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Alcohol-Specific Social Comparison as a Moderator of the Norms-Behavior Association for Young Adult Alcohol Use

Dana M. Litt^{1,*}, Katja A. Waldron², Elliot C. Wallace³, and Melissa A. Lewis¹

¹Department of Health Behavior and Health Systems, University of North Texas Health Science Center, Fort Worth, TX

²Department of Biobehavioral Health, Pennsylvania State University, State College, PA

³Department of Psychiatry and Behavioral Sciences, Box 354944, University of Washington, Seattle, WA

Abstract

Research has indicated that individuals high in social comparison orientation (SCO) are more influenced by the behavior and perceived norms of others. However, despite research indicating that behavior is more closely influenced by and modeled on more socially proximal reference groups, most social comparison research to date has utilized global measures of social comparison. As such, research has not examined whether domain-specific (i.e. alcohol-specific social comparisons) and their relation with norms are more predictive of alcohol-related outcomes than global comparisons. As such, the present study aimed to determine whether the previously found relationships between global SCO, descriptive drinking norms and their interaction are still significant when accounting for alcohol-specific SCO and its interaction with descriptive norms in the prediction of drinking willingness and behavior. Results from 355 young adults age 18–20 indicated that the association of alcohol-specific SCO and its interaction with descriptive norms for drinking predicts alcohol-related outcomes (drinking willingness and alcohol consumption), but not alcohol-related negative consequences) above and beyond global SCO. Thus, alcohol-specific SCO may be of particular importance when determining for whom normative based preventive interventions may be the most efficacious.

Keywords

social comparison; alcohol use; norms; young adult

The prevalence of young adult (YA) alcohol use continues to be a public health concern (Kann et al., 2014), with 38% of YAs aged 18 to 25 engaging in heavy episodic drinking (4+ drinks for women, 5+ for men; SAMHSA, 2014). Alcohol-related consequences occur in

*Corresponding author at: Department of Health Behaviors and Health Systems, School of Public Health, University of North Texas Health Science Center, 3500 Camp Bowie Blvd., Fort Worth, TX 76107.

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academic, interpersonal, social, and health domains (Hingson & White, 2014; White, Maccines, Hingson, & Pan, 2013). As such, reducing the proportion of YAs who engage in excessive alcohol use has been listed as a major objective of Healthy People 2020 (USDHHS, 2015). Accordingly, identifying both social factors and individual differences associated with excessive alcohol use in YAs may help inform the development and refinement of effective alcohol prevention programs.

Drinking Norms

Alcohol use during adolescence typically occurs in the context of peers (e.g., Barnes, Hoffman, Welte, Farrell, & Dintcheff, 2006; Ingram, Patchin, Huebner, McCluskey, & Bynum, 2007). A wealth of literature has determined that YAs' beliefs about whether or not their peers use alcohol is significantly related to their own use (Borsari & Carey, 2001; Lewis & Neighbors, 2006; Simons-Morton, Haynie, Bible, & Liu, 2018), and as such, are important to include when predicting substance use behaviors (e.g., Ravis & Sheeran, 2003; Gerrard, Gibbons, Houlihan, Stock, & Pomery, 2008). Perceived norms for more specific normative referents, and in particular with at least one level of specificity above what the "typical student" are were uniquely related to participants' own drinking (Larimer et al., 2009). Moreover, research has evaluated moderators, such as gender identity and group identification, of the relationship between social norms and alcohol consumption in order to help identify those at greatest risk for social influences on drinking and also those who might make good candidates for norms-based interventions (Lewis & Neighbors, 2007; Neighbors et al., 2010). Together these findings indicate that some degree of greater specificity increases the strength of the association between norms and behavior as well as the efficacy of personalized feedback interventions.

Social Comparison

Social comparison was originally conceived as a way for people to evaluate themselves in the absence of objective standards (Festinger, 1954) and has been further suggested to be a process through which people search for self-relevant information and how to gain important self-knowledge (e.g., Buunk & Gibbons, 1997). Although Festinger and other early social comparison researchers did not directly discuss social comparison in relation to health behaviors, researchers have argued that the theory is directly relevant to many health-related issues, including alcohol use (Buunk, Gibbons, & Reis-Bergan, 1997; Gibbons, Stock, Gerrard, & Finneran, 2015; Litt, Lewis, Strahlbrandt, Firth, & Neighbors, 2012; Litt, Stock, & Gibbons, 2015). As such, a more recent literature has examined the role that social comparison plays in health-risk behaviors. Consistent across several studies (Litt et al., 2012; Litt et al., 2015), research indicates that the relation between norms and alcohol-risk cognitions and behaviors are stronger among YAs who expressed higher levels of social comparison.

