drinker because of the stigma surrounding the term “smoker,” but this literature has implications for studying identification with social groups related to drinking behaviors.

Drinker stereotypes and types of drinkers have been considered in previous research, for example, Ashmore and colleagues (2002) conducted a study assessing college males’ drinker stereotypes among social groups. The results showed that there was a strong relationship

between the social culture of partying and high levels of alcohol consumption. The social images of college students and drinker stereotypes also appear to be related to how students define themselves and this definition shapes their identification as a type of drinker (Chassin, Tetzloff, & Hershey, 1985). This thesis assessed light, moderate, and heavy drinker stereotypes among women in college in order to explore their identification as a type of drinker.

Alcoholic Beverage Consumption as a Social Identity

SIT and self-categorization processes have been studied in the context of health behaviors. For example, self-categorization may explain why there are similar substance abuse patterns among youth social groups, as the identification with the social group leads to greater conformity to the perceived norms of the group (Verkooijen et al., 2007). Furthermore, researchers have explored perceived injunctive drinking norms, which refer to the perceptions of how much others approve or disapprove of drinking by other college students (Lewis, Neighbors, Geisner, Lee, Kilmer, & Atkins, 2010). Similarly, Schofield and colleagues (2003) found that group identification with peer social groups was strongly related to high school students' smoking behaviors, and Johnston and White (2003) found the same relationship for college student's intentions to engage in binge drinking.

Research suggests that identification as a type of drinker among college students, on a social networking website is socially desirable (Ridout, Campbell, & Ellis, 2012); thus the examination of group identity and drinking behaviors among college aged women is important to consider. Heavy or binge drinking is argued to be the number one public health threat and the primary source of mortality for over 6 million college students in the United States (Marczinski, Combs, & Fillmore, 2007; Wechsler et al., 1997). Over 18% of college students have met the criteria for alcohol abuse or alcohol dependence within the past year (Dawson et al., 2004;

Turrissi et al., 2007), and the developmental time frame from late adolescence to early adulthood is associated with the highest use of alcohol consumption (Johnston et al., 2003; Rice & Arsdale 2010). Drinking is a particular concern among females because previous research has found that female students' drinking is becoming comparable to their male peers (O'Malley & Johnston, 2002; LaBrie et al., 2007) and 34% of college women reported binge drinking in the past two weeks (Johnston, O'Malley, Bachman & Schelenberg, 2006). Drinking is a normative behavior among underage college students, with 80-90% reported drinking alcohol (Fisher, Fried, & Anushko, 2007), and this can have potential consequences for serious health issues, such as drunk driving and unsafe sex (Hingson et al., 2002; Jackson et al, 2005; Zimmerman et al., 2010).

Additionally, there are gender differences in body size that contribute to women becoming intoxicated more quickly than men, and women may feel pressure to drink more, without knowing about these physical differences (LaBrie et al., 2007). Zimmerman (2010) examined gender differences in social drinking and found that the more women perceived that their friends expected them to drink alcohol, the more they consumed. Furthermore, Neighbors and colleagues (2007) suggest that same-sex normative drinking behaviors are influential in reducing drinking behaviors for women who closely identify with being a woman.

Therefore, examining heavy drinking and drinking motives among college women is important. With high rates of heavy drinking among women (Johnston et al., 2006), one important factor to consider is if female students integrate drinking as a part of their social identity. Previous research suggests that because moderate drinkers are more socially valued, most people who consume alcohol would likely consider themselves moderate drinkers, regardless of their actual drinking behaviors (Dufour, 1999).

One of the aims of the current set of studies is to extend SIT and self-categorization theories to examine whether drinking behaviors correspond with a social identity (e.g., light or heavy drinker) among female college students. Based on SIT, it suggests the following hypothesis:

H1: Group classification (e.g., non, light, moderate, or heavy drinker) will be associated with an individual's reported drinking behaviors, accordingly.

The first study presented in this thesis will test the initial hypothesis to explore if drinking is considered a social identity among women in college (*Hypotheses 1*). In order to obtain a list of stereotypes about different drinking groups, a pilot study using a sample of both male and female undergraduate students ($N = 120$, gender of each participant's submission was not collected) enrolled in a social psychology class was conducted in the spring of 2011. Students were asked to list all the stereotypes that came to mind about female heavy, moderate, and light drinkers. After compiling all of the responses, the stereotypes were examined for overlapping content, and surprisingly the data were quite distinct. Stereotypes that overlapped considerably across categories were not included in the final list. This list appears in Table 1.

For this current thesis, two studies were conducted. Study 1 was designed to explore the stereotypes of light, moderate, and heavy female college drinkers and to examine the relationship between classification as a type of drinker and actual drinking behaviors. To explore these concepts, participants were asked to create female drinker stereotypes for each type of drinker (light, moderate, and heavy) and to then report their actual drinking behaviors. The relationship between type of drinker and drinking behaviors was then assessed. To further examine this phenomenon in relation to being rejected due to one's drinking behaviors, Study 2 was conducted. Study 2 explored the influence of social ostracism on classification as a type of

drinker and the influence of social ostracism on out-group derogation. Also, Study 2 examined whether drinking social motives moderate the influence of social ostracism on self-stereotyping and out-group derogation.

STUDY 1 METHOD

Participants

The sample consisted of female undergraduate college students ($N = 409$) from a large university in the mid-west of the United States. Participants were recruited through the psychology research pool, which mainly consists of students from the psychology 100 (introduction course) and psychology 250 (research method) courses. All participants received research credit for their participation in the study. The majority of the participants were under the legal drinking age of 21 (64% of sample who were underage, $M = 18.77$, $SD = 2.23$). The majority of the sample were freshman (70.8% freshman, 17.7% sophomores, 8.3% juniors, and 3.2% seniors). The majority of the sample were White (86.0%), followed by Hispanic (9.0%), Asian (3.0%), Black (3.0%), and American Indian, Alaska Native, or Native Hawaiian (2.0%). Participants reported drinking on average 1 or 2 cans or tavern glasses of beer in one sitting, at least once a month but less than once per week. Participants were asked about drinking behaviors relative to wine and liquor use, but only responses to beer were included in the analyses because that was the most prominent drinking choice among the participants.

Overview of Procedure

In October and November of 2011, participants were recruited to take part in an online study entitled “Health Behaviors of Women in College” via Qualtrics. First, a cover letter was presented to the participants, followed by a survey (Appendices A & B).

Measures

Demographics. Demographic characteristics such as age and ethnicity were assessed (See Appendix C).

Classification as a Type of Drinker. Participants were asked to first categorize themselves as a certain “type” of drinker, which is similar to an approach used by Daeppen, Smith, and Schuckit (1999). “Over the past 30 days, how would you label your own drinking pattern overall?” On a sliding scale, from 0 to 100, the labels at the poles were 0= *light drinker* and 100=*heavy drinker*. Participants were asked on a separate page, “What kind of drinker would you characterize yourself as being?” They rated themselves on a sliding scale, from 0 to 100, where 0= *light drinker* and 100=*heavy drinker*. Because a sliding scale was used, there was considerably more variability in the outcome than a regular Likert-scale, and because the poles were the only parts labeled this could eliminate some social-desirability concerns about classifying as a light or heavy drinker. This latter item was used to define classification with a drinking group. To define these groups, participants’ responses on the sliding scale were recoded into 3 drinker groups (after creating 3 quartiles by examining the descriptive statistics), such that 0-12 = non to light drinker ($N = 189$), 13-39 = moderate drinker ($N = 47$), and 40-100 = heavy drinker ($N = 24$).

Self-stereotyping. Participants were presented with 20 filler personality traits and 30 traits about drinkers (stereotypes of light, moderate, and heavy drinkers), balanced in terms of positivity across categories. These stereotypes were presented to the participants and were based on the pilot test described earlier. Participants rated each stereotype on a scale of 1-5 (1 = *not at all true*, 5 = *very true*) as to how much each word described them, and how positively or negatively they felt about each trait. These stereotypes were used to determine how positive and negative each stereotype was, according to the participants. These stereotypes were included as pilot data for Study 2 to use for classification with a type of drinker and for derogation items.

Descriptive information on the scale of each set of stereotypes for light, moderate, and heavy drinkers is shown in Table 1.

Table 1 *Study 1 Descriptive Information for Measurement Instruments (N = 373)*

Scale of Stereotypes	Number of Items	Item Means	Min	Max	Range	Variance	α
Light Drinkers	10	3.31	1.62	4.44	2.82	1.09	.66
Moderate Drinkers	10	3.18	1.30	4.36	3.06	1.08	.59
Heavy Drinkers	10	2.81	1.61	4.16	2.54	.69	.75

Drinking Quantity-Frequency Index. (The Drinking Quantity and Frequency Index (DQFI) modified from measures previously developed by Strauss and Bacon (1953) is a valid measurement of typical alcohol consumption. The scale uses the following definitions for light (.01-.21 ozs.), moderate (.22-.99 ozs.), and heavy drinking (1.0 oz. and above) and is the same measure used in national surveys funded by the National Institute of Alcohol Abuse and Alcoholism (NIAAA) (Williams & Debakey, 1992). A “standard drink” was defined for the respondents as 12.0 ozs. of beer, 5 ozs. of wine, or 1.5 ozs. of 86-proof liquor, all of which closely approximate 0.6 ozs. of alcohol. This inventory was used to assess the association between group classification and actual drinking behaviors. The following two questions were used in the analyses: 1). How often, on the average, do you usually have a beer? Respondents answered this question using a Likert scale ranging from 0 to 5 (5 = *everyday*, 4 = *at least once a week but not every day*, 3 = *at least once a month but less than once a week*, 2 = *more than once a year but less than once a month*, 1 = *once a year or less*, 0 = *never*), and 2). “When you drink

beer, how much, on the average, do you usually drink at any one time? They answered this question using a Likert -scale ranging from 1 to 5 (*5 = more than one six pack, 4 = 5 or 6 cans of beer or tavern glasses, 3 = 3 or 4 cans of beer to tavern glasses, 2 = 1 or 2 cans of beer or tavern glasses, 1 = less than 1 can of beer or tavern glass*). Next, the mean scores of the responses from the two questions were classified into drinking categories; those who scored a mean score of 0 = *no drinking*, .5 to 2 = *light drinking*, 3 = *moderate drinking*, 4 to 5 = *heavy drinking*. These cutoff points were consistent with previous research on classifications related to the different drinking categories (Strauss & Bacon, 1953).

STUDY 1 RESULTS

Descriptive Statistics

Descriptive information such as age, ethnicity, classification, and grade point average is presented in Appendix C. Classification as a type of drinker using a sliding scale from 0-100 elicited responses ranging from 0 to 91 ($N = 373$), where 0 = *light* and 100 = *heavy drinker*. Based on the cutoff criteria, classification as a type of drinker was trichotomized into 3 groups: light drinker ($N = 189$) ranging from 0-12, moderate drinker ($N = 47$) ranging from 13-39, and heavy drinker ($N = 24$) ranging from 40-100. The mean response was 22.68 ($SD = 22.85$) and the median response was 12 and 12.6% of participants identified as a non-drinker. These results suggest that the majority of women classify themselves with being a light drinker. Overall, these descriptive statistics illustrate that women are willing to classify themselves as a type of drinker, thus providing some preliminary support for the hypothesis that drinker type may be a form of social identity.

Drinker stereotypes were also rated on their positivity and negativity. As shown in Table 2, stereotypes associated with a moderate drinker were more positive than stereotypes related to light and heavy drinkers. Moderate drinker stereotypes were rated more favorably as compared to the other drinker stereotypes.

Table 2 *Top 10 Stereotypes among Light, Moderate, and Heavy Drinkers (N = 120)*

Heavy Drinker	Mean (SD)	Moderate Drinker	Mean (SD)	Light Drinker	Mean (SD)
Promiscuous	2.09 (.90)	Mature	4.49 (.61)	Studious	4.44 (.68)
Out of control	1.71 (.73)	Popular	3.53 (.70)	Prude	2.70 (.84)
Life of the party	3.39 (.80)	Social drinker	2.98 (.79)	Boring	2.06 (.73)
Social	4.31 (.63)	Entertaining	4.08 (.69)	Responsible	4.62 (.55)
Extrovert	3.64 (.77)	Good self-control	4.58 (.56)	Respectful	4.66 (.54)
Unpredictable	2.73 (.83)	Conformer/fitting in	2.45 (.96)	Anti-social	1.87 (.74)
Emotional	2.75 (.80)	Acceptance seeking	2.64 (.94)	Hard working	4.58 (.59)
Out-going	4.23 (.69)	Friendly	4.66 (.56)	Light weight	2.75 (.71)
Risk Taker	3.17 (.84)	Annoying	1.75 (.71)	Careful	3.88 (.75)
Irresponsible	1.55 (.68)			Classy	4.36 (.69)
Addict	1.57 (.65)				

Note. For Study 1, participants rated the degree of positivity for each adjective on a Likert Scale from 1 to 5 (1=*very bad*, 5=*very good*)

Drinking as a Social Identity and Drinking Behaviors

To test the hypothesis (*Hypothesis 1*) that classification as a type of drinker will be associated with drinking behaviors; a Pearson product-moment correlation coefficient was conducted. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity, and homoscedasticity. There was a strong positive relationship between drinking behaviors in the past 30 days and identification as a type of drinker, $r = .86$, $n = 329$, $p < .001$; the more a person identifies as a heavier drinker (on the sliding scale from 0 to 100; ($M = 21.72$, $SD = 22.98$), the more participants reported drinking in the last 30 days ($M = 22.68$, $SD = 22.85$). Overall, the results provide support for *Hypothesis 1* in that classification with a drinking group was associated with drinking behaviors in the predicted direction.

