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The Impact of Video-Taped Social Modeling on Alcohol Outcome Expectancies of Young Adults and the Role of Social Anxiety

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Abstract

Alcohol outcome expectancies (AOEs) represent people's ideas about the effects of alcohol (Fromme, 1993). Positive AOEs particularly have been identified as a potential risk factor for hazardous drinking (e.g., Brown et al., 1985). The exact mechanisms that modify AOEs are not fully understood. Further, people higher in social anxiety may be especially receptive to social modeling due to attentional bias shift towards others in social contexts (Rapee & Heimberg, 1997). The current study examined how social anxiety and social modeling associate with AOEs. It was hypothesized that 1) those in the social modeling treatment condition would have higher social anxiety-adjacent AOEs (i.e., those in the sociability, tension reduction, and liquid courage subscales of the CEOA; Fromme, 1993) as compared to those in the control condition, and that 2) social anxiety would moderate this relationship. The final sample (N = 287) was between the ages of 18 – 28 (M_{age} = 23.82 years; 48.4% men; 56.4% White [Non-Hispanic]). Participants were exposed to a social modeling video-taped manipulation, in which an on-screen actor or actress appeared to either experience a social anxiety reduction from drinking (treatment) or maintain apparent social anxiety after drinking (control). AOEs were assessed post-manipulation. Social anxiety was assessed as a continuous variable prior to the manipulation. Results partially support hypothesis 1, as the those in the treatment condition reported higher positive AOEs overall (i.e., sociability, tension reduction, liquid courage, and sexuality) than those in the control condition. Additionally, while social anxiety was not found to be a significant moderator, it was associated with higher negative AOEs, and social anxiety did not appear to mitigate the effect of social modeling on positive AOEs. Findings from this study suggest that researchers should include social modeling when investigating pathways related to hazardous drinking, whether using a socially anxious sample or not.

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Introduction

Use of alcohol is common throughout most of the world, and yet it can be extremely hazardous. Nearly three percent of deaths in the United States in 2017 were attributed to alcohol (White et al., 2020). Additionally, alcohol is implicated in approximately one-third of fatal car accidents (Sauber-Schatz, et al., 2016). These costs related to alcohol are a serious matter to be addressed. There are numerous angles from which researchers and public health advocates can target this problem, however. The current study investigates the potential impact of social modeling of alcohol's social anxiety reduction effects by others on one's social-anxiety relevant alcohol outcome expectancies (AOEs), and how this effect could be stronger for those with elevated levels of social anxiety. By doing so, this can help researchers understand pathways through which social anxiety can lead to problem alcohol use.

There are many ways people learn about the effects of alcohol. The first is direct experience drinking, through operant conditioning (Skinner, 1965). Using alcohol consumption as an example, a person drinks alcohol, some subjective response occurs (e.g., feeling more relaxed), and they learn to associate this feeling with drinking. This is likely the common way people form their expectations about alcohol. However, it is known that children who have never consumed alcohol have some ideas about what alcohol might do to and/or for them (Dunn & Goldman, 1996, 1998). Therefore, operant conditioning cannot fully explain how people learn about alcohol.

AOEs represent what one believes will happen if they drink alcohol (Patel & Fromme, 2010). These expectancies can vary from person-to-person. For instance, one individual might predict that drinking alcohol will make them boisterous and sociable. Another may predict that they would feel dizzy and irritable. Please note that the former example showcases "good" AOEs, while the latter includes more conventionally "bad" AOEs. This conceptualization is incorporated into AOE theory, and AOEs are thereby divided into positive (e.g., alcohol will

make me feel confident) and negative (e.g., alcohol will make me feel nauseous) categories (Fromme, 1993).