These findings related to strength of social comparisons is in line with research that indicates that people vary in the extent to which they compare themselves to others as a way to evaluate their own attitudes and behaviors (Buunk et al., 1997). Social comparison orientation (SCO; Gibbons & Buunk, 1999) pertains to the extent to which individuals

compare their own attitudes and behaviors to that of their family, friends, and peers (Festinger, 1954; Litt et al., 2015; Litt et al. 2012). A high SCO individual is someone who is interested in the behavior of others and has a degree of uncertainty about the self, along with a desire to reduce this self-uncertainty (Gibbons & Buunk, 1999). Consistent with this notion, individuals high in SCO are more influenced by the behavior of others (Buunk & Gibbons, 1997; Litt et al., 2012, 2015; Novak & Crawford, 2001). SCO has also been shown to moderate the link between same-sex descriptive drinking norms and alcohol-related outcomes for peers (Litt et al., 2012) and siblings (Litt et al., 2015) such that among those higher in SCO, descriptive norms for drinking were positively associated with alcohol-related negative consequences. Among those lower in SCO, the association between descriptive norms for drinking and consequences was not significant. Additional research has found that SCO moderated the effects of perceived change in friend and sibling alcohol use over three years such that adolescents who reported engaging in social comparison more often reported greater increases in alcohol use when perceived friend use or sibling use was high (Litt et al., 2015). Together, this research indicates that those who are high in SCO are more sensitive and attuned to the normative cues of others.

One source of ambiguity in the SCO literature is whether the psychological need to compare can be assumed to apply unilaterally to all domains (i.e. global) or whether individuals may express different levels of SCO depending on the domain in which they are comparing (i.e. domain-specific) (Allan & Gilbert, 1995; Moller & Marsh, 2013; Wheeler & Miyake, 1992; Wood, 1989). It is unclear whether the propensity to socially compare with others is best conceptualized as a global construct with diffuse and generalized consequences for cognition and behavior or as a construct with domain-specific comparison-related concerns. The domain specific perspective, like the global perspective on SCO, assumes that people have an inherent need for comparison. However, taking a domain-specific perspective, it is likely that this motivation or drive becomes channeled into specific domains depending on their given importance to an individual. This is consistent with a basic tenet of social comparison theory (Festinger, 1954) as well as research on specificity of norms (Lewis & Neighbors, 2004; Larimer et al., 2009) which suggested that behavior is more closely influenced by and modeled on more socially proximal reference groups. Further, given that research indicates that perceived norms for more specific normative referents are more strongly associated with drinking than more global or general normative referents (Larimer et al., 2009), it is possible that a similar pattern exists for SCO such that specific forms of social comparison may be more strongly related to drinking behavior.

Given that drinking behavior is common among many YAs, it is likely that their comparisons may be more likely to be related to alcohol use among peers than it is for other behaviors that are less salient/important for this age group. To date, most, if not all, research has viewed SCO from the global perspective (e.g. Buunk et al., 1997; Gibbons, Gerrard, & Lane, 2003; Litt et al., 2012; 2015) and has not examined whether domain-specific SCO (in this case, alcohol-specific SCO) may in fact be a better predictor of behavior than global SCO. Although one study (Litt et al., 2012) found that the addition of a single alcohol-specific social comparison item showed good reliability when included with the standard Iowa–Netherlands Comparison Orientation Measure (INCOM; Gibbons & Buunk, 1999),

that work was unable to determine whether alcohol-specific social comparisons can stand as a domain-specific construct separate from traditional global measures of SCO.

Given that SCO has been proposed as a target in intervention (Carey, Henson, Carey, & Maisto, et al. 2007; Litt et al., 2012, 2015) it is important to determine whether YA alcohol interventions should aim to alter or target one's global SCO or if focusing on social comparisons specific to alcohol use among peers is more effective in reducing alcohol use and related negative consequences. Although previous research has indicated that global SCO is associated with alcohol outcomes, it is unclear whether the effects would be stronger if research focused on domain-specific (i.e. alcohol) related SCO. Thus, the present study will expand the literature by determining whether the previous relationships between global SCO, descriptive drinking norms, and their interaction are still significant when accounting for alcohol-specific SCO and its interaction with descriptive norms in the prediction of drinking willingness, drinks per week, peak drinks per occasion, and alcohol-related negative consequences.