STUDY 1 DISCUSSION

Previous research suggests that identification with a social group is relevant to one's intentions to partake in risky behaviors associated with binge drinking (Johnston et al., 2003). Study 1 was conducted to explore if college women classify themselves as certain types of drinkers and whether there is a relationship between classification with a drinking group and reported drinking behaviors in the past month.

Exploring women's classification as a type of drinker is an initial step in exploring drinking as a possible social identity. In order for an individual to have group membership within a given social group, they must first identify as belonging to that group (Tajfel & Turner, 1979). College aged women in this study were found to classify themselves as belonging to a specific drinking group relative to their drinking behaviors. The results showed that overall, a majority of female college students categorized themselves as being a "non or light drinker" in the past month. While a majority of the sample classified as a non or light drinker, previous research suggest that regardless of one's drinking behaviors, an individual will identify as a moderate drinker because moderate drinkers because they are perceived to be a more socially valued social drinking group (Dufour, 1999). Perhaps self-categorization is influenced by the drinking behaviors of one's drinking group. For example, most participants classified themselves as a non- or light drinker, and this could imply that light drinking may be the perceived drinking norm for this sample of the population. Indeed, drinking behaviors have been found to be dependent upon perceptions of support for attitudes from one's in-group (Johnston & White, 2003). Consistent with previous research, the results of Study 1 suggest that classification with a drinking group is related to actual drinking behaviors, thus supporting *Hypothesis 1*. In addition, the results suggest that most college aged women in this sample positively rated moderate

drinker stereotypes, which is consistent with previous research suggesting that moderate drinkers are viewed as being more socially valued than other types of drinkers (Dufour, 1999).

While the results of Study 1 offer insight on the topic of drinking as a possible social identity, there were limitations. One limitation is that participants were forced to classify themselves as belonging to a social drinking group on a scale from 0 to 100, where 0=*light drinker* and 100=*heavy drinker*. This could be problematic, as a large proportion of women selected 0, which could mean either a non- or light-drinker. As a result, non-drinkers were included in the analyses because it was not clear whether they were “non” or “light” drinkers. A second limitation is that the study did not examine the influence of context or peer influence on drinking group classification. According to Johnston and colleagues (2003), the SIT posits that the salience of the in-group in the context that drinking decisions are made is important in understanding the role of group drinking norms. It is possible that classification as a drinker can be dependent on how supportive others are of one’s drinking behaviors.

Another factor that can have an influence on drinking behaviors is drinking motives, which were not explored in Study 1. Previous research suggests that social drinking motives are associated with moderate drinking (Kuntsche et al. (2006). Furthermore, in certain situations, social modeling and peer pressure may stimulate students to drink more frequently (Baer, 1994).

Thus, Study 2 was designed to explore drinker stereotypes in relation to drinking group classification among women and whether, when faced with social ostracism due to their drinking social identity, they will self-stereotype with their drinking group, or derogate the out-group and/or derogate their in-group. Study 2, was also designed so that the research could assess the effect of self-stereotyping and out-group derogation as a function of drinking social motives..

STUDY 2 INTRODUCTION

Social Ostracism

In Study 1, college aged women were found to classify themselves as different types of drinkers, and this classification was significantly correlated with actual drinking behavior. The purpose of Study 2 was to explore the impact of social ostracism on the identification processes associated with drinking such as group classification and peer/out-group derogation. When faced with social ostracism, which is a threatening experience of being rejected by one's peers (McDougall et al., 2001; Richman et al., 2009), individuals are motivated to change their social image to make it more positive (Leary, Twenge, & Quinlivan, 2006; Richman et al., 2009). Ostracism can threaten levels of four fundamental human needs: belonging, control, self-esteem, and meaningful existence (Williams, 2001; 2007). When individuals are socially ostracized, they will attempt to cope with being excluded by trying to strengthen these fundamental needs (Smith & Williams, 2004). For instance, if one's sense of belonging is threatened, then that person may reinforce bonds with other individuals and groups (Smith & Williams, 2004), which may be reflected by increases in classification with one's in-group, or classification with a higher-status group in order to gain greater acceptance.

Self-stereotyping with Positive Stereotypes

A strategy that individuals use in order to cope with discrimination against their in-group is self-stereotyping (Binernat et al., 1996). Self-stereotyping is the process whereby people who belong to a stigmatized social group label themselves with either positive and/or negative stereotypical personality traits compared to traits that are irrelevant to their in-group stereotype (Latrofa, Vaes, Pastore, & Cadinu, 2009). With self-stereotyping, individuals seek to define themselves in terms of group membership (Brewer & Gardner, 1996; Yang et al., 2010). Similar

to in-group identification with social identity theory, individuals identify with a group based on stereotypes that are consistent with one's in-group. Also, previous research indicates that higher levels of in-group identification are related to higher levels of self-stereotyping (Latrofa et al., 2009). Additionally, social identity and self-categorization theorists acknowledge that the process of self-stereotyping is expected to be influenced by an individual's motivation for positive self-representations. Although, social identity theory (Tajfel & Turner, 1979) argues that an individual will only identify with positive traits of their group, and not negative traits; self-stereotyping theory argues that the individual will identify with both positive and negative stereotypes of one's in-group (Latrofa et al., 2009). For the purposes of the current study, only positive self-stereotypes will be examined as a test of social identity theory.

In relation to drinking as a social identity and social ostracism, past research has shown that labeling based on drinking behaviors does occur and is related to social rejection (Kilty & Meenaghan, 1977). Indeed, participants labeled as "heavy drinkers" are likely to be ostracized by other college students and restricted from access to social events by their peers (Downs et al., 1985). By labeling someone as a certain "type" of drinker, the labeler essentially tags the behavior as deviant from what is considered normative (Walters, 1996). Sadly, being labeled as a heavy drinker or an alcoholic can actually increase drinking behaviors, rather than decrease them (Walters, 1996). Based on the pilot results of Study 1, stereotypes associated with a moderate drinker were strikingly more positive than light and heavy drinkers, with the indication that there is a greater value placed on the moderate drinker social category. If college students are rejected or ostracized by their college peers based on their drinking behaviors, then they will be motivated to think more positively about their in-group, or try to classify more strongly with an out-group with higher social status (in this case, moderate drinkers).

While moderate drinkers are seen as the more socially valued drinking group as shown in previous literature (Dufour, 1999), alcohol consumption among moderate drinkers is becoming problematic and similar to the drinking behaviors of heavy drinkers. According to Dawson (1995), moderate drinkers are classified as drinking 0.22 to 1.00 fl ozs. of alcohol per day (i.e., 4 to 14 drinks per week). Similarly, heavy drinkers are described as drinking 1.00 fl oz of alcohol or more per day (i.e., more than 2 drinks per day) (Dawson, 1995). In addition, researchers explored the incidence of a hangover following a night of moderate drinking among heavy drinkers (Howland et al., 2007). Participants received either an alcoholic beverage or a placebo and then completed a hangover scale. The results showed that moderate drinking behaviors did elicit incidences of hangover, which provides further support for comparable drinking behaviors among moderate and heavy drinkers.

As a result, moderate and heavy drinkers were combined in Study 2 to test the study's hypotheses. Therefore, Hypothesis 2 was predicted based on the SIT:

H2: When socially ostracized, light and moderate-heavy drinkers will classify more strongly with positive stereotypes of their own groups.

H2A: Light and moderate-heavy drinkers will associate more positively with stereotypes of moderate drinkers (the more socially valued group).

Out-group derogation (Brancombe & Wann, 1994) is the process of distinguishing one's in-group from an out-group through criticizing the out-group in order to enhance one's in-group's social identity. According to the SIT, individuals who strongly identify with their in-group will engage in out-group derogation when their in-group is threatened (Ellemers et al., 2002 cited in Glasford, Dovidio, and Pratto, 2009).

Consistent with the SIT, the following is hypothesized:

H3: Women who are socially ostracized will derogate the out-group by attributing negative traits to members of drinking out-groups as compared to women in the control condition.

Alternatively, research on social ostracism would predict that individuals may also derogate their in-group members rather than rate them positively. One way that individuals may apply pressure to other in-group members is through social ostracism (Williams, 1997). When faced with ostracism, individuals may derogate their own in-group by attributing negative stereotypes associated with their in-group to other in-group members when socially ostracized. Research suggests that social rejection can lead to reductions in one's self-esteem (Baumeister et al., 2005). In turn, reductions in self-esteem can influence the belief that an individual will fail to maintain social acceptance (Baumeister et al. 2005). Indeed, Twenge and colleagues (2001) reported that when participants were given social exclusion feedback, they responded with increased aggression toward others who had derogated them, in order to exert their power over others. Therefore, when faced with social threat due to one's drinking behaviors regardless of their group classification, a competing hypothesis would be:

H4: Women who are socially ostracized will derogate their in-group by attributing negative traits to members of their own drinking groups.

Drinking Motives

Drinking motives among college students are important to understand, as they predict patterns of alcohol consumption and other alcohol related problems (Cooper, Russell, Skinner, & Windle, 1992). Wills and Shiffman (1985) suggest that individuals consume alcohol in order to reduce negative affect when they are anxious, or enhance positive affect when they are fatigued.

Cooper and colleagues (1995) suggest that individuals use alcohol in order to cope and to enhance positive emotional experience, and that drinking is a motivated behavior that regulates positive and negative affective experiences through enhancement (increase in positive affect states), alcohol expectancies, positive/negative emotion, sensation seeking, and avoidance coping.

Because heavy drinking commonly takes place in social contexts, social motives for drinking are important to consider (Nagoshi et al., 1994; Zimmerman et al., 2010). Indeed, social anxiety, which is the fear of social rejection, can be reduced by drinking alcohol because of the psychological and physiological effects of becoming intoxicated (Conger, 1956). Therefore, social anxiety increases the risk of alcohol use (Kushner, Abrams, & Borchardt, 2000) and is a strong motivation for drinking among college students (Burke, 1999; Ham, Casner, Zamboanga, Olthuis, & Bio, 2010). Because social anxiety serves as a motivation to drink, individuals may drink more frequently in order to prevent rejection from peers, particularly if they strongly associate their drinking as a social identity. In the event that an individual is rejected due to their drinking behaviors, individuals with high social motives may derogate out-group members less if their peers are not in support of their drinking (Johnston & White, 2003).

Based on this line of research on drinking motives, the last hypothesis suggests:

H5: The impact of social ostracism on the outcomes will be moderated by social motives. The effect of social ostracism on derogating the out-group will be less for those with high drinking social motives, as compared to those with low drinking social motives. Also, the effect of social ostracism on self-stereotyping will be stronger for those with high drinking social motives and this group will identify more with the moderate drinker category due to it being more socially valued in the college context.

STUDY 2 METHOD

Participants

The sample consisted of female undergraduate college students ($N = 400$) from a large university in the mid-west of the United States. The psychology research pool, which mainly consists of students from the psychology 100 (introduction course) and psychology 250 (research method) courses, was used to recruit participants. All participants received research credit for their participation in the study. As with Study 1, the majority of the participants were under the legal drinking age of 21 (64.50% of sample who were underage; $M = 19.22$, $SD = 1.86$). The majority of the sample was freshman (58.1%; remaining were sophomores [26.6%], juniors [11.3%], and seniors [4.1%]). The sample consisted of majority White (77.4%), Hispanic (6.7%), Black (2.7%), Asian American (1.2%), Native/Hawaiian (0.2%), and other (11.7%).

Procedure and Measures

In February and March of 2012 (before the semester's spring break), participants completed the online experimental study via Qualtrics. The cover story of Study 2 was that the participants were recruited to participate in a study about the "Perceptions of Health Behavior," and that the researcher was interested in learning about health behaviors and social perceptions that can influence various health behaviors. First, participants were presented with the cover letter and a demographic survey. Next, participants completed a set of questionnaires to measure drinking as a social identity, which were similar to those in the study 1.

Classification as a Type or Drinker. Participants were asked to categorize themselves as a certain "type" of drinker, derived from Daeppen, Smith, and Schuckit (1999). Participants were asked, "What kind of drinker would you characterize yourself as being?" Through categorical options, participants could select one of the four options: non-drinker, light drinker, moderate

drinker, or heavy drinker. For Study 2, this assessment was changed from a sliding scale to categorical options in order to have participants classify themselves as a type of drinker, rather than having the experimenter create the drinking categories as in Study 1.

After completing the set of questionnaires, participants were randomly presented with a hypothetical scenario and randomly assigned to one of three conditions: control condition, experimental-moderate/heavy drinker, and experimental-light drinker. The drinker group classification that participants selected determined which condition they were placed in. Participants who classified themselves as a non-drinker were assigned to the control condition, light drinkers were randomly assigned to either the control or light drinker experimental condition, and moderate-heavy drinkers were randomly assigned to either the control or heavy drinker experimental condition.

Participants read a hypothetical scenario about being included or rejected by a peer because of their drinking behaviors (See Appendix C). Participants in the control condition read a hypothetical scenario about being included and invited to a social event because of their drinking behaviors (light, moderate, or heavy). Participants randomly assigned to the experimental condition read a hypothetical scenario about being socially rejected by a peer because they drank too little (light drinker) or drank too much (moderate to heavy drinker). Participants who identified as a non-drinker were always shown the control hypothetical scenario and those who identified as a light, moderate, or heavy drinker were randomly assigned to the control or experimental conditions. It is important to note that non-drinkers were only included in the statistical analysis to test *Hypothesis 1* examining the relationship between classification as a type of drinker and drinking behaviors. Moderate drinkers were assigned to the heavy drinker experimental condition to explore social ostracism among the moderate-heavy drinking group.