Further, AOEs are not an inherently benign thing to hold. They have been found in past research to be associated with potentially hazardous alcohol use, especially when individuals hold strong positive AOEs (Jester et al., 2014; Pabst et al., 1993). Further, this association seems to hold true for adolescents (Christiansen et al., 1989; Reese et al., 1993). Many people believe in the idea of alcohol as a "social lubricant" (e.g., Critchlow, 1986). Seeking a reduction in social anxiety is likely to be a highly salient motivator for alcohol use for many, especially during large social gatherings or in other demanding social contexts. This is an example of a positive AOE (i.e., the belief that alcohol will reduce social anxiety). Given the significant risk posed by holding certain, especially positive, AOEs, it is a valuable domain to consider for both research efforts and interventions.

How AOEs form and develop is not fully understood, however. Direct experience drinking, as previously discussed, is one way. General information in the environment is another. For example, alcohol is prominently advertised by beverage companies. In some cases, people might be told what to expect from drinking, either directly or indirectly. A magazine advertisement for an aged Scotch whisky might feature text intended to persuade the reader that it will make them feel more sophisticated and intellectual. Similarly, most people have seen alcohol discussed by family, friends, and others. Therefore, people draw expectancy-related information from both direct experiences drinking, as well as from informative messages they are exposed to. There is yet another avenue that has been given less attention in the literature, however.

Social learning theory and the concept of social modeling provide a conceptual framework for understanding learning from the behavior of others (Bandura, 1977). At their most basic, Bandura's ideas emphasize the importance of watching others in one's environment for learning cues. An example would be watching a chef cut an onion. If one were to mimic said

chef's cutting technique, this would be an example of social modeling. It should be obvious that this type of learning happens often for everyone, and it is likely that people generally are not consciously aware that it has occurred. This differs from the direct and informational sources of AOE acquisition because the individual perceiving the social model is not being taught directly through transfer of information or learning from the results of their own personal experience. Another example, using alcohol, would be someone learning from viewing others that drinking may cause one to say and/or do things they would not normally do or say. Seeing such social models in one's environment (e.g., at a college party) may implant notions that this is what alcohol does. Further, social modeling could occur through media, such as movies or television. Could social modeling then help form and inform people's AOEs, not just behavior itself? This is empirically unknown at the time of this writing. However, a great deal is known more broadly about AOEs and their relationship with both drinking and internal feelings.

Social modeling has been studied in relation to alcohol use. It is well established that being exposed to heavy drinking models predicts one's own alcohol consumption increasing, especially for those in the young adult age-range (Abar & Maggs, 2010; Caudill & Kong, 2001; Larsen et al., 2009; Read et al., 2005; Talbot, 2012). This raises obvious concerns about the potential for alcohol-related health risk. However, this speaks solely to the mimicry of *behavior* (i.e., drinking). These studies do not address whether one expects different things from drinking (i.e., AOEs) when exposed to varying social models. Therefore, this literature, while important broadly, does not help explain how social modeling affects AOEs themselves.

However, Jackson (2019) attempted to socially model subjective responses to alcohol. This study used a video-taped social modeling manipulation, which included a treatment condition in which an on-screen interviewee appeared to become less socially anxious after consuming an alcoholic drink. Findings from this research did not support the author's hypothesis that exposure to the social modeling manipulation would be associated with decreased state social anxiety after participants consumed a placebo alcoholic drink. It is

additionally noted that Jackson (2019) did not include any assessment of AOEs. The current study builds on that prior research by directly investigating whether the same video-taped manipulation could influence AOEs, even though it did not appear to have downstream consequences on state social anxiety among the relatively small sample of drinkers in Jackson (2019).

There has been work in the alcohol expectancy challenge domain that may speak more closely to what impact social modeling has on AOEs (see Labbe and Maisto, 2011, for review). These studies generally involve participants consuming a drink containing placebo or alcohol, then interacting with other participants who also had a placebo or alcoholic drink. The participants then report who they think drank alcohol as opposed to placebo. Afterwards, participants are provided with psychoeducation regarding alcohol use and its effects (i.e., AOE education), and, conventionally, the goal is to provide an intervention leading to decreased future use or misuse of alcohol. Results of such studies evidence that AOEs are malleable, as a review by Labbe and Maisto (2011) found that most alcohol challenge studies resulted in a post-treatment AOE shift, especially for positive AOEs. The fact that AOEs can be changed quickly in this manner, despite accruing over the long-term, is therefore substantiated. What is less clear is by what precise mechanism(s) this occurs. Social modeling coupled with psychoeducation is one possible explanation. On the other hand, evidence suggests that those studies that included alcohol consumption itself as part of the study, thereby involving some form of direct learning, were most efficacious (Labbe & Maisto, 2011). As a result, it remains unclear how exactly these experiences are shaping AOEs.