Method

Participants and Procedures

A total of 355 participants (mean age 19.5; 55.2% female) completed the baseline survey, from which the current data is drawn, of a larger randomized clinical trial (R00AA020869). Ethnic and racial representation of the baseline sample was as follows: 64.5% White, 22.2% Asian, 10.7% Other/More than one race, .08% African American, and .05% Native Hawaiian/Pacific Islander. In addition, 7.0% of the sample identified as Hispanic/Latino.

Participants were recruited from the local community through a variety of methods including in-person flyering, newspaper and online advertisements, and tabling at local events where YA frequent. Interested participants were asked to complete a brief online screening survey in our study offices to determine if they met inclusion criteria (including being between ages 18–20 and reporting having had an alcoholic drink at least twice a month on average over the past 3 months) for a larger randomized clinical trial targeting YA alcohol use. Participants were excluded if they had received prior treatment or met criteria for alcohol use disorder. Eligible participants were invited to attend an in-person session to complete a 45 minute online baseline survey and complete an in-person personalized feedback intervention related to their substance use. For the present paper, all data was drawn from the baseline stage of the study, before participants were randomized to either intervention or control. All participants received a \$30 gift certificate for completing the baseline survey. A Federal Certificate of Confidentiality was obtained to help ensure privacy of research participants. All study procedures were approved by the University's Institutional Review Board, and no adverse events were reported.

Measures

Global SCO.—The degree to which participants compared themselves to their peers was measured with the Iowa-Netherlands Comparison Orientation Measure (INCOM; Gibbons and Buunk, 1999), an 11 item self-report instrument. Participants responded to the prompt

“Please indicate the degree to which you agree with the following statements”. Response options were rated on a scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*), in which higher scores indicated higher levels of social comparison orientation. Sample items include, ‘I always pay a lot of attention to how I do things compared to how others do things’ and ‘I always like to know what others in a similar situation would do’. The final social comparison score was the average of all 11 items ($\alpha=.79$).

Alcohol-Specific SCO.—In order to measure the degree to which participants compared themselves to their peers in relation to alcohol, a scale was adapted from a commonly used SCO measure (Gibbons & Buunk, 1999). To adapt the scale, researchers adapted items from the original INCOM measure in order to make each item specific for alcohol use. See Table 1 for a comparison of the original INCOM items and the adapted alcohol-specific SCO measure. Response options were rated on a scale from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*), in which higher scores indicated higher levels of social-alcohol comparison orientation. Sample items include, ‘I always pay a lot of attention to how much I drink compared to how much others drink’ and ‘I always like to know how much others are drinking in similar situations’. The final alcohol-specific social comparison score was the average of all 11 items ($\alpha=.82$).

Perceived descriptive norms.—The Drinking Norms Rating Form (DNRF; Baer, Stacy, & Larimer, 1991) was used to assess perceived peer group drinking. The current study used the prompt, ‘Consider a typical week during the last three months. How much alcohol, on average (measured in number of drinks), does a typical male/female (gender in question was based on same-sex of respondent) your age drink on each day of a typical week?’ Total weekly drinks were summed for each participant’s final score.

Willingness to Drink.—Willingness (or openness to drink in risk-conducive situations; Gerrard et al., 2008) was included as a primary outcome given it’s strong relation with risk behavior, particularly among adolescents and young adults (Gerrard et al., 2008) as it may capture non-intentional drinking behavior. Willingness was assessed using a hypothetical scenario whereby the participant is supposed to imagine themselves at a party with friends and that they have had several drinks already. After reading the scenario, participants were asked to indicate how willing they would be to engage in a series of behaviors. Mean scores on drinking willingness were calculated using 5 items based on previous work ($\alpha=.87$; Gerrard et al., 2008; Litt et al., 2015). Example items assessed willingness “to stay and have one more drink” and willingness “to choose a non-alcoholic drink instead” (reverse scored). Response options ranged from 0 (*not at all willing*) to 4 (*very willing*).