Consistent with previous research, because moderate drinkers are more socially valued, most people who consume alcohol would likely consider themselves moderate drinkers, regardless of their actual drinking behaviors (Dufour, 1999).

An example of the hypothetical scenario is as follows:

Light drinker experimental condition: "Imagine that this is a Friday night and you are at a party at Ram's Pointe. You are talking to one of your classmates and they notice that you have barely drank any alcohol at the party. They quickly end the conversation and leave you standing alone to talk to someone else who is enjoying a few beers. For the rest of the night, your classmates make fun of you for being a "light weight." The following weekend, you find out that you were not invited to a big party in Old Town by one of your peers because she thinks you would be uncomfortable being around everyone because you don't drink as much as them."

In-group Classification-Self-stereotyping. Next, participants completed the self-stereotyping measurement, which was based off Study 1. A Likert response scale paradigm was used to measure self-stereotyping (Smith & Henry, 1996; Yang & Hong, 2010), such that participants were asked to rate traits as to how well they described themselves. As seen in Table 3, participants were shown a list of 12 positive, neutral, and negative traits (5 stereotypes of heavy drinkers, 3 stereotypes of moderate drinkers, and 4 stereotypes of light drinkers that had been highly rated on the first survey) on the computer. These adjectives were chosen (from the original list of 30 from Study 1 if they were only directly related to drinking behaviors because some of the stereotypes gathered from the pilot study were adjectives related to academics and sexual behaviors. Participants were asked to rate how much each trait characterized them and their drinking behaviors on a Likert-scale ranging from 1 to 5, 1 = *not at all like me* and 5 = *just like me* (See Table 4 for scale items).

Table 3 *Top 13 Stereotypes of Light, Moderate, and Heavy Drinkers (N=430)*

Heavy Drinker	Mean (SD)	Moderate Drinker	Mean (SD)	Light Drinker	Mean (SD)
Out of control	1.93 (.72)	Outgoing	4.13 (.63)	Boring	2.17 (.69)
Socialable	4.24 (.57)	Social drinker	3.10 (.71)	Responsible	4.69 (.51)
Out-going	4.13 (.66)	Friendly	4.47 (.53)	Respectful	4.81 (.43)
Irresponsible	1.55 (.60)	Annoying	1.82 (.57)	Anti-social	2.08 (.75)
Addict	1.48 (.70)				

Note. These are the adjectives used in the self-stereotyping and out-group derogation measurements, where participants rated the degree of positivity for each adjective on a Likert Scale from 1 to 5 (1=*very bad*, 5=*very good*)

Table 4 *Study 2 Reliability Information for Measurement Instruments (N=430)*

Scale of Stereotypes	Number of Items	Item Means	Min	Max	Range	Variance	α
Light Drinkers	4	3.44	2.08	4.81	2.31	2.31	.26
Moderate Drinkers	3	3.13	1.82	4.48	2.66	1.77	-.19
Heavy Drinkers	5	2.62	1.47	4.23	2.76	.05	.27

Note. on a Likert scale from 1-5 (1=*not at all true*, 5=*very true*)

Out-group and in-group derogation. Next, participants rated characteristics of the "peer" in the hypothetical situations by completing the out-group/in-group derogation task. The same Likert type response scale used for the self-stereotyping paradigm was used to measure out-group and in-group derogation after the social ostracism manipulation. Participants were asked to rate the hypothetical "peers" in the presented scenarios. Participants were shown the same 12 traits (5 stereotypes of heavy drinkers, 3 stereotypes of moderate drinkers, and 4 stereotypes of light drinkers) and they rated how much each trait described the drinking behaviors of all of their peers in the scenario, using a Likert scale ranging from 1 to 5 (1 = *strongly disagree*, 5 = *strongly agree*). Also, participant were asked "How would you label the drinking behavior of your peers in the scenario," using a sliding scale from 0 to 100, (0 = *non to light drinking*, 100 = *heavy drinking*). Based on the descriptive statistics, peer drinkers were categorized into 3 drinking groups, light drinker = 0-54 ($N = 194$), moderate drinker = 55-69 ($N = 93$), and heavy drinker = 70-100 ($N = 94$). Finally, these 3 groups were then categorized as to whether or not the peer was an in-group member ($N = 172$) or out-group member ($N = 142$). This outcome was used to test *Hypotheses 3 and 4* on the influence of social ostracism on derogation by evaluating a member of an out-group and in-group.

Participants next completed a set of questionnaires to assess drinking behaviors and drinking motives. Lastly, participants were presented with a debriefing statement containing referrals to alcohol related university and off-campus services.

Manipulation Check. A Likert response scale was used to check the social ostracism manipulation. Participants were asked the following question to determine the likelihood of the social ostracism occurring in real life, "How likely is it that the hypothetical situation you

previously read would happen to you?" Participants responded using a Likert-scale ranging from 1 to 5, 1 = *very unlikely* and 5 = *very likely*.

Alcohol Use Disorders Identification (AUDIT). The AUDIT was used to measure alcohol consumption and to identify individuals with hazardous and harmful patterns of alcohol consumption (Babor, 1966). This is a 10-item questionnaire that measures levels of hazardous drinking, psychological/physical dependence on alcohol, and determines if significant alcohol problems currently exist. For the purpose of this study, the sum of questions 1-3 (drinking quantity and frequency) was assessed in the analyses. The mean AUDIT score was 4.71 ($SD = 2.62$), and 35.58% ($N = 132$) of the samples' drinking behaviors were considered to be at risk for alcohol related harm (as they scored at least a 6 out of 12 on the scale). This measure was used to re-test *Hypothesis 1* about the association between group classification and drinking behaviors ($\alpha = .84$).

Drinking Motives Questionnaire (DMQ). This measure contains 15 items that measure motives to consume alcohol, such as, social, coping, and enhancement reasons (Cooper, Russell, Skinner, & Windle, 1992). For the purposes of this study, the social motive questions were used in the analyses (5 items). This measure was used to test the moderation of social motives on out-group derogation and self-stereotyping after being socially ostracized ($\alpha = .71$).

STUDY 2 RESULTS

Drinking as a Social Identity

Initially, a manipulation check was conducted in order to determine how realistic the hypothetical situation was among only light and moderate-heavy drinkers. The majority of the participants reported that it was “unlikely” that the hypothetical situation would happen to them ($M = 1.87, SD = 1.20$). An analysis of variance (ANOVA) was conducted in order to examine if there were any significant differences between drinker types on the likelihood that the hypothetical scenario could happen in real life. The results should that there was a statistically significant main effect, at a $p < .05$ level, between type of drinker on the likelihood that the hypothetical situation could realistically happen, $F(1, 324) = 44.24, p < .01$. As shown in Table 5, post-hoc comparisons using the Tukey HSD test indicated that there were significant differences in perceptions of the likelihood of the hypothetical scenario occurring in real life among light drinkers ($M = 1.49, SD = 0.08$) and moderate-heavy drinkers ($M = 2.32, SD = 0.09$), all at $p < .01$. Overall, the results suggest that those who classified themselves as a light drinker

Table 5 *Tukey HSD Comparison for Manipulation Check for Hypothetical Scenario (N = 326)*

(I) Type of Drinker	(J) Type of Drinker	Mean BP Diff (I-J)	SE	95% Confidence Interval	
				Lower Bound	Upper Bound
Light Drinker	Moderate-Heavy	-0.83*	.13	-1.08	-.56
Moderate-Heavy Drinker	Light	0.83*	.13	.56	1.08

Note. * $p < 0.01$

believed that the hypothetical situation was least unlikely to happen to them, as compared to moderate-heavy drinkers.

In order to assess group classification as a particular drinker, participants had the option of choosing one of four options (non, light, moderate, and heavy drinkers). These four categories were collapsed into 3: non-drinker ($N = 67$), light drinker ($N = 171$), and moderate-heavy drinker ($N = 133$). The majority of the sample characterized themselves as light drinkers (44.50%).

Drinking as a Social Identity and Drinking Behaviors

To re-test *Hypothesis 1* from Study 1, which found that group classification was associated with drinking behaviors, the relationship between classification with a drinking group (non, light, moderate-heavy) and drinking behaviors (total drinking score from the Alcohol Use Disorders Identification-AUDIT) was examined.

An one-way between analysis of variance (ANOVA) was conducted to further explore the relationship between all self-identified drinking groups (non, light, and moderate-heavy) on self-reports of drinking behavior, as measured by the AUDIT, such that higher scores equate to higher drinking quantity and frequency. The dependent variable used was drinking behaviors and the independent variable was type of drinker (non, light, moderate-heavy drinker). Participants were asked to characterize their drinking behaviors into one of three drinking categories: non-drinker ($N = 67$), light drinker ($N = 171$), and moderate-heavy drinker ($N = 133$). There was a statistically significant main effect, at a $p < .05$ level, of drinking categories on self-reported drinking behaviors, $F(2, 368) = 343.97, p < .01$ (Table 6); drinking categories were positively

related to drinking behaviors. As shown in Table 7, post-hoc comparisons using the Tukey HSD test indicated that there were significant differences in drinking behaviors among non-drinkers, light drinkers, and moderate-heavy drinkers, all at $p < .01$. Overall, the results suggest that those who classified themselves as a non-drinker had the lowest drinking quantity and frequency, as compared to those who classified themselves as moderate-heavy drinkers who had the highest drinking quantity and frequency (Figure 1). Overall, the results indicate that how a woman in this sample classifies herself as belonging to a particular drinking group reflects her drinking behaviors. This finding provides evidence in further support of *Hypothesis 1*, which predicted that group classification will be associated with individual's reported drinking behaviors, accordingly.

Table 6 *Group means, standard deviations, and univariate effects of type of drinker on drinking behaviors (AUDIT Score) (N = 371)*

	Non- Drinker	Light Drinker	Moderate- Heavy Drinker	<i>F</i>	<i>n</i> ²	<i>p</i>
	M (SD)	M (SD)	M (SD)			
Drinker Behaviors	1.16 (.19)	4.23 (.12)	7.11 (.13)	343.97	.65	.00

Table 7 Tukey HSD Comparison for Drinking Behaviors ($N = 371$)

(I) Type of Drinker	(J) Type of Drinker	Mean BP Diff (I-J)	SE	95% Confidence Interval	
				Lower Bound	Upper Bound
Non Drinker	Light	-3.06*	.22	-3.60	-2.54
	Moderate-Heavy	-5.95*	.23	-6.49	-5.40
Light Drinker	Non	3.06*	.22	2.54	3.59
	Moderate-Heavy	-2.88*	.18	-3.31	-2.46
Moderate-Heavy Drinker	Non	5.95*	.23	5.40	6.46
	Light	2.88*	.18	2.46	3.31

Note. $p < .01$

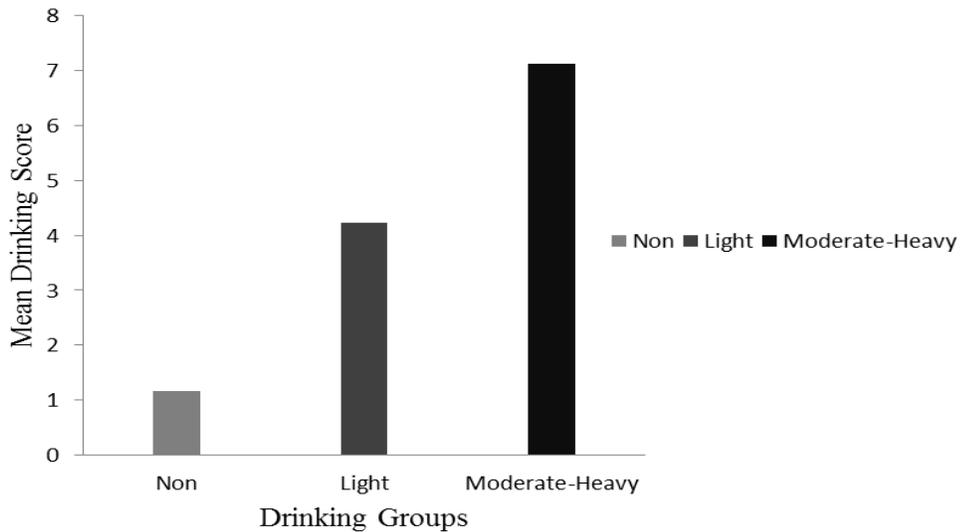


Figure 1 Mean Scores of Drinking Behaviors among Drinking Groups

Self-Stereotyping with Positive Stereotypes

Hypothesis 2 states that when threatened with social ostracism, those who classify with being a light or moderate-heavy drinker will classify with positive stereotypes associated with their own drinking group. Hypothesis 2A states that when threatened with social ostracism, those who classify as a light or a moderate-heavy drinker will associate more positively with being a more socially valued moderate drinker.

Light drinkers

A one-way within group multivariate analysis of variance (MANOVA) was performed to test the second hypothesis. Four dependent variables were used: light drinker positive stereotypes, light drinker negative stereotypes, moderate drinker positive stereotypes and heavy drinker positive stereotypes. The independent variable was condition (control or experimental). There were 177 participants who self-identified as a light drinker, with 88 in the control condition and 89 in the experimental condition. Preliminary assumption testing was conducted to check for normality, linearity, univariate, and multivariate outliers. There was not a statistically significant effect of condition on the combined dependent variables, $F(4, 172) = 0.53, p = .72$, Wilks' Lambda = .99, partial eta squared = .02.