While not including alcohol in the methodologies used, research on children's social modeling of their parents illuminates things further. Internal emotional responses to stimuli have been modeled in this way, with children emotionally aligning with the reactions of their parents (Bunaciu et al., 2014; Burstein & Ginsburg, 2010). While this is not identical to modeling AOEs, rather modeling subjective response, this research suggests that social modeling is applicable

to more than just overt behaviors. On the contrary, internal affective responses to stimuli can be transmitted through a social pathway.

Investigating studies in the pharmaceutical and medical domains builds upon these findings. It has been shown that social modeling can be used to transmit internal feelings of medication side-effects, even when participants are given placebo medication (e.g., Colloca & Benedetti, 2009; Faasse et al., 2015). Psychogenic illness (i.e., illness with no apparent cause) has been successfully socially modeled as well (Broderick et al., 2011). Further, some such studies have shown gender-matching the social model to the participant can strengthen the effect (e.g., Mazzoni et al., 2010). Social models more like oneself may therefore be more effective. Some studies found social modeling more impactful for women versus men (e.g., Faasse et al., 2015), although this was not consistently found across studies and not every study included both sexes. Consequently, gender moderation in future studies, while possible, should not be presumed. Lastly, a video-taped social modeling stimulus has been used successfully (Mazzoni et al., 2010). Taken altogether, it is indicated that social modeling represents a powerful mechanism for the transmission of a variety of internal responses across several domains, even when the social modeling occurs via video.

Ultimately, quite a few things can be ascertained from the current literature. For one, social modeling is worthwhile considering in terms of its relation to public health. Two, that AOEs can be changed, even in a relatively short span of time. Three, that social modeling can impact not only behavior but one's internal state. The potential impact of social modeling on AOEs, however, remains untested.

Social Anxiety, Social Modeling, and AOEs

Social anxiety disorder is defined by "marked, or intense, fear or anxiety of social situations in which the individual may be scrutinized by others" (American Psychiatric Association, 2013, p. 203). While social anxiety at the highest level may reach clinical diagnosis, it is important to note that social anxiety is generally conceptualized as a dimensional construct

(e.g., Schneier et al., 2002). Conceptualizing social anxiety in this way is beneficial when examining its relationship with alcohol, as even subclinical social anxiety has been associated with hazardous alcohol use and alcohol-related problems (Crum & Pratt, 2001). Its relevance to alcohol-related research as a notable risk factor for hazardous alcohol use is broadly well established (see Kushner et al., 1990; Morris et al., 2005 for reviews). Further, a relationship between elevated social anxiety and holding potentially riskier AOEs has been found (Ham et al., 2005).

Social anxiety may further play an important role when it comes to social modeling, as sufferers' focus may be drawn towards different stimuli in their environment. Specifically, past research provides support that those with increased social anxiety will attenuate towards salient social information in their environment (Rapee & Heimberg, 1997). This could mean looking towards others as social models, when feeling internally distressed in a social situation, for information about socially adaptive behavior. The current study therefore evaluates the potential impact of social anxiety as a moderator on the proposed social modeling – AOE relationship. Understanding how social anxiety may increase one's vulnerability to social modeling of AOEs, themselves associated with hazardous drinking, would have clear consequences for clinical interventions and future research.