Drinks per week.—The Daily Drinking Questionnaire (DDQ; Collins, Parks, & Marlatt, 1985) was used to assess typical weekly drinking. The current study used the prompt, ‘Consider a typical week during the last three months. How much alcohol, on average (measured in number of drinks), do you drink each day of a typical week?’, which is parallel to the item assessing perceived descriptive norms for drinking. Typical weekly drinking was the sum of the standard number of drinks for each day of the week. In previous research examining quantity measures of alcohol consumption, typical weekly consumption has been

suggested to be among the best predictors of alcohol-related problems (Borsari, Neal, Collins, & Carey, 2001).

Peak drinks.—The Quantity/Frequency/Peak Alcohol Use Index (Dimeff, Baer, Kivlahan, & Marlatt, 1999) was used to measure the peak number of drinks the participant drank within the past month. Response options ranged from 0 drinks to 25 or more drinks. The item asked ‘Think of the occasion you drank the most this past month. How much did you drink?’.

Alcohol-related negative consequences.—The Young Adult Alcohol Consequences Questionnaire (YAACQ) was used to determine any negative consequences experienced while drinking. Participants were presented 48 items and were asked which, if any, consequences they had experienced in the past 30 days. Response options were 1 (*yes*) and 0 (*no*). A sum score was calculated to determine the total number of alcohol-related negative consequences ($\alpha=.85$).

Results

Data Analytic Plan

Descriptive statistics and correlations were examined for all variables of interest. Regression models for willingness to drink treated the outcome (willingness) as a continuous variable with a normal distribution. Preliminary analyses revealed non-normal distributions for the three behavioral alcohol outcomes (drinks per week, peak drinks past month, and alcohol-related negative consequences). Because of the violation of normality assumption and the positive skew of the data, negative binomial regression was selected as the primary analysis strategy (Atkins & Gallop, 2007; Hilbe, 2011; Simons, Neal, & Gaher, 2006). Thus, we used the generalized linear modeling approach with the distribution specified as negative binomial (i.e. negative binomial regression) to evaluate typical drinks per week, peak drinks, and alcohol-related negative consequences as a function of perceived descriptive norms, global SCO, alcohol-specific SCO, and the interactions between global SCO and descriptive norms as well as the interaction between alcohol SCO and descriptive norms. Sex was included in all analyses as a covariate based on previous associations with alcohol consumption (Neighbors et al., 2007; O’Malley & Johnston, 2002; Read, Wood, Davidoff, McLacken, & Campbell, 2002). All predictors were mean centered to facilitate interpretation of parameter estimates (Aiken & West, 1991; Cohen, Cohen, West, & Aiken, 2003).

Descriptives and correlations.—Participants in the sample reported drinking an average of 12.20 ($SD = 11.06$) drinks per week and an average of 8.56 ($SD = 3.96$) drinks on the occasion they drank the most in the last month. Participants also reported an average of 12.64 ($SD = 8.13$) alcohol-related consequences in the prior 30 days. Alcohol-specific SCO was positively and significantly (all $ps < .05$) correlated with all outcomes, (willingness to drink, drinks per week, peak number of drinks, consequences) whereas global SCO was only correlated with willingness to drink and negative consequences. Global SCO was not associated with descriptive norms. See Table 2 for full correlations and descriptive information.

Willingness to drink.—As seen in Table 3, there were significant main effects of alcohol-specific SCO ($\beta = .16, t = 2.62, p < .01$) and perceived descriptive norms ($\beta = .13, t = 2.38, p < .05$) as well as a significant interaction between alcohol-specific SCO and descriptive norms ($\beta = .138, t = 1.98, p < .05$; see Table 2). Simple effects analyses (using 1 *SD* above and below the conditional mean) revealed that perceived descriptive norms were a significant predictor of total willingness to drink for individuals who were high in alcohol-specific SCO, ($\beta = .22, t = 2.85, p < .01$) but was not for individuals lower in alcohol-specific SCO ($\beta = .02, t = .28, p > .10$). See Figure 1. The main effects of sex ($\beta = -.07, t = -1.27, p > .10$), global SCO, ($\beta = .07, t = 1.16, p > .10$) and the interaction between global SCO and perceived descriptive norms ($\beta = -.041, t = -.041, p > .10$) were not significant.