Light Drinker Stereotypes. Furthermore, even though the omnibus test was not significant, the dependent variables were examined separately in order to examine if there were any differences in classification with the various drinker stereotypes. As shown in Table 8, when the results for the dependent variables were considered separately, there was not a statistically significant main effect of condition on positive light drinker stereotypes $F(1,175) = 0.62, p = .43$, partial eta squared = .00, nor a significant main effect of condition on negative light drinker stereotypes, $F(1,175) = 1.08, p = .30$, partial eta squared = .01. Because the results were not

significant, there was not support for Hypothesis 2. Light drinkers in the experimental condition did not classify with more positive stereotypes associated with a light drinker compared to those in the control condition.

Moderate and heavy drinker stereotypes. Next, positive stereotypes of moderate and heavy drinkers were explored. The MANOVA indicated that there was not a statistically significant main effect of condition on positive moderate drinker stereotypes $F(1,175) = 0.33$, $p = .86$, partial eta squared = .00 or on positive heavy drinker stereotypes $F(1,175) = 0.98$, $p = .32$, partial eta squared = .01. Because the results were not statistically significant, there was not support for *Hypothesis 2*. Light drinkers who were socially ostracized did not self-stereotype with positive stereotypes associated with a more socially acceptable moderate drinker.

In order to test hypothesis 2A, an independent samples t-test was conducted among light drinkers in order to explore if there were any differences on the effect of condition on one's in-group (positive light drinker stereotypes) and among the socially valued group (positive moderate drinker stereotypes). A Bonferonni adjustment was made and results were significant at $p = .03$. The results showed that there was not a statistically significant difference between the control condition and experimental condition on classification with positive moderate stereotypes, $t(177) = 0.79$, $p = .43$. In a second analysis, a Levene's test for equality of variances was found to be violated and there was not a significant difference between conditions on classification with positive light drinker stereotypes, $t(177) = 0.18$, $p = .86$. Because the results were not significant, there was no support for *Hypothesis 2A*, light drinkers in the control condition did not classify with more positive moderate drinker stereotypes, as compared to those in the experimental condition.

Moderate-Heavy Drinkers

Among moderate-heavy drinkers, a multivariate analysis of variance (MANOVA) was performed to test the hypothesis (*Hypothesis 2*). Four dependent variables were used: heavy drinker positive stereotypes, heavy drinker negative stereotypes, positive light drinker stereotypes, and positive moderate drinker stereotypes. The independent variable was condition (control or experimental). There were 147 participants who self-identified as a moderate or heavy drinker, with 120 in the control condition and 27 in the experimental condition.

Preliminary assumption testing was conducted to check for normality, linearity, univariate, and multivariate outliers. Overall, there was not a significant effect of condition on the combined dependent variables, $F(4, 142) = 2.00, p = .10$, Wilks' Lambda = .95, partial eta squared = .05.

Moderate and heavy drinker stereotypes. Although the omnibus test was not significant, the dependent variables were examined separately in order to examine if there were any differences in classification with the various drinker stereotypes. When the results for the dependent variables were considered separately, there was not a significant main effect of condition on self-stereotyping (i.e., classifying) with positive heavy drinker stereotypes $F(1,145) = 0.52, p = .47$, partial eta squared = .02, or a significant main effect of condition on negative heavy drinker stereotypes, $F(1,145) = 1.56, p = .21$, partial eta squared = .01 (Table 9). Also, the results showed that there was not a statistically significant main effect of condition on self-stereotyping with positive moderate drinker stereotypes, $F(1,145) = 2.18, p = .14$, partial eta squared = .02. Therefore, support for Hypothesis 2 was not found; when threatened with social ostracism, those who identified with being a moderate-heavy drinker did not self-stereotype (i.e., classify) more positively with positive stereotypes associated with their in-group.

Table 9 *Group means, standard deviations, and univariate effects of condition on positive heavy drinker stereotypes, negative heavy drinker stereotypes, positive light drinker stereotypes, and positive moderate drinker stereotypes among Moderate-Heavy Drinkers (N =147)*

Stereotypes	Control	Socially Ostracized	<i>F</i>	<i>n</i> ²	<i>p</i>
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)			
Positive heavy drinker	3.30 (.05)	3.39 (.11)	.52	.00	.47
Negative heavy drinker	.94 (.06)	1.11 (.12)	1.56	.01	.21
Positive Light drinker	3.08 (.06)	2.83 (.13)	3.16	.02	.08
Positive Moderate drinker	3.38 (.05)	3.22 (.10)	2.18	.02	.14

Light drinker stereotypes. There was a marginally significant main effect of condition on self-stereotyping with positive light drinker stereotypes, $F(1,145) = 3.16, p = .07$, partial eta squared = .02. As shown in Table 9, the results show that overall moderate-heavy drinkers do classify themselves with positive stereotypes associated with being a light drinker. The results were not statistically significant, thus not supporting *Hypothesis 2*.

In order to test *hypothesis 2A*, an independent samples t-test was conducted among moderate-heavy drinkers in order to explore the effect of condition on positive heavy and moderate drinker stereotypes to determine if moderate-heavy drinkers classify with more positive heavy drinker stereotypes of their in-group or with more positive moderate drinker stereotypes of the socially valued group. A Bonferonni adjustment was made and results were significant at $p = .03$. The results showed that there was a statistically significant difference between the control condition ($M = 4.18, SD = 0.54$) and experimental condition ($M = 3.79, SD =$

0.75) on classifying with positive moderate stereotypes, $t(231) = 3.34, p < .01$. Whereas in the previous analysis, there was a significant difference in condition on positive moderate drinker stereotypes, there was not a statistically significant difference between the control and experimental condition on classification with positive heavy drinker stereotypes, $t(335) = -1.28, p = .18$ (a Levene's test for equality of variances was found to be violated for this analysis). The results support Hypothesis 2A for moderate-heavy drinkers; those who were in the control group associated more with the socially valued moderate drinker, as compared to those in the experimental condition who classified less with positive stereotypes associated with a moderate drinker.

Out-Group and In-group Derogation

Hypothesis 3 states that women in the experimental condition will tend to attribute negative traits to members of drinking out-groups as compared to women in the control condition. Hypothesis 4 predicts that women in the experimental condition will tend to attribute negative traits to members of their own drinking groups. A univariate analysis of variance (ANOVA) was performed to test both hypotheses 3 and 4. The dependent variable was negative stereotype of the peer drinking group, depending on how the participants classified the peer as a light, moderate, or heavy drinker. The independent variable was condition (control or experimental), peer drinking group (in-group or out-group), and type of drinker (light or moderate-heavy drinker). Non-drinkers were not used in the following analyses because the researcher was only interested in examining the effect on drinkers. Preliminary assumption testing was conducted to check for normality, linearity, univariate, and multivariate outliers.

Main effects. The results showed that there was not a statistically significant main effect of peer group on negative stereotypes, $F(1, 307) = 2.11, p = .15$, partial eta squared = .01. There

also was not a significant main effect of type of drinker on derogating their peers with negative stereotyping, $F(1,307) = 0.11, p = .70, \text{partial eta squared} = .00$.

There was, however, a significant main effect of condition on derogating the peer with negative stereotypes, $F(2,307) = 11.64, p < .01, \text{partial eta squared} = .07$. The results suggest that moderate-heavy drinkers ($M = 2.62, SD = 0.20$) and light drinkers ($M = 2.88, SD = 12.00$) who were socially ostracized derogated their peers with more negative stereotypes, as compared to participants in the control condition ($M = 2.26, SD = 0.07$).

Interaction Effects. To test hypothesis 3 with regards to derogating the out-group and hypothesis 4 on derogating the in-group, the results showed that there was a significant interaction between condition and peer drinker (in-group or out-group), $F(2,307) = 18.54, p < .01, \text{partial eta squared} = .11$. As seen in Table 10 and Figure 2, light drinkers ($M = 3.50, SD = 0.12$) who were socially ostracized derogated the out-group with more negative stereotypes as compared to light drinkers in the control condition ($M = 2.24, SD = 0.12$). In addition, moderate-heavy drinkers ($M = 2.32, SD = 0.22$) who were socially ostracized derogated the out-group with more negative stereotypes than those in the control condition ($M = 2.29, SD = 0.12$). Therefore, hypothesis 3 was supported.

Table 10 *Group means, standard deviations, and the interaction between condition and peer drinker on derogation of negative stereotypes among light and moderate-heavy drinkers (N = 355)*

Student Drinker	Peer Drinking Group	Control	Socially Ostracized	<i>F</i>	<i>n</i> ²	<i>p</i>
		<i>M</i> (SD)	<i>M</i> (SD)			
Light Drinker	Out-group	2.24 (.12)	3.50 (.12)	18.54	.11	.00*
	In-group	2.23 (.12)	2.21 (.15)			
Moderate-Heavy Drinker	Out-group	2.29 (.12)	2.32 (.22)			
	In-group	2.27 (.09)	3.00 (.31)			

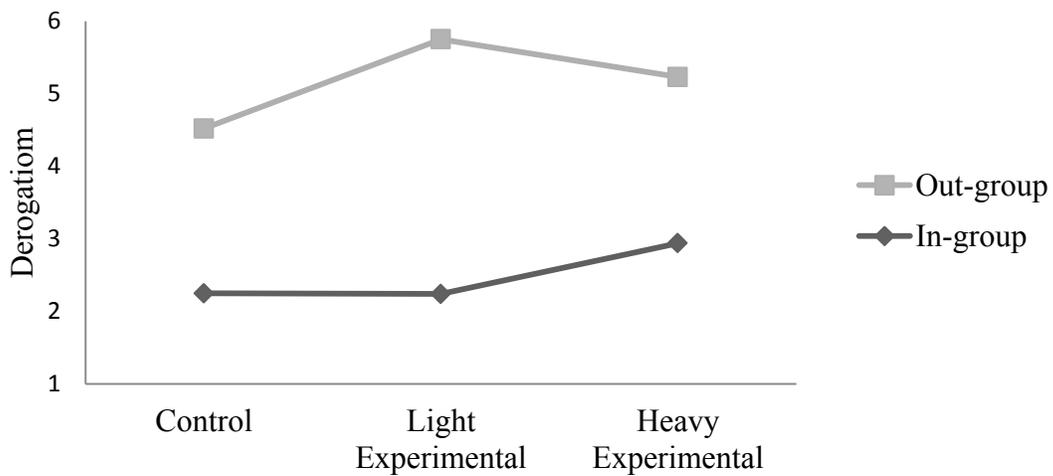


Figure 2 *Interaction Between Peer Group and Condition on Derogation of Negative Stereotypes Associated with an In-group or Out-group Member at $p < .01$*

When derogating the in-group, moderate-heavy drinkers ($M = 3.00$, $SD = 0.31$) who were socially ostracized derogated their in-group with more negative stereotypes compared to the control group ($M = 2.27$, $SD = 0.09$). However, there were no major differences in derogating the in-group among light drinkers ($M = 2.21$, $SD = 0.15$) who were socially ostracized, compared to those who were in the control condition ($M = 2.23$, $SD = 0.12$). Hypothesis 4, therefore, was only partially supported; moderate-heavy drinkers derogated their in-group when socially ostracized, but light drinkers did not.

Social Drinking Motives as a Moderator

A multivariate analyses of variance (MANOVA) was conducted in order to test social motives as a moderator of social ostracism on self-stereotyping (positive drinking group classification) and out-group derogation. Only participants in the experimental condition were used to explore social drinking motives because previous research suggests that when socially ostracized, a person may reinforce bonds with other individuals and social groups when socially ostracized (Smith & Williams, 2004). Thus, if individuals have high social drinking motives and are socially ostracized, their classification with a drinking group may be dependent upon perceptions of their peers in a given environment. Because there were 2 levels of the independent variables of type of drinker (light and moderate-heavy), a MANOVA can determine the influence of high and low social motives on self-stereotyping dependent variables and on derogation dependent variables.

Self-Stereotyping and Social Motives

A two-way multivariate analysis of variance (MANOVA) was performed to test the hypothesis (*Hypothesis 5*) that the effect of social ostracism will be moderated by social motives such that light and moderate-heavy drinkers with high social drinking motives will classify with

more positively to resemble a moderate drinker because the moderate drinker is seen as the more socially accepted drinker (Dufour, 1999). In this analysis, three dependent variables were used: light positive drinker stereotypes, moderate drinker positive stereotypes, and heavy drinker positive stereotypes. The independent variables were type of drinker (light or moderate-heavy drinker) and drinking social motives (low or high), with social motives as the moderator. Preliminary assumption testing was conducted to check for normality, linearity, univariate, and multivariate outliers.

Overall, there was not a statistically significant interaction between type of drinker and social motives on the combined self-stereotyping variables, $F(3,100) = 1.54, p = .21$, Wilks' Lambda = .96, partial eta squared = .05. Although the omnibus test was not significant, the dependent variables were considered separately in order to examine if there were any differences in classification with the various drinker stereotypes. As shown in Table 11, there was not a significant interaction of social motives and type of drinker on light positive stereotypes, $F(1,102) = 0.00, p = .97$, partial eta squared = .00. However, there was a marginally significant interaction effect on moderate positive stereotypes, $F(1,102) = 3.40, p = .07$, partial eta squared = .03, and a marginally significant interaction on heavy drinker positive stereotypes, $F(1,102) = 3.34, p = .07$, partial eta squared = .03. Though not significant, the results showed that light drinkers with high social motives classify more with positive moderate drinker stereotypes, as compared to light drinkers with low social motives. Alternatively, moderate-

heavy drinkers with low social motives identified more with moderate drinker and light drinker stereotypes, as compared to moderate-heavy drinkers with high social motives, when socially ostracized. The findings do not fully support *Hypothesis 5*. Social drinking motives and type of drinker do not seem to interact to predict self-stereotyping (see interaction term in Table 11).