Current Study

The current study investigated the role of social modeling a social anxiety reduction from drinking on participant AOEs following exposure, as well as how social anxiety impacts this process. It was hoped that this will aid in deepening understanding of how AOEs may change based on salient information in one's environment, for those both higher and lower in social anxiety. To examine this, a video-taped manipulation from Jackson (2019) was used to model social anxiety reduction effects from drinking (treatment) or no changes after drinking (control). It was therefore expected that the social modeling manipulation would impact participant beliefs about what alcohol would do to them (i.e., AOEs). Specifically, that those who witnessed a

reduction in social anxiety from alcohol would themselves believe that if they were to drink that their social anxiety would decrease, more so than those in the control condition.

Hypothesis 1: It was expected that those who witnessed an on-screen actor or actress appear to become visibly less socially anxious following consuming alcohol would then themselves report higher social anxiety-adjacent AOEs, specifically those in the sociability, tension reduction, and liquid courage domains (additional detail on these subscales included in the methods section).

Hypothesis 2: I predicted that social anxiety symptoms would moderate the association between social modeling condition and social anxiety-adjacent AOEs, such that more socially anxious participants would be impacted by the manipulation more profoundly compared to their less socially anxious peers. This hypothesized increase in sensitivity was informed by past research showing that those higher in social anxiety may seek out environmental social information more than others (Rapee & Heimberg, 1997).

Method

Participants

Two-hundred and ninety-nine participants (147 men, 134 women, 17 non-binary persons, and 1 person identifying as “other”) were recruited online using Prolific. The mean age was 23.86 years-old (*SD* = 2.89), and participants were required to be between the ages of 18 years-old and 28 years-old. This age range was selected to represent young adults of a similar age to the video-taped social models that were used. Additionally, only those from the United States were recruited for similar reasons, as the video-taped social models are themselves American. It is believed that participants from other countries may interpret the social models’ body language and/or verbal expressions somewhat differently than those in the United States would. Of those recruited, 57.2% were White (non-Hispanic), 16.1% were Hispanic, 12% were Asian, 11.7% were Black, and 3.0% identified as any other ethnicity. Those who took part in this study were 34.1% enrolled in college, while 65.9% were not. If any demographic responses

differed from data provided by Prolific and thereby made the participant ineligible (e.g., reporting they are 29 years-old), they were automatically discontinued from the study by Qualtrics. See Table 1 for a summary of the total recruited sample demographics.

The study was advertised on Prolific, and participants were told that the purpose of the study was to evaluate the quality of a video-taped interview conducted by an off-screen interviewer. This interview was stated to pertain to the evaluation of a new mixed-drink the researcher is developing. Participants were required to be using a device (e.g., a tablet) with both working sound and stable high-speed internet access due to the need to watch streaming video. Only those reporting English as their native language and currently residing in the United States were recruited.

Two-hundred and eighty-seven participants who completed the study were included in the final data analytic sample. A total of 12 participants from the larger sample were excluded from analyses based on their responses to questions probing whether they responded accurately to survey questions, attended to the videos they were shown, believed the cover story, believed that the drink they witnessed in the videos contained alcohol, and noticed the social anxiety-related cues in the first half of the video manipulation. This led to the removal of eight men, three women, and one non-binary person. The final sample had a mean age of 23.82 (*SD* = 2.91) and was comprised of 48.4% men, 45.6% women, 5.6% non-binary persons, and 0.3% people identifying as “other.” Ethnic identify of this final sample was 56.4% White (non-Hispanic), 16.4% Hispanic, 12.2% Black, 12.2% Asian, and 2.8% identified as any other ethnicity. Lastly, 34.8% were reportedly college students, while 65.2% were not. See Table 2 for a summary of the analyzed sample demographics.

Measures and Stimuli

Demographics and Background Measures

Demographics included gender identity, ethnicity, age, current educational status, employment status, marketing coursework/workshop experience, and type of device used to

participate in the study. Additionally, background measures were administered to describe the sample and to assess the effectiveness of random assignment. In short, these were the 9-item Patient Health Questionnaire (PHQ-9; Kroenke et al., 2001), the Ten Item Personality Measure (TIPI; Gosling et al., 2003), and the 10-item Alcohol Use Disorders Identification Test (AUDIT; Babor et al., 1989). The PHQ-9 assessed depressive symptoms (α = .89), the TIPI (used primarily to decrease face validity) assessed for personality domains of openness (α = .34) and extraversion (α = .33), and the AUDIT assessed past-year hazardous alcohol use (α = .90).