Drinks per week.—For the model examining drinks per week, the likelihood ratio for the full model was $X^2(6) = 41.64, p < .001$, which indicated that the overall model was significant. The LR test of overdispersion was significant (LR, $X^2(1) = 1053.17, p < .001$), supporting the use of a negative binomial model over a Poisson model. Results indicated that alcohol-specific SCO, perceived descriptive norms, and the interaction between the two were significant predictors of drinks per week. On the contrary, global SCO and the interaction between global SCO and perceived descriptive norms were not significant (see Table 4). Simple effects analyses (using 1 *SD* above and below the conditional mean) revealed that perceived descriptive norms were a significant predictor of total drinks per week for individuals who were high in alcohol-specific SCO, ($\beta = .71, z = 4.69, p < .001$) but was not for individuals lower in alcohol-specific SCO ($\beta = .25, z = 1.61, p > .10$). See Figure 2.

Peak drinks.—For the model examining peak drinks, the likelihood ratio for the full model was $X^2(6) = 60.73, p < .001$, which indicated that the overall model was significant. The LR test of overdispersion was significant (LR, $X^2(1) = 251.63, p < .001$), supporting the use of a negative binomial model over a Poisson model. As seen in Table 4, sex, perceived descriptive norms, and the interaction between alcohol-specific SCO and perceived descriptive norms were significant. No other predictors were significantly related to peak number of drinks. Simple effects analyses (using 1 *SD* above and below the conditional mean) revealed that perceived descriptive norms were a significant predictor of total drinks per week for individuals who were high in alcohol-specific SCO, ($\beta = .56, z = 9.03, p < .001$) as well as for individuals lower in alcohol-specific SCO ($\beta = .42, z = 6.16, p < .001$, See Figure 3).

Negative consequences.—The overall model was significant ($X^2(6) = 49.51, p < .05$) and results supported negative binomial regression (LR, $X^2(1) = 531.70, p < .001$). Drinks per week ($\beta = .022, z = 5.65, p < .001$) and alcohol-specific SCO ($\beta = .17, z = 2.22, p < .05$) were the only significant predictors of negative consequences. Perceived descriptive norms, global SCO, and both interactions were not statistically significant predictors (See Table 4).

Discussion

Findings from the present study are consistent with previous literature demonstrating the descriptive norms and alcohol use link (Lewis & Neighbors, 2006, Simons-Morton et al., 2018). In particular, there were significant and positive main effects for descriptive drinking

norms on willingness to drink, typical number of drinks per week in the past month, as well as peak number of drinks in the past month. However, there were not significant effects on drinking consequences. By extending the current literature, the current study also demonstrated that alcohol-specific SCO was a significant positive predictor of alcohol use over and above global SCO. Thus, YAs who socially compare their drinking to their peers are also more likely to report heavier alcohol use and this relation exists even when accounting for global measures of SCO. Notably, when alcohol-specific SCO is included in statistical models, global measures of SCO are not predictive of alcohol outcomes. Finally, the current study indicated that these two social influence variables (alcohol-specific SCO and descriptive norms) interacted to predict YA drinking behavior, such that the association between descriptive norms and alcohol use was especially strong among YAs with a higher alcohol-specific SCO. Thus, perceiving that YA peers consume high amounts of alcohol and comparing one's own specifically to the drinking to others seems to put YAs at particularly high risk. There was no significant interaction between descriptive norms and global SCO, which may be due to global SCO and descriptive norms not being correlated.

The present findings demonstrated that the alcohol-specific SCO was a significant positive predictor of alcohol use over and above global SCO. This finding is consistent with a basic tenet of social comparison theory (Festinger, 1954) as well as research on specificity of social norms for alcohol use (Lewis & Neighbors, 2004; Larimer et al., 2009) in that the current study suggests that behavior is influenced by and modeled on more socially proximal reference groups for SCO (i.e., alcohol-specific SCO).