Table 11 *Interaction between Social Motives and Type of Drinker on Self-Stereotyping Variables (N = 106)*

	Low Social Motives		High Social Motives		<i>F</i>	<i>p</i>
	Light Drinkers	Moderate-Heavy Drinkers	Light Drinkers	Moderate-Heavy Drinkers		
Stereotypes	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>		
	(SD)	(SD)	(SD)	(SD)		
Positive Light Drinker	3.59 (.09)	3.25 (.29)	3.13 (.09)	2.80 (.13)	.00	.97
Positive Moderate Drinker	2.86 (.09)	3.63 (.27)	2.94 (.08)	3.13 (.12)	3.41	.07
Positive Heavy Drinker	3.00 (.09)	2.88 (.29)	2.98 (.09)	3.23 (.13)	3.34	.07

Because the interaction was not significant, the model was rerun, removing the interaction term. Overall, there was a statistically significant main effect of type of drinker on the combined dependent variables (positive light, positive moderate, and positive heavy drinker stereotypes), $F(3,101) = 4.96, p = .00$, Wilks' Lambda = .87, partial eta squared = .13, and a significant main effect of social motives on the combined dependent variables, $F(3,101) = 5.28$,

$p = .00$, Wilks' Lambda=.86,partial eta-squared=.14. Significant main effects for type of drinker were found on light drinker positive stereotypes, $F(1,103) = 5.73$, $p = .02$, partial eta squared = .05, and a significant main effect on moderate drinker positive stereotypes, $F(1,103) = 5.50$, $p = .02$, partial eta squared = .05. Also, there was a significant main effect of type of drinker on heavy drinker positive stereotypes, $F(1,103) = 7.23$, $p = .01$, partial eta squared = .07. As shown in Table 12, among participants who were socially ostracized, light drinkers identified more with light drinker stereotypes and moderate-heavy drinkers identified more with heavy and moderate drinker stereotypes.

Table 12 *Group means, standard deviations, and univariate effects of type of drinker among those in the experimental condition on positive light drinker, positive moderate drinker, and positive heavy drinker stereotypes (N = 106)*

Stereotypes	Light Drinker	Moderate-Heavy Drinker	<i>F</i>	<i>p</i>
	<i>M</i> (SD)	<i>M</i> (SD)		
Positive Light Drinker	3.59 (.06)	3.03 (.12)	5.73	.02*
Positive Moderate Drinker	2.90 (.06)	3.21 (.10)	5.51	.02*
Positive Heavy Drinker	2.99 (.06)	3.37 (.11)	7.23	.01*

As shown in Table 13, there was a significant main effect for social motives was found on light drinker positive stereotypes, $F(1,103) = 15.28, p = .00$, partial eta squared = .13.

Table 13 *Group means, standard deviations, and univariate effects of social motives among those in the experimental condition on positive light drinker, positive moderate drinker, and positive heavy drinker stereotypes (N = 106)*

Stereotypes	Low Social Motives	High Social Motives	<i>F</i>	<i>p</i>
	<i>M</i> (SD)	<i>M</i> (SD)		
Positive Light Drinker	3.42 (.10)	2.96 (.12)	15.29	.00*
Positive Moderate Drinker	3.06 (1.00)	3.06 (.08)	.00	.99
Positive Heavy Drinker	3.24 (.11)	3.13 (.08)	.85	.36

However no significant main effect of social motives were found on moderate drinker positive stereotypes, $F(1,103) = 0.00, p = .99$, partial eta squared = .00, or on heavy drinker positive stereotypes, $F(1,103) = 0.85, p = .36$, partial eta squared = .01.

Out-group Derogation and Social Motives

A two-way multivariate analysis of variance (MANOVA) was performed to test the hypothesis (*Hypothesis 5*) that light and moderate-heavy drinkers with high social motives will derogate the out-group less when socially ostracized. Three dependent variables were used: negative stereotypes associated with a light drinker, negative stereotypes associated with a moderate drinker, and negative stereotypes associated with a heavy drinker. The independent

variable was type of drinker (light drinker or moderate-heavy drinkers) and social motives (high or low), with social motives as the moderator. Preliminary assumption testing was conducted to check for normality, linearity, univariate, and multivariate outliers.

The results showed that overall there was not a statistically significant interaction of social motives and type of drinker on derogating the out-group among the combined dependent variables, $F(3, 99) = 1.45, p = .23$, Wilks' Lambda = .96, partial eta squared = .04 (See Table 14). Although the omnibus test was not significant, the dependent variables were considered separately in order to examine if there were any differences in derogation with the various drinker stereotypes. When the dependent variables were assessed independently, the tests showed that there was not a significant interaction on negative light drinker stereotypes, $F(1,101) = 0.85, p = .36$, partial eta squared = .01, on negative moderate drinker stereotypes, $F(1,101) = 0.74, p = .39$, partial eta squared = .01, or on negative heavy drinker stereotypes, $F(1,101) = 3.18, p = .08$, partial eta squared = .03. Therefore, these results suggest that social motives do not significantly moderate the relationship between the type of drinker on derogating the out-group with negative stereotypes associated with light, moderate, and heavy drinkers.

Table 14 *Interaction between Social Motives and Type of Drinker on Out-group Derogation Variables (N = 105)*

Stereotypes	Low Social Motives		High Social Motives		<i>F</i>	<i>p</i>
	Light Drinker	Moderate- Heavy Drinker	Light Drinker	Moderate- Heavy Drinker		
	<i>M</i> (SD)	<i>M</i> (SD)	<i>M</i> (SD)	<i>M</i> (SD)		
Negative Light Drinker	2.15 (.11)	1.88 (.34)	2.14 (.10)	2.24 (.16)	.85	.36
Negative Moderate Drinker	3.21 (.17)	3.25 (.53)	3.40 (.16)	2.90 (.25)	.74	.39
Negative Heavy Drinker	3.08 (.13)	3.08 (.40)	3.23 (.12)	2.40 (.18)	3.18	.08

Main effects

Next because the interaction was not significant, the model was rerun removing the interaction term. Overall, there was a statistically significant main effect of type of drinker on the combined dependent variables (negative light, negative moderate, and negative heavy stereotypes), $F(3,100) = 3.75, p = .01$, Wilks' Lambda = .90, partial eta squared = .10. However, there was not a statistically significant main effect of social motives on the combined dependent variables, $F(3,100) = 0.10, p = .96$, Wilks' Lambda = 1.00, partial eta squared = .00.

Also, a significant main effect for type of drinker was not found for negative light drinker stereotypes, $F(1,102) = 0.00, p = .92$, partial eta squared = .00, or for moderate drinker positive stereotypes, $F(1,102) = 2.17, p = .14$, partial eta squared = .02. However, there was a significant main effect of type of drinker on heavy drinker positive stereotypes, $F(1,102) = 11.08, p < .01$, partial eta squared = .10. As shown in Table 15, among participants who were socially

ostracized, light drinkers attributed the out-group (moderate-heavy drinker) with having more negative stereotypes, and moderate-heavy drinkers derogated their in-group more negatively with moderate drinker stereotypes.

Table 15 *Group means, standard deviations, and univariate effects of type of drinker on negative light drinker stereotypes, negative moderate drinker stereotypes, and negative heavy drinker stereotypes (N = 105)*

Stereotypes	Light Drinker	Moderate-Heavy Drinker	<i>F</i>	<i>p</i>
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)		
Negative Light Drinker	2.15 (.08)	2.16 (.15)	.01	.92
Negative Moderate Drinker	3.30 (.12)	2.92 (.23)	2.17	.14
Negative Heavy Drinker	3.15 (.09)	2.51 (.18)	11.08	.00*

A significant main effect for social motives was not found for negative light drinker stereotypes, $F(1,102) = 0.07, p = .79$, partial eta squared = .00, moderate drinker positive stereotypes, $F(1,102) = 0.27, p = .60$, partial eta squared = .00, and heavy drinker positive stereotypes, $F(1,102) = 0.06, p = .81$, partial eta squared = .00. As shown in Table 16, there were no differences in high or low social motives on out-group/in-group derogation. Overall, because the findings were not significant, the results did not support *Hypothesis 5*, which predicted that light and moderate-heavy drinkers with high social motives will derogate the out-group less.

Table 16 *Group means, standard deviations, and univariate effects of social motives on negative light drinker stereotypes, negative moderate drinker stereotypes, and negative heavy drinker stereotypes (N = 105)*

Stereotypes	Low Social Motives	High Social Motives	<i>F</i>	<i>p</i>
	<i>M</i> (SD)	<i>M</i> (SD)		
Negative Light Drinker	2.13 (.13)	2.17 (.09)	.07	.78
Negative Moderate Drinker	3.05 (.19)	3.17 (.15)	.27	.60
Negative Heavy Drinker	2.84 (.15)	2.85 (.11)	.06	.81

STUDY 2 DISCUSSION

Previous research suggests that social ostracism can have an emotional effect on an individual and health behaviors (e.g., Kilty et al., 1977). For instance, past research suggests that when someone is labeled as a “heavy drinker,” they are excluded from social events and this can lead to an increase in alcohol consumption (Downs et al., 1985). Study 2 was conducted to explore if, when socially ostracized, participants will indicate greater positivity towards stereotypes associated with their drinking group, and derogate out-group members and/or derogate in-group members. Also, the moderation of social motives on classification with a drinking group and out-group derogation was examined. Based on previous research exploring the influence of social ostracism on social identity, a number of hypotheses were tested. Using the SIT (Tajfel & Turner, 1979), it was hypothesized that when threatened with social ostracism, light and moderate-heavy drinkers will self-stereotype more positively with their own group or will classify more strongly with a more socially accepted moderate drinker. Another hypothesis was proposed that, when threatened with social ostracism participants, will derogate out-group members (i.e., their peers). An alternative hypothesis was also proposed based on the social ostracism literature, such that participants may derogate in-group members. Previous research suggests that social rejection can lead to reduction in one’s self-esteem, which can lead to an increase in aggression towards the individual who derogated them (Twenge et al., 2001).

Consistent with Study 1’s results and with previous research (Johnston et al., 2003), women in the sample classified with one of four drinking social groups. Moreover, their drinking classification was positively associated with their self-reported drinking behaviors, supporting *Hypothesis 1*. In the present studies, there may be a possible methodological artifact due to how identity was measured in relation to drinking behaviors. Participants were forced to classify as a

type of drinker. Although group classification provides individuals with a systematic way of defining others and it allows an individual to define one's self (Tajfel & Turner, 1979), it is unclear whether or not participants are actually identifying as a type of drinker. The present study does provide some preliminary evidence that classification is occurring, and that it may be related to identity.

Past research has provided evidence that social ostracism has an impact on a drinking social identity (Walters, 1996) such that individuals are more inclined to make their social image more positive (Richman et al., 2009). When socially ostracized, only moderate-heavy drinkers rated positive moderate drinker stereotypes as being more like them, which is likely because the category of drinkers was primarily made up of "moderate drinkers." Participants who identified as being either a moderate or heavy drinker were combined to the moderate-heavy drinker category because past research indicates that the drinking behaviors of moderate and heavy drinkers are comparable (Dawson, 1985). Interestingly, light drinkers did not rate the positive traits of light drinkers any differently than those of moderate or heavy drinkers. This may have occurred because drinking as a social identity may not be as important of an identity among light drinkers. However, future research will need to explore drinking as a social identification with respect to light drinkers. Also, moderate-heavy drinkers were found to only identify with positive traits, rather than negative stereotypes about their group and these results are more aligned with self-enhancement involved with SIT (Latrofa et al., 2009).

When threatened with social ostracism, individuals tend to derogate out-group members by attributing negative stereotypes with the out-group, which lends partial support to SIT. However, consistent with past research on social ostracism (Williams, 1997), only moderate-heavy drinkers derogated their in-group with negative stereotypes associated with their drinking

group when ostracized; light drinkers did not derogate their in-group. Several studies suggest that social feedback conveying rejection impacts self-esteem regardless of group membership (Leary et al., 2001), such that self-esteem decreases and leads to increased aggression or derogation (Twenge et al., 2001). Because only moderate-heavy drinkers identified more with their in-group and derogated their own group, there may be some form of social identity process involved with drinking type. Accordingly, moderate-heavy drinkers are aligning themselves with traits associated with that category of drinkers.

Despite the extensive evidence from other studies (Cooper et al. 1995) on the influence of social motives on alcohol consumption, social motives did not significantly moderate the association between type of drinker and self-stereotyping, and it did not moderate the relationship between type of drinker and out-group derogation. Previous research suggests that social anxiety, which is the fear of social rejection, increases the risk of alcohol use (Kushner, Abrams, & Borchardt, 2000) and is a strong motivation for drinking among college students (Burke, 1999). Though both light and moderate-heavy drinkers with high social motives classify more positively with positive moderate drinker stereotypes as compared those with low social motives, the results were not significant thus not supporting *Hypothesis 5* on self-stereotyping.

Though the current study did not find significant effects for drinking motives, there may be other drinking motives, such as reinforcement, that may influence the identification process. Past research suggests that negative reinforcement motives, such as social isolation from peers, are related to coping and conformity, which are associated with higher alcohol consumption (Ham et al., 2009). Therefore, individuals may feel pressured to identify or not identify with their drinking group depending on their motives for drinking in any given situation. Future research should consider this topic.