Alcohol Outcome Expectancies

The Comprehensive Effects of Alcohol questionnaire (CEOA; Fromme et al., 1993) is a 38-item measure that was administered to assess for AOEs. These questions were presented following the video-taped manipulation. Instructions were modified from the original CEOA to ask, “If you were to drink right now, how likely would you be to feel or do the following things?” to better assess for participants’ real-time AOEs. This wording was based on that used in Lee and colleagues’ (2014) paper in which they administered a shortened AOE measure to participants once daily. However, their instructions used “tonight” in place of “right now.” As in the original CEOA, participants provided ratings on a 1 (*Disagree*) to 4 (*Agree*) scale. The CEOA consists of seven subscales: Sociability (e.g., “It would be easier to talk to people”; α = .89), tension reduction (e.g., “My body would feel relaxed”; α = .78), liquid courage (e.g., “I would feel unafraid”; α = .86), sexuality (e.g., “I would be a better lover”; α = .75), cognitive & behavioral impairment (e.g., “I would feel dizzy”; α = .88), risk and aggression (e.g., “I would take risks”; α = .74), and self-perception (e.g., “I would feel moody”; α = .75). These subscales were scored by summing the total score of all items included in each subscale and dividing by the number of computed items, per standard practice. Additionally, AOEs can also be scored as a group of positive (i.e., sociability, tension reduction, liquid courage, and sexual enhancement) or negative (i.e., cognitive & behavioral impairment, risk and aggression, and negative self-perceptions) AOEs (Fromme et al., 1993; Ham et al., 2005). These subscales were additionally

calculated for use in preliminary analyses. The CEOA is a widely used measure with strong internal reliability (Cronbach's alpha ranging for the seven CEOA subscales from .66 – .84; Ham et al., 2005). In the present study, the CEOA demonstrated strong internal reliability (Cronbach's alpha for subscales ranging from .74 – .89). See Appendix N.

Social Anxiety

To measure social anxiety, the 10-item *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; DSM-5; American Psychiatric Association, 2013) dimensional severity scale for social anxiety disorder (SAD-D) was administered. Participants rated the extent to which they have experienced various symptoms related to social anxiety (e.g., "felt anxious, worried, or nervous about social situations") in the past seven days on a 0 (*Never*) to 4 (*All the time*) scale. This measure was chosen to provide a concise yet valid continuous measure of trait-like social anxiety. The authors recommend scoring this measure by computing a mean of all ten included items. As compared to competing brief measures, the SAD-D has comparably strong psychometric properties (α = .94; Sunderlands et al., 2020). In the present study, internal reliability of the SAD-D was strong (α = .93). See Appendix I.

Video-Taped Manipulation

Following baseline measures, participants were randomly assigned to watch a gender-matched video developed by Jackson (2019) featuring an on-screen interviewee (i.e., the social model) and an off-screen interviewer asking them about their drink preferences and opinions on a mixed drink. The video, depending on treatment condition, either portrays the interviewee as becoming visibly less socially anxious following consumption of an alcoholic beverage (treatment condition) or continuing to appear socially anxious throughout the entire video (control condition). The interviewee portrayed social anxiety by exhibiting certain behavioral markers, such as gaze avoidance and short speech. Social anxiety was further indicated by the interviewee acting out behaviors that would point to common symptoms of social anxiety, such as expressing worry that they would say or do the wrong thing. Participants in the current study

were asked to pay close attention to both the off-screen interviewer and the on-screen interviewee for the duration of the video. They additionally were reminded to ensure that the sound on their device was working and at a sufficient volume level. See Appendix K for the script of both control and treatment conditions.