These findings have important clinical implications as it has been well documented that interventions focusing at reducing perceived drinking norms are efficacious in reducing alcohol use (Lewis & Neighbors, 2007, NIAAA, 2015). Prior research has shown that individuals who make more global social comparisons have smaller drinking reductions over time (Carey et al., 2007) and participating in a brief motivational alcohol intervention may mitigate these global social comparison effects. The present findings suggest that personalized normative feedback interventions may be particularly efficacious among YAs with higher alcohol-specific SCO but may not work as well for those individuals who are lower in alcohol-specific SCO. In particular, targeting YAs who endorse high levels of alcohol-specific SCO may increase intervention effect sizes as they are likely to be more attune to the normative feedback being presented and motivated to comply with the norms of their peers. Identifying individuals who compare themselves to others specifically in the domain of alcohol use has the potential to both disseminate interventions to those who need it most and those who may be the most likely to benefit from such interventions. As such, future studies should examine alcohol-specific SCO as a moderator of alcohol intervention efficacy.

Findings also indicated that alcohol-specific SCO was more strongly associated with willingness to drink than actual drinking behavior. This suggests that interventions should also target reducing willingness to drink in addition to alcohol use. Prior research has shown that alcohol interventions have been successful at reducing willingness to drink (Gerrard et al., 2008). However, this is an area of research in which additional interventions targeting

willingness to drink is needed as well as studies that examine moderators of intervention efficacy, such as alcohol-specific SCO.

In light of the findings that there was not a significant effect of alcohol-specific SCO and it's interaction with descriptive drinking norms on alcohol-related negative consequences, more work is needed to determine what the best way to reduce consequences among individuals. It may be that the alcohol-specific SCO was capturing how individuals compared to those who drank alcohol, but didn't capture comparison regarding how much alcohol or comparison regarding hazardous levels, and thus no comparison regarding experiencing consequences.

Limitations and Conclusions

The present study is not without limitations. One limitation is that we only collected data from participants age 18–20 (i.e. underage drinkers) in the Seattle area, and as such, the results may not generalize to individuals of different ages and from different regions. Additionally, participants in this sample were required to meet drinking criteria in order to be considered for the study. Thus, it is unclear whether the study results would be applicable to a sample of individuals who are lighter drinkers. Further, although the alcohol-specific SCO measure is based off of a validated measure, future research is needed to fully validate this measure. Lastly, this data is cross-sectional, which means that we do not have an understanding of how these relationships work over time. Future work should examine the relationship between alcohol-specific SCO and drinking use using longitudinal methods.

Despite these limitations, the current findings extend the literature by documenting the association of alcohol-specific SCO with YA drinking behavior and indicating that alcohol-specific SCO predicts alcohol-related outcomes above and beyond global SCO, and may be of particular importance when determining for whom normative based preventive interventions may be the most efficacious.

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Highlights

- Research needed to determine optimal specificity of social comparisons.
- Alcohol-specific social comparison predicts alcohol-related outcomes.
- Implications for how to use social comparison in brief alcohol interventions.

Figure 1.
Interaction between alcohol-specific SCO and perceived descriptive norms as predictor of willingness to drink.

Figure 2. Interaction between alcohol-specific SCO and perceived descriptive norms as predictor of drinks per week.

Figure 3.
Interaction between alcohol-specific SCO and perceived descriptive norms as predictor of peak drinks.

Table 1

Item measures for original INCOM scale and alcohol-specific SCO scale

Scale for Social Comparison Orientation		Scale for Alcohol-Specific Comparison Orientation	
1.	I often compare myself with others with respect to what I have accomplished in life.	1.	I often compare myself with others with respect to how much I drink.
2.	If I want to learn more about something, I try to find out what others think about it.	2.	If I want to learn more about my drinking behavior, I try to find out what others think about it.
3.	I always pay a lot of attention to how I do things compared to how others do things.	3.	I always pay a lot of attention to how much I drink compared to how much others drink.
4.	I often compare how my loved ones (boy or girlfriend, family members, etc.) are doing with how others are doing.	4.	I often compare how my loved ones (boy or girlfriend, family members, etc.) drink with how much others drink.
5.	I always like to know what others in a similar situation would do.	5.	I always like to know how much others are drinking in similar situations.
6.	I am not the type of person who compares often with others.	6.	I am not the type of person who compares my drinking with others.
7.	If I want to find out how well I have done something, I compare what I have done with how others have done.	7.	If I want to find out more about my drinking, I compare my drinking with how much others drink.
8.	I often try to find out what others think who face similar problems as I face.	8.	I often try to find out how much others drink.
9.	I often like to talk with others about mutual opinions and experiences.	9.	I often like to talk with others about mutual drinking attitudes and experiences.
10.	I never consider my situation in life relative to that of other people.	10.	I never consider my drinking relative to that of other people.
11.	I often compare how I am doing socially (e.g., social skills, popularity) with other people.	11.	I often compare how much I drink with other people.