Limitations

While the results of Study 2 offer insight into the topic of social ostracism as it related to drinking as a social identity, there were some limitations to the present study. One limitation is there was not a large sample of individuals who classified themselves as heavy drinkers. As a result, there was not an adequate sample to be randomly assigned to the heavy drinker experimental condition, which could have impacted the power in the analyses. This sampling issue could be due to the idea that female college drinkers do not want to classify themselves as a heavy drinker due to the stigmatization associated with heavy drinking. More specifically, this might have been a problem for the moderate-heavy drinking category because of the stigma associated with being a heavy drinker; it may have led these participants to derogate their own in-group. Because of the stigma surrounding heavy drinking and due to fact that most of the participants were under the legal drinking age, they may have hesitated in reporting their actual drinking behaviors. While the results did show that 35.58% of participants did engage in problematic drinking in the past month, it suggests that it is possible that people are likely drinking more heavily than what was reported. In a study conducted by Vik and colleagues (2000), 84.2% of college students reported heavy problematic drinking, with 4 or more drinks for women in one sitting. This has implications for future research related to social identity theory, in that due to the stigma associated with being a heavy drinker, female college aged students may not want to identify as belonging to this group.

Another limitation related to sampling is the use of convenience sampling. Because it was a convenience sample, there is a possibility that there is a systematic bias in which the results from the sample may be significantly different from theoretical results if the researcher were to have used a true random sampling. Perhaps, there may be different drinking behaviors depending

on age because majority of the current sample were freshmen. Freshmen are typically under the legal drinking age and therefore may not have been willing to identify as a heavier drinker. Whereas, O'Hare (1990) reported that those under the legal drinking age still drink as much as their legal age counterparts. In addition, the sample contained predominantly White or European American women, so the results may not be generalizable to other ethnic or racial groups. Past research suggests that there are racial/ethnic differences among American college students in alcohol use, such that White students are the heaviest drinkers, Black students are the lightest, and Hispanic students are intermediate (O'Malley & Johnston, 2002). Although the findings of the current study may not be generalizable to other racial or ethnic groups, they do speak to a racial group that tends to engage in more problematic drinking at this age.

Another limitation of the study is the design of the social ostracism paradigm. Initially, participants were brought into a laboratory to participate in a "get to know you" exercise in which the participants were socially ostracized by a confederate due to their actual drinking behaviors (data obtained from Study 1). After noticing some undesirable reactions to the social ostracism by a few participants the social ostracism paradigm was changed to an online study, where participants read a hypothetical scenario. Also, a manipulation check was used to determine if the participants perceived that the hypothetical scenario could happen in real life. The results showed that there was a significant difference between type of drinker and the likelihood of the hypothetical situation occurring in real life. Those who classified themselves as a light drinker believed that the hypothetical situation was less likely to happen to them than moderate-heavy drinkers. Though moderate drinkers are oftentimes viewed as the more socially valued drinking group among college students (Dufuor, 1999), there may be stigma associated with being a moderate or heavy drinker. These findings suggest that future research on alcohol

intervention should target moderate-heavy drinkers and that ostracism for light or non-drinkers may be less likely to occur. Future research will also need to determine whether different ostracism situations or hypothetical scenarios might be perceived as more likely to occur by light drinkers.

While Kipp Williams (2001) has found effects of social ostracism through the use of the cyber-ball, perhaps the social ostracism induction used in the current study did not elicit as much social threat compared to being socially ostracized in a more controlled setting. Future research should explore different social ostracism paradigms that would be best to examine ostracism on drinking as a social identity. For instance, participants could be brought into the lab to participate in a fake online Facebook chat between a participant and a confederate. Next, they would participate in a “get to know you exercise” and then the participant would be socially ostracized via online.

In conclusion, the results suggest that social ostracism does significantly predict self-stereotyping with positive traits, but only for moderate-heavy drinkers; and it does significantly predict derogation by attributing negative stereotypes to out-group and in-group members among light and moderate-heavy drinkers. Specifically, light and moderate-heavy drinkers derogated the out-group when socially ostracized, however, only moderate-heavy drinkers derogated their in-group when socially ostracized. Due to being socially ostracized, the moderate-heavy drinkers may have experienced a reduction in their self-esteem that resulted in acting aggressively towards the person who ostracized them, regardless if that individual was an in-group or an out-group member (Twenge et al., 2001). In addition, the results suggest that drinking social motives do not significantly moderate the relationship between type of drinker on self-stereotyping and out-group derogation.

GENERAL DISCUSSION

As alcohol use among women in college is becoming problematic, there is a lack of literature in the domain of exploring drinking as a social identity, particularly among women in college (Griffin et al., 2010). This is particularly noteworthy as previous research suggests that drinking behaviors among women in college are becoming comparable to their male counterparts (LaBrie et al., 2007). Recent attempts to fill this void have demonstrated the influence of environment on group classification with drinking behaviors (Verkooijen et al., 2007). In particular, research suggests that the influence of social ostracism on identity can lead to greater classification with one's in-group, also known as self-stereotyping, and/or derogation of the out-group and in-group members. One factor that would offset the influence of social ostracism on self-stereotyping and out-group derogation may be drinking social motives. Drinking social motives have been found to have an influence on the alcohol consumption among college students, particularly women in college (Cooper et al., 1995). Furthermore, the purpose of Studies 1 and 2 were to extend the social identity theory to examine whether college women classify their drinking behaviors as a group identity and whether they are more likely to associate with their in-group or derogate out-group members when faced with social ostracism from peers.

Although women in the current set of studies classified themselves as different types of drinkers, and their classification was associated with their actual drinking behaviors, it is still unclear whether the classification itself is identity. The way classification was measured across both studies did not allow participants to opt out—participants were only offered forced-choice responses. That said, the studies presented here provide some support for identity processes operating under conditions of social ostracism. When ostracized, moderate-heavy drinkers identified more strongly with stereotypes of their in-group (which is the more socially valued

group as demonstrated in Study 1) than light drinkers did. Previous literature examining racial identity suggests that measurement of ethnic identity begins with an individual self-identifying as a member of a particular group (Phinney & Ong, 2007). Future research could assess drinking as a social identity using more qualitative data, by asking open ended questions regarding one's identification with a drinking group. In addition, other measures of social identity could be used, such as the Inclusion of Other in the Self (IOS) Scale, which is a single item used to measure an individual's interpersonal connectedness (Aron, Aron & Smollan, 1992). This IOS measure can be used to look at the characteristics of how a type of drinker overlaps with one's overall self.

Future Directions

Given the prevalence of alcohol use among women in college, future studies should further explore the effects of social ostracism from peers on classification and drinking behaviors. The results from the present studies suggest that college-aged women classify themselves as belonging to a social group associated with their drinking behaviors, such that classification as a light drinker is related to light drinking behaviors, and classification as a heavier drinker is associated with heavy drinking behaviors. Also, when socially ostracized, this association can impact the derogation of out-group members, and at times, to derogate their own in-group if they are moderate-heavy drinkers.

In addition, it would be important to assess the influence of timing on the results of the study. For Study 1, data were collected in October and November of 2011 and for Study 2, data were collected in February and March of 2012. It is possible that the time of the year when the data were collected could have impacted the results. Previous research suggests that seasons of the year, such as spring break and finals week, are associated with higher levels of alcohol use among college students (Lee, Lewis, & Neighbors, 2009). Based on the current findings and

because data were not collected during spring break or finals week, it is not foreseeable that the time in which data was collected affected behavior reports in the current studies. This is important as it suggests that the samples across the two studies are similar. In the future, it would be beneficial to control for the time of year data were collected to determine if there were any differences in levels of alcohol consumption among college aged women.

For future studies, researchers should also explore specific situations that provide more acceptance for different types of drinkers depending on an individual's gender and age. It is possible that if the gender of the peer in the hypothetical scenario was more salient, there may be differences in self-stereotyping and out-group/in-group derogation. Perhaps, females may not feel as threatened if another female socially ostracized them due to their drinking behaviors, as compared to being socially ostracized by a male peer. Furthermore, it would be interesting to adopt this study design to explore the impact of the current research paradigm on classification for male college drinkers. For example, one study found that college aged men reported having a stronger alcohol identity as compared to college aged women (Ridout et al., 2012). Also, in a study conducted by Ashmore and colleagues (2002), male college students were found to drink 1.3 times a week, and reported an average of 5.7 drinks in one sitting, which is considered binge drinking. It would be interesting to further examine what factors would create a situation where males would feel socially ostracized because of their drinking behaviors compared to females. Also, what impact would ostracism have on how males classify and derogate others?

Future research should also explore peer drinking norms in relation to group classification as a type of drinker. Lewis and colleagues (2010) suggest that one's perception of norms for drinking is dependent upon how college students classify themselves with a social group (e.g., Greek organizations, athletes). In addition, it is argued that college drinking can be

influenced by the perceptions and approval of peers. Moreover, perceptions of peers' norms regarding appropriate alcohol use can influence alcohol use among college students (Nagoshi et al., 1994; Segrist et al., 2009). If other college students support heavy drinking, then individuals may start and continue to drink heavily behaviors and identify strongly with being a heavy drinker.

Furthermore, researchers should test the perceived drinking norms among individuals' drinking group. Past studies have found that college students tend to overestimate the incidence and approval of alcohol use among their peers, which in turn leads to an increase in alcohol consumption (Perkins, 2002). While studies have explored perceived drinking norms, among different college social groups (Ashmore, Del Boca & Beebe, 2002), few studies have explored the relationship between drinker norms and identification as a type of drinker. Future research should explore how those who classify themselves as a light drinker perceive the drinking norm for light drinkers.

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APPENDIX A

Study 1 Consent Form

CSU letterhead

Dear Participant,

We are conducting a research study, titled *Health Behaviors of Female College Students* in the psychology department at Colorado State University. The Principal Investigator is Dr. Jennifer Harman and the Co-Principal Investigator is Danielle Dickens.

For this study, you will complete a series of questionnaires assessing your health behaviors, such as drug and alcohol consumption through this online survey on Qualtrics. You will also be asked some questions about social relationships that have been found to impact health behaviors. Participation will take approximately 30 minutes to complete. Your participation in this research is voluntary. If you decide to participate in the study, you may withdraw your consent and stop participation at any time without penalty. You will also have the opportunity, at the end of the survey, to volunteer to be contacted for another study to be conducted this semester for additional experimental credit.

All research records will be kept private, to the extent allowed by law. While there are no direct benefits to you, we hope to gain more knowledge about the impact of social relationships on health behaviors. You will receive ½ research credit for participation in this survey. The possible risk from participation in this study may be discomfort when completing some of the questionnaires. It is not possible to identify all potential risks in research procedures, but the researcher(s) have taken reasonable safeguards to minimize any known and potential, but unknown, risks.

If you have any questions, please contact Jennifer Harman at Jennifer.harman@colostate.edu or Danielle Dickens at Danielle.dickens@colostate.edu. If you have any questions about your rights as a volunteer in this research, contact Janell Barker, Human Research Administrator, at 970-491-1655.

Sincerely,

Jennifer Harman, Ph.D.
Assistant Professor

Danielle Dickens
Graduate Research Assistant

If you consent to participate in this survey, please click on the “continue” button.

Study 2 Consent Form

Project Title: Perceptions Related to Health Behaviors among Female College Students
Investigators: Jennifer J. Harman, Ph.D.
Danielle Dickens, B.A.
Phone: 491-1529
Office: 219 Behavioral Sciences Building
Email: Jennifer.harman@colostate.edu, Danielle.Dickens@colostate.edu

Dear Participant,

We are conducting a research study, titled *Perceptions Related to Health Behaviors among Female College Students* in the psychology department at Colorado State University. The Principal Investigator is Dr. Jennifer Harman and the Co-Principal Investigator is Danielle Dickens.

For this study, you will complete a series of questionnaires assessing your health behaviors, such as drug and alcohol consumption through this online survey on Qualtrics. You will also be asked some questions about social relationships that have been found to impact health behaviors. Also, you will read a hypothetical scenario about a health behavior and will be asked to answer some questions about the people in the scenario and what they might do in particular situations.

Participation will take approximately 1 hour to complete. Your participation in this research is voluntary. If you decide to participate in the study, and you feel uncomfortable answering any questions, you may withdraw your consent and stop participation at any time without penalty. All research records will be kept private, to the extent allowed by law. While there are no direct benefits to you, we hope to gain more knowledge about the impact of social relationships on health behaviors. You will receive 1 research credit for participation in this survey.

The possible risk from participation in this study may be discomfort when completing some of the questionnaires. It is not possible to identify all potential risks in research procedures, but the researcher(s) have taken reasonable safeguards to minimize any known and potential, but unknown, risks.

If you have any questions, please contact Jennifer Harman at Jennifer.harman@colostate.edu or Danielle Dickens at Danielle.dickens@colostate.edu. If you have any questions about your rights as a volunteer in this research, contact Janell Barker, Human Research Administrator, at 970-491-1655.

Sincerely,

Jennifer Harman, Ph.D.
Assistant Professor

Danielle Dickens
Graduate Research Assistant

If you consent to participate in this survey, please click on the “continue” button.

APPENDIX B

Recruitment Materials

Study 1

Health behaviors of Female College Students

Study description: This survey is designed to explore general health behaviors among female college students. As a participant in this study you will be asked to complete questionnaires assessing your health behaviors, such as drug and alcohol consumption. You will also be asked some questions about social relationships that have been found to impact health behaviors. The on-line survey will take about 30 minutes to complete. You will receive ½ credits for participation in this survey.

Special requirements: Gender restricted- This study requires only female participants

Study 2

Perceptions Related to Health Behaviors among Female College Students

Study description: This survey is designed to explore general health behaviors among female college students. As a participant in this study you will be asked to complete questionnaires assessing your health behaviors, such as drug and alcohol consumption. Also, you will be asked to read a hypothetical scenario about a health behavior and will be asked some questions about social relationships that have been found to impact health behaviors. The on-line survey will take about 1 hour to complete. You will receive 1 credit for participation in this survey.