Previous work designed to gauge how well online participants were able to perceive behavioral markers related to social anxiety portrayed by the social model supported the use of this video manipulation (Jackson, 2019). This was validated in an online pilot study preceding Jackson (2019), in which 118 participants ages 21 to 28 years-old (52% women, M_{age} = 25.1, *SD* = 2.13) were recruited via Mechanical Turk (MTurk). Participants identified significantly more social anxiety markers in the post-drink treatment condition video as compared to the control condition video, in which the interviewee remains visibly socially anxious. Social anxiety markers/cues were assessed using modified items from the Severity Measure for Social Anxiety Disorder (SSAQ; Kashdan & Steger, 2006), the primary measure used to inform the creation of the social anxiety markers in scripts for the video-taped manipulation. The SSAQ had a possible total score range of 7 to 35 points. Participant modified SSAQ ratings of the degree to which they saw behavioral markers of social anxiety in the treatment condition video were significantly lower (*M* = 13.51, *SD* = 6.55) than for those who saw the control condition video (*M* = 27.47, *SD* = 6.89). This suggested that the videos effectively portray social anxiety consistent behaviors in the treatment condition video, with substantially fewer notable signs of social anxiety in the control condition.

Debriefing/manipulation check measure.

Several questions were presented to assess general believability and the efficacy of the video-taped manipulation as well as believability of the cover story. A total of five questions were selected to filter out participants from the final analyses: 1) Those who reported having not responded honestly to questions, 2) those who reported having not attended to the videos, 3) those who did not believe the cover story of the study, 4) those who reported not believing the

on-screen drink contained alcohol (i.e., *None/trace amount*), and 5) those who did not report noticing social anxiety cues in the first half of the video (those who selected *Strongly Disagree* to the question, “The consumer appeared nervous in the first part of the video”). See Appendices L and O.

Procedures

This online study was an experimental design in which participants were randomly assigned via Qualtrics to either the control (no socially modeled anxiety reduction from drinking) or treatment (an apparent social anxiety reduction from drinking) condition. Participants were recruited via Prolific, an online participant provider.

Participants had indicated to Prolific that they reside in the United States, were between the ages of 18 – 28 years-old, are native English speakers, and have devices capable of playing sound. Participants were recruited using a cover story that participants were needed to evaluate the quality and content of a video-taped interview regarding drink preferences, behavior, and a mixed drink under development. Participants were asked to pay close attention to the video-taped interview. Further, it was explained that this would help inform future training of interviewers. See Appendix A for the blurb used to advertise the study on Prolific.

The requirement of working sound and high-speed internet was reiterated to participants once they elected to join the study and were forwarded to Qualtrics (where the survey itself was administered), and those who identified that they did not meet requirements were asked to discontinue the study. See Appendix B for initial eligibility items.

Participants were asked with which gender they most identify. Those who provided a response other than as a man or a woman were informed that they could choose to see a version of the video-taped interview with a man or a woman. Additionally, demographic information was gathered in Qualtrics for verification purposes (e.g., age). See Appendix C for demographic items.

Those who remained eligible for the study were then presented with an informed consent document, which they could either decline (ending the study) or provide consent to participate. See Appendix D for the informed consent document.

Next, participants were asked to provide additional background information. They were then reminded of the cover story of the study and informed that they would be asked details about their experiences with and opinions regarding drinking, personality, and experience with interviews. They then completed measures including the SAD-D, the TIPI, the PHQ-9, the AUDIT, and cover story related items. An example cover story item was rating the extent to which they agree (from 0 *Strong disagree* to 4 *Strongly agree*) that, “I have a great deal of experience interviewing people.” See Appendices E and F for cover story-related items.

Following pre-manipulation measures, participants were shown the video-taped social modeling stimulus video, this study’s central manipulation. Just prior, they were briefly reminded to pay close attention and fully attend to the video. It should be reiterated that the videos were randomly assigned in terms of condition, as well as gender-matched (or, in the case of non-binary persons, matched to the video gender they chose earlier on). After concluding the