Table 2

Means, Standard Deviations, and Correlations

Variable	1	2	3	4	5	6	7	8
1. Sex	-							
2. Perceived Descriptive Norms	0.31 **	-						
3. Global SCO	0.83 **	0.09	-					
4. Alcohol-Specific SCO	0.79 **	0.14 **	0.43 **	-				
5. Willingness to Drink	0.13 *	0.21 **	0.16 **	0.38 **	-			
6. Drinks Per Week	0.31 **	0.46 **	0.02	0.14 **	0.31 **	-		
7. Peak Drinks	0.34 **	0.48 **	0.01	0.12 *	0.24 **	0.77 **	-	
8. Negative Consequences	0.01	0.18 **	0.15 **	0.19 **	0.39 **	0.43 **	0.39 **	-
Mean	0.44	14.10	3.65	2.94	2.27	12.20	8.56	12.64
Standard Deviation	0.49	8.23	0.52	0.67	0.81	11.06	3.96	8.14
Range	0–1	0–25	1–5	1–5	0–4	0–25	0–25	0–48

Note:

*
p < .05.**
p < .01, N = 355, Gender coded female = 0, male = 1

Table 3

Hierarchical Linear Regression Results (Willingness to Drink)

Predictor	<i>B</i>	<i>SE B</i>	β	<i>t</i>
Sex	−0.15	0.19	−0.06	−1.07
Perceived descriptive norms	0.14	0.05	0.15	2.73**
Global SCO	0.17	0.14	0.07	1.20
Alcohol-specific SCO	0.30	0.11	0.16	2.71**
Global SCO x norms	−0.06	0.08	−0.06	−0.79
Alcohol-specific SCO x norms	0.12	0.06	0.14	2.04*

Note. $n = 355$,*
 $p < .05$,**
 $p < .01$. Sex coded 0 = female, 1 = male, SCO = social comparison orientation

Table 4
Negative Binomial Regression Results (Drinks per week, peak drinks, negative consequences)

Predictor	B	SE B	z	Ratio	(95% CI)
Drinks per Week					
Sex	0.24	0.08	2.88**	1.27	(1.07, 1.47)
Perceived Descriptive Norm	0.09	0.02	3.24***	1.09	(1.04, 1.16)
Global SCO	-0.14	0.08	-1.55	0.87	(0.73, 1.04)
Alcohol-specific SCO	0.21	0.06	3.13**	1.23	(1.08, 1.42)
Global SCO x Norms	-0.09	0.04	-1.27	0.92	(0.84, 0.98)
Alcohol-specific SCO x Norms	0.11	0.35	3.08**	1.16	(1.04, 1.31)
Peak Drinks					
Sex	0.27	0.05	5.68***	1.31	(1.20, 1.43)
Perceived Descriptive Norm	0.07	0.02	4.14***	1.07	(1.04, 1.10)
Global SCO	-0.07	0.05	-1.42	0.93	(0.84, 1.02)
Alcohol-specific SCO	0.07	0.04	1.74	1.08	(0.99, 1.15)
Global SCO x Norms	-0.04	0.03	-1.52	0.96	(0.91, 0.99)
Alcohol-specific SCO x Norms	0.06	0.02	2.56**	1.06	(1.02, 1.09)
Negative Consequences					
Sex	-0.13	0.08	-1.77	0.87	(0.75, 1.01)
Perceived Descriptive Norm	0.01	0.03	0.99	1.01	(0.95, 1.06)
Drinks per Week	0.02	0.01	5.65***	1.03	(1.01, 1.05)
Global SCO	0.06	0.05	0.99	1.06	(0.94, 1.18)
Alcohol-specific SCO	0.17	0.06	2.22*	1.18	(1.02, 1.37)
Global SCO x Norms	-0.02	0.04	-0.44	0.98	(0.90, 1.07)
Alcohol-Specific SCO x Norms	-0.01	0.03	-0.01	0.99	(0.93, 1.08)

Note. $n = 355$

* $p < .05$,

** $p < .01$,

*** $p < .001$.

Ratio = negative binomial incidence rate ratios. Sex coded 0 = female, 1 = male, SCO = social comparison orientation