Special requirements: Gender restricted- This study requires only female participants.

Study 2, Part 2

Perceptions Related to Health Behaviors among Female College Students

Study description: This survey is designed to explore general health behaviors among female college students. As a participant in this study you will be asked to complete questionnaires assessing your health behaviors, such as drug and alcohol consumption. Also, you will be asked to read a hypothetical scenario about a health behavior and will be asked some questions about social relationships that have been found to impact health behaviors. The on-line survey will take about 1 hour to complete. You will receive 1 credit for participation in this survey.

Special Requirements: - **Gender Restricted** - Female participants only. Limited to participants who are moderate or heavy drinkers

APPENDIX C

Study 1 Questionnaires

Demographics

The following survey contains a variety of questions regarding your everyday behaviors and attitudes. Please be open and honest when answering the questions. Your responses will remain completely confidential. Please take note that each section of the survey has specific instructions and scales to use. Thank you for participating in our study. Our research would not be possible without you!

Please choose the response that most closely applies to you.

1. What is your age? _____

2. Race:
 - (A) American Indian or Alaska Native
 - (B) Asian
 - (C) Black or African American
 - (D) Hispanic or Latino
 - (E) Native Hawaiian or Other Pacific Islander
 - (F) White or European American
 - (G) Other

3. Religious Affiliation:
 - (A) Christian
 - (B) Judaism
 - (C) Muslim

- (D) Hinduism
- (E) Buddhist
- (F) Islamic
- (G) Agnostic
- (H) Other _____
- (I) No religion

4. Year in School
- (A) Freshman
 - (B) Sophomore
 - (C) Junior
 - (D) Senior
 - (E) Graduate

5. Grade Point Average
- (A) 4.0
 - (B) 3.0-3.9
 - (C) 2.0-2.9
 - (D) 1.0-1.9
 - (E) 0-0.9

6. Are you a member of:
- (A) a sorority
 - (B) a fraternity
 - (C) a school sponsored athletic team _____

Drinking as a Social Identity (Daepfen et al., 1999)

(16) Over the past 30 days, how would you label your drinking behavior?

Answer choice: on a sliding scale from “light-----heavy”

(17) What kind of drinker would you characterize yourself as being?

Answer choice: on a sliding scale from “light drinker-----heavy drinker”

Self-Stereotyping Paradigm (adapted from Smith & Henry, 1996)

Directions: On a Likert scale from 1 to 5 (1=not at all true, 5=true), rate how much each trait characterizes you.

(30 stereotypes of light, heavy, and moderate drinkers)

Addict	Mature	Studious
Out of control	Friendly	Prude
Life of the party	Social drinker	Boring
Popular	Entertaining	Responsible
Extrovert	Has self-control	Introvert
Irrational	Conformer	Anti-social
Emotional	Acceptance seeking	Hard working
Out-going	Promiscuous	Light weight

Risk taker	Annoying	Careful
Irresponsible	Unpredictable	Classy

(20 Filler Personality traits from the Big Five Factors)

1. Artistic
2. Curious
3. Creative
4. Imaginative
5. Respectful
6. self-disciplined
7. ambitious
8. self-efficient
9. energetic
10. amusing
11. enthusiastic
12. action oriented
13. cooperative
14. compassionate
15. sociable
16. hospitable
17. Stressful
18. Depressive
19. Anxious
20. Reactive

Directions: For each trait, indicate if you think the word is positive, neutral, or negative by using the sliding scale

positive neutral negative

Drinking Quantity Frequency Index (Mulford & Miller, 1959; Straus & Bacon, 1953)

When asked how much you drink in the following questions use this chart.

ONE STANDARD DRINK IS EQUAL TO:

Standard American BEER 12 oz. Can, Bottle or Glass

(3-5% alcohol)

Microbrew or European BEER 1/2 of a 12 oz. Can or Bottle (8%-12% alcohol)

WINE (12 – 17% alcohol) 4 oz. Glass

WINE Cooler 10 oz. Bottle

HARD LIQUOR 1-1/2 oz. or One Standard Shot

(80-proof, 40% alcohol)

HARD LIQUOR 1 oz.

(100-proof, 50% alcohol)

WINE: 1 Bottle

25 oz. (12 – 17% alcohol) = 5 standard drinks

40 oz. (12 – 17% alcohol) = 8 standard drinks

HARD LIQUOR: 1 Bottle

12 oz. = 8 standard drinks

25 oz. = 17 standard drinks

40 oz. = 27 standard drinks

1. How often during the past month did you have one or more drinks?

1 to 5 times

2 or 3 days a week

6 to 12 times

4 or more days a week

twice a month to once a week

2. How many drinks of each type of alcohol beverage do you ordinarily consume at a

sitting? That is from the time you start drinking until you quit?

Beer

Wine

Mixed drinks

Hard liquor

Other

Directions for scoring: The Q-F index score ranges from 0 for the non-drinker to 5 for the heaviest drinker. To illustrate the scoring: one who reports that he consumes medium or large amounts-that is, at least three bottles of beer, three glasses of wine or three mixed drinks-two to four times per month would receive a Q-F index score of 4; or, if he reports consuming this same quantity (or more) more than once a week, he would receive an index score of 5.

Student Alcohol Questionnaire (Engs & Hanson, 1975)

Now I am going to ask you some questions about your use of alcoholic beverages during the past year. Because alcohol use can affect many areas of health (and may interfere with certain medications), it is important for us to know how much you usually drink and whether you have experienced any problems with your drinking. Please try to be as honest and as accurate as you can be.

1. Let's take **beer** first. How often, on the average, do you usually have a beer?
 - (A) every day
 - (B) at least once a week but not every day
 - (C) at least once a month but less than once a week
 - (D) more than once a year but less than once a month
 - (E) once a year or less
 - (F) never

2. When you drink **beer**, how much, on the average, do you usually drink at any one time?
 - (A) more than one six pack (6 or more cans or tavern glasses)
 - (B) 5 or 6 cans of beer or tavern glasses
 - (C) 3 or 4 cans of beer or tavern glasses
 - (D) 1 or 2 cans of beer or tavern glasses
 - (E) less than 1 can of beer or tavern glass

3. Now let's look at table **wine**. How often do you usually have wine?
 - (A) every day
 - (B) at least once a week but not every day
 - (C) at least once a month but less than once a week
 - (D) more than once a year but less than once a month
 - (E) once a year or less
 - (F) never
4. When you drink **wine**, how much, on the average, do you usually drink at any one time?
 - (A) over 6 wine glasses
 - (B) 5 or 6 wine glasses
 - (C) 3 or 4 wine glasses
 - (D) 1 or 2 wine glasses
 - (E) less than 1 glass of wine
5. Next we would like to ask you about **liquors and spirits** (whiskey, gin, vodka, mixed drinks, etc.). How often do you usually have a drink of liquor?
 - (A) every day
 - (B) at least once a week but not every day
 - (C) at least once a month but less than once a week
 - (D) more than once a year but less than once a month
 - (E) once a year or less
 - (F) never
6. When you drink **liquor**, how many drinks, on the average, do you usually drink at any one time?
 - (A) over 6 drinks
 - (B) 5 or 6 drinks
 - (C) 3 or 4 drinks
 - (D) 1 or 2 drinks
 - (E) less than 1 drink
 - (F) never

Drinking Motives Questionnaire (Cooper et al., 1992)

On a Likert scale from 1-6 (1=never, 6=Almost always), How often do you drink:

1. Because you like the feeling?
2. Because it's exciting?
3. To get high?
4. Because it gives you a pleasant feeling?
5. Because it's fun?
6. Because it helps you enjoy a party?
7. To be sociable?
8. Because it makes social gatherings more fun?
9. Because it improves parties and celebrations?
10. To celebrate a special occasion with friends?

11. Because your friends pressure you to drink?
12. So that others won't kid you about not drinking?
13. You drink to fit in with a group you like?
14. To be liked?
15. So you won't feel left out?
16. To forget your worries?
17. Because it helps you when you feel depressed or nervous?
18. To cheer up when you're in a bad mood
19. Because you feel more self-confident or sure of yourself?
20. To forget about your problems?

At the end of survey.

Thank you for participating in this study. Before we continue with the debriefing, would you be willing to participate in another study for experimental credit this semester? If you are interested, you can supply us with your first and last name, and your email address. This information will be kept confidential, and separate from the data you just provided, other than being linked with an assigned number. This information will also be deleted at the end of the study, so that any identifying information you provide will be deleted and not linked to your data.

Would you like to be contacted again for a future study this semester? Y/N (if no, skip to debriefing)

Name _____ email address _____

Study 2 Questionnaires

Demographics

Please choose the response that most closely applies to you.

1. What is your age? _____
2. Race:
 - (A) American Indian or Alaska Native
 - (B) Asian
 - (C) Black or African American
 - (D) Hispanic or Latino
 - (E) Native Hawaiian or Other Pacific Islander
 - (F) White or European American
 - (G) Other
3. Religious Affiliation:
 - (A) Christian
 - (B) Judaism
 - (C) Muslim
 - (D) Hinduism
 - (E) Buddhist
 - (F) Islamic
 - (G) Agnostic
 - (H) Other _____
 - (I) No religion
4. Year in School
 - (A) Freshman
 - (B) Sophomore
 - (C) Junior
 - (D) Senior
 - (E) Graduate
5. Grade Point Average
 - (A) 4.0
 - (B) 3.0-3.9
 - (C) 2.0-2.9
 - (D) 1.0-1.9
 - (E) 0-0.9
6. Are you a member of:
 - (A) a sorority
 - (B) a fraternity
 - (C) a school sponsored athletic team _____

Drinking as a Social Identity (Daeppen et al., 1999)

Over the past 30 days, how would you label your drinking behavior?

Answer choice: on a sliding scale from “light-----heavy”

What kind of drinker would you characterize yourself as being?

Answer choice: on a sliding scale from “light drinker-----heavy drinker”

Drinking Quantity Frequency Index (Mulford & Miller, 1959; Straus & Bacon, 1953)

When asked how much you drink in the following questions use this chart.

ONE STANDARD DRINK IS EQUAL TO:

Standard American BEER 12 oz. Can, Bottle or Glass
(3-5% alcohol)

Microbrew or European BEER 1/2 of a 12 oz. Can or Bottle (8%-12% alcohol)

WINE (12 – 17% alcohol) 4 oz. Glass

WINE Cooler 10 oz. Bottle

HARD LIQUOR 1-1/2 oz. or One Standard Shot
(80-proof, 40% alcohol)

HARD LIQUOR 1 oz.
(100-proof, 50% alcohol)

WINE: 1 Bottle

25 oz. (12 – 17% alcohol) = 5 standard drinks

40 oz. (12 – 17% alcohol) = 8 standard drinks

HARD LIQUOR: 1 Bottle

12 oz. = 8 standard drinks

25 oz. = 17 standard drinks

40 oz = 27 standard drinks

1. How often during the past month did you have one or more drinks?

1 to 5 times

2 or 3 days a week

6 to 12 times

4 or more days a week

twice a month to once a week

2. How many drinks of each type of alcohol beverage do you ordinarily consume at a sitting? That is from the time you start drinking until you quit?

Beer

Wine

Mixed drinks

Hard liquor

Other

Directions for scoring: The Q-F index score ranges from 0 for the non-drinker to 5 for the heaviest drinker. To illustrate the scoring: one who reports that he consumes medium or large amounts—that is, at least three bottles of beer, three glasses of wine or three mixed drinks—two to four times per month would receive a Q-F index score of 4; or, if he reports consuming this same quantity (or more) more than once a week, he would receive an index score of 5.

**AUDIT questionnaire: screen for
alcohol misuse (Saunders et al. 1993)**

Please select the answer that is correct for you

1. How often do you have a drink containing alcohol?

- Never
- Monthly or less
- 2 4 times a month
- 2 3 times a week
- 4 or more times a week

2. How many standard drinks containing alcohol do you have on a typical day when drinking?

- 1 or 2
- 3 or 4
- 5 or 6
- 7 to 9
- 10 or more

3. How often do you have six or more drinks on one occasion?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

4. During the past year, how often have you found that you were not able to stop drinking once you had started?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

5. During the past year, how often have you failed to do what was normally expected of you because of drinking?

- Never

- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

During the past year, how often have you needed a drink in the morning to get yourself going after a heavy drinking session?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

During the past year, how often have you had a feeling of guilt or remorse after drinking?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

During the past year, have you been unable to remember what happened the night before because you had been drinking?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

Have you or someone else been injured as a result of your drinking?

- No
- Yes, but not in the past year
- Yes, during the past year

Has a relative or friend, doctor or other health worker been concerned about your drinking or suggested you cut down?

- No
- Yes, but not in the past year
- Yes, during the past year

Scoring the audit

Scores for each question range from 0 to 4, with the first response for each question (e.g., never) scoring 0, the second (e.g., less than monthly) scoring 1, the third (e.g., monthly) scoring 2, the fourth (e.g., weekly) scoring 3, and the last response (e.g., daily or almost daily) scoring 4. For questions 9 and 10, which only have three responses,

the scoring is 0, 2 and 4 (from left to right). A score of 8 or more is associated with harmful or hazardous drinking, a score of 13 or more in women, and 15 or more in men, is likely to indicate alcohol

Drinking Motives Questionnaire (Cooper et al., 1992)

On a Likert scale from 1-6 (1=never, 6=Almost always), How often do you drink:

1. Because you like the feeling?
2. Because it's exciting?
3. To get high?
4. Because it gives you a pleasant feeling?
5. Because it's fun?
6. Because it helps you enjoy a party?
7. To be sociable?
8. Because it makes social gatherings more fun?
9. Because it improves parties and celebrations?
10. To celebrate a special occasion with friends?
11. Because your friends pressure you to drink?
12. So that others won't kid you about not drinking?
13. You drink to fit in with a group you like?
14. To be liked?
15. So you won't feel left out?
16. To forget your worries?
17. Because it helps you when you feel depressed or nervous?
18. To cheer up when you're in a bad mood
19. Because you feel more self-confident or sure of yourself?
20. To forget about your problems?

Self-Stereotyping Paradigm (adapted from Smith & Henry, 1996) (pre-ostracism)

Directions: On a Likert scale from 1 to 5 (1=not at all true, 5=true), rate how much each trait characterizes you.

(30 stereotypes of light, heavy, and moderate drinkers)

Addict

Mature

Studious

Out of control	Friendly	Prude
Life of the party	Social drinker	Boring
Popular	Entertaining	Responsible
Extrovert	Has self-control	Introvert
Irrational	Conformer	Anti-social
Emotional	Acceptance seeking	Hard working
Out-going	Promiscuous	Light weight
Risk taker	Annoying	Careful
Irresponsible	Unpredictable	Classy

Directions: For each trait, indicate if you think the word is positive, neutral, or negative by using the sliding scale

positive neutral negative

Hypothetical Scenarios

Instructions: Now you will read a hypothetical scenario and will be asked some questions about the person in the scenario. Click the arrow to continue.

Control condition (light, moderate, and heavy)

Imagine that this is a Friday night and you are at a party at Rams Pointe. You are talking to a group of your friends and classmates and all of you are drinking alcohol, dancing, and having a good time. The following weekend, you find out that you are invited to a big party in Old Town by one of your peers because she thinks that you are their kind of drinker!

Light drinker experimental condition

Imagine that this is a Friday night and you are at a party at Rams Pointe. You are talking to one of your classmates and they notice that you have barely drank any alcohol at the party. They quickly end the conversation and leave you standing alone to talk to someone else who is enjoying a few beers. For the rest of the night, your classmates make fun of you for being a “light weight.” The following weekend, you find out that you were not invited to a big party in Old Town by one of your peers because she thinks you would be uncomfortable being around everyone because you don’t drink as much as them.

Heavy drinker experimental condition

Imagine that this is a Friday night and you are at a party at Rams Pointe. You are out with your friends, start drinking, and you get pretty drunk by the end of the night. You run into a few of your classmates and they notice that you are quite intoxicated. One classmate stops talking with you, and leaves you standing alone to talk with someone else who has not drunk as much alcohol as you have. The following weekend, you find out that you were not invited to a big party in Old Town this weekend by one of your peers because she thinks you drink too much, and a frat party may be more your style.

Instructions: Now you will be asked questions about the scenario you just read. Click the arrow to continue.

Free response: How would it make you feel if this situation were to happen to you? _____

Out-group Derogation

Instructions: Now you will be asked some questions describing the person in the scenario. Click the arrow button to continue.

Directions: On a Likert scale from 1 to 5 (1=not at all true, 5=true), rate how much each trait characterizes the peer in the scenario (the labels will not be presented to participants...only the trait adjectives).

(30 stereotypes

of light,

moderate, and

heavy drinkers)

Addict	Mature	Studious
Out of control	Friendly	Prude
Life of the party	Social drinker	Boring
Popular	Entertaining	Responsible
Extrovert	Has self-control	Introvert
Irrational	Conformer	Anti-social
Emotional	Acceptance seeking	Hard working
Out-going	Promiscuous	Light weight
Risk taker	Annoying	Careful
Irresponsible	Unpredictable	Classy

Self-Stereotyping Paradigm (adapted from Smith & Henry, 1996) (post-ostracism)

Directions: On a Likert scale from 1 to 5 (1=not at all true, 5=true), rate how much each trait characterizes you.

(30 stereotypes of light, heavy, and moderate drinkers)

Addict Mature Studious

Out of control	Friendly	Prude
Life of the party	Social drinker	Boring
Popular	Entertaining	Responsible
Extrovert	Has self-control	Introvert
Irrational	Conformer	Anti-social
Emotional	Acceptance seeking	Hard working
Out-going	Promiscuous	Light weight
Risk taker	Annoying	Careful
Irresponsible	Unpredictable	Classy

Intentions to Drink (Aas et al., 1993)

Directions: The next few questions will ask you about your intentions to drink alcohol in the future. On a Likert scale from 1 to 5 (1=not at all likely, 5= very likely)

What are your intentions to drink alcohol during the next 7 days?

How likely is it that you will drink any alcohol in the next 7 days?

How likely is it that you will become intoxicated from alcohol during the next 7 days?

Based off of the scenario that you read earlier, How likely is it that the situation would happen to you? (Rate on a scale of 1-5, 1=very unlikely, 5=very likely)

APPENDIX D

Study 1 Debriefing Forms

Project Title: Health Behaviors of Female College Students

Investigators: Jennifer J. Harman, Ph.D.
Danielle Dickens, B.A.
Phone: 491-1529
Office: 219 Behavioral Sciences Building
Email: Jennifer.harman@colostate.edu

Purpose of the Study

The purpose of this study is to examine general health behaviors among female college students. As a participant in this study you were asked to complete questionnaires assessing your health behaviors, such as drug and alcohol consumption and how social relationships can impact health behaviors. We were interested in studying health behaviors, especially drinking behaviors, as drinking alcohol in college is very common, especially among underage drinkers, and we wanted to see what factors might influence these behaviors.

Methods/Procedures

As a participant in this study you were asked to complete a survey containing questions regarding your self-esteem, drinking behaviors, and drinking categories. Specifically, it has been suggested that social relationships can have an impact on health behaviors. The information in this study will allow the researchers to determine what factors influence female college student's health behaviors, particularly drinking behaviors.

Use of the Data

All the responses you gave in this study are confidential. Identifying information (emails and names) was collected, but only so that you may be contacted for future studies this semester, if you so desired. Only the primary investigator and co-primary investigator will have access to all of the identifying information. The identifying information will be destroyed at the end of the semester. Your information from the surveys will be combined with information from other people taking part in the study. When we write about the study to share it with other researchers, we will write about the combined information we have gathered. You will not be identified in these written materials.

Implications and applications

While there are no direct benefits from participation in this study, your participation will help us to understand how social relationships can influence drinking behaviors and could contribute to alcohol prevention programming for college students. Female students' drinking is becoming comparable to their males (e.g., O'Malley & Johnston, 2002; LaBrie et al., 2007), with 40% of college women reporting binge drinking (e.g. Wechsler et al, 2002). It is estimated that 15-25% of college drinkers reporting engaging in heavy or problematic drinking (Barnes, Welte, & Dintcheff, 1992), and this can have potential consequences for serious health issues, such as drunk driving and unsafe sex (e.g. Hingson et al., 2002; Jackson et al, 2005; Zimmerman et al., 2010). Given the serious health consequences associated with heavy drinking, research such as this study is needed to understand factors contributing to risky drinking behaviors among female

college students. With this study, we hope to explore the impact that social relationships have on drinking behaviors among female college students.

How this applies to what I have learned in PSY100

Please refer to section **Social Relations pg. 594** in your Myer's Textbook for information relevant to this study.

Resources available to you

On-campus

CSU Alcohol Work Group 970- 491-5312

The purpose of the Alcohol Work Group is to promote responsible behavior around alcohol use, including education and compliance with campus policies and state and federal laws.

CSU DAY (Drugs, Alcohol, & You) Program 970-491-4693

The DAY Programs office consists of a wide spectrum of services designed to meet the needs of students who are facing issues related to alcohol and drug use. They are located on the second floor of the Aylesworth building.

Health Education and Prevention Services 970-491-1702

Offers information and services in about alcohol and other drugs

Wellness Zone: (in the Lory Student Center): 491-2634

Provides health information/services

Counseling Center: (123 Aylesworth): 491-6053

Therapy, counseling, stress management, self-help resources.

Center for Family and Couple Therapy (CFCT)

provides high-quality therapy services to families, couples, individuals, adolescents, and children. Affiliated with CSU's Marriage and Family Therapy Program in the Department of Human Development and Family Studies, the Center offers services to both CSU students and to community members.

Off-campus

Team Fort Collins: 970-114-9941

A non-profit community organization dedicated to preventing the abuse and illegal use of alcohol, tobacco, and drugs, especially among youth and families

Alcoholics Anonymous- Northern Colorado Intergroup Inc. 970-224-3552

<http://www.northcoloradoaa.org/>

This organization is a fellowship of men and women who share their experience, strength, and hope with each other that they may solve their common problem and help others to recover from alcoholism.

Institute for Alcohol Awareness of Fort Collins 970-221-4057

Alcohol and drug counseling with a focus on DUI and DWAI education and therapy. Offers individual, couples and family counseling and a variety of therapy groups (depending on location) including groups for women, addictions, relapse prevention, adolescents and minors in possession.

Larimer County Health Department: 498-6767

<http://www.co.larimer.co.us/health/cd/std.asp>

We would like to thank you for participating in this study. Please contact the researchers if you have any questions about your participation in this study.

Study 2 Debriefing Form

Project Title: Perceptions Related to Health Behaviors among Female College Students

Investigators: Jennifer J. Harman, Ph.D.
Danielle Dickens, B.A.
Phone: 491-1529
Office: 219 Behavioral Sciences Building
Email: Jennifer.harman@colostate.edu, Danielle.Dickens@colostate.edu

Purpose of the Study

The purpose of this study is to examine general health behaviors among female college students. As a participant in this study you were asked to complete questionnaires assessing your health behaviors, such as drug and alcohol consumption and how social relationships can impact health behaviors. We were interested in studying health behaviors, especially drinking behaviors, as drinking alcohol in college is very common, especially among underage drinkers, and we wanted to see what factors might influence these behaviors, such social rejection. Also, whether they are likely to identify with their group and derogate out-group members when they are at risk of being rejected by others.

Methods/Procedures

As a participant in this study you were asked to complete a survey containing questions regarding your self-esteem, drinking behaviors, and drinking categories. Also, you read a hypothetical scenario about being included or rejected by a friend because of your drinking behaviors. If you were in the control condition, you read a hypothetical scenario about being included and invited to a social event because of how you identified as a light, moderate, or heavy drinker. If you were in the experimental condition, you read a hypothetical scenario about being socially rejected by a friend because you identified as a light, moderate, or heavy drinker. Also, you were asked some questions about the peer in the situation and what they might do in particular situations. Specifically, it has been suggested that social relationships can have an impact on health behaviors. The information in this study will allow the researchers to determine what factors influence female college student's health behaviors, particularly drinking behaviors.

We were interested here in seeing whether by imagining that you were in a situation where you were excluded by someone who portrayed themselves as a moderate drinker would influence how you identified as a drinker yourself later, how you would characterize the other person, and your intentions to drink at a future time. We hypothesize that when socially rejected from a peer, this will lead to an increase in belonging and identification to a drinking social group, such as identifying more strongly as a light drinker or heavy drinker, or to appear more like a moderate drinker.

Use of the Data

All the responses you gave in this study are confidential. Only the primary investigator and co-primary investigator will have access to all information. Your information from the surveys will be combined with information from other people taking part in the study. When we write about the study to share it with other researchers, we will write about the combined information we have gathered. You will not be identified in these written materials.

Implications and applications

While there are no direct benefits from participation in this study, your participation will help us to understand how social rejection can influence group identification among various drinking social groups (heavy, moderate light drinkers) and could contribute to alcohol prevention programming for college students. Female students' drinking is becoming comparable to males (e.g., O'Malley & Johnston, 2002; LaBrie et al., 2007), with 40% of college women reporting binge drinking (e.g. Wechsler et al, 2002). It is estimated that 15-25% of college drinkers reporting engaging in heavy or problematic drinking (Barnes, Welte, & Dintcheff, 1992), and this can have potential consequences for serious health issues, such as drunk driving and unsafe sex (e.g. Hingson et al., 2002; Jackson et al, 2005; Zimmerman et al., 2010). Given the serious health consequences associated with heavy drinking, research such as this study is needed to understand factors contributing to risky drinking behaviors among female college students.

As evidenced by research, heavy drinking is becoming more widespread on college campuses. Prior research has indicated that 44% of college students report recent heavy drinking, with five or more drinks for men and four or more drinks for women (Wechsler et al., 2002). Overall, among college students heavy drinking is becoming the statistical norm on college campuses. Over 18% of college students have met the criteria for alcohol abuse or alcohol dependence within the past year (Dawson et al., 2004; Turrissi et al., 2007), and the developmental time frame from late adolescence to early adulthood is associated with the highest use of alcohol consumption (Johnston et al., 2003; Rice & Arsdale 2010).

You should not feel embarrassed or ashamed because of your drinking behaviors, as there is great variability in student drinking behaviors. However, heavy drinking is a serious issue that can have very negative consequences, and researchers are conducting research and implementing intervention programs because of how prevalent heavy drinking behaviors are among college students. If you feel like your drinking is a problem for you, there are many resources on campus and off campus that are available for you to seek help. For more information, please see the list of resources below.

In general, with this study we hope to explore the impact that different drinking behaviors have on female college student's perceptions of themselves and their peers.

How this applies to what I have learned in PSY100

Please refer to section **Social Relations pg. 594** in your Myer's Textbook for information relevant to this study.

Resources available to you

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Larimer County Health Department: 498-6767

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We would like to thank you for participating in this study. Please contact the researchers if you have any questions about your participation in this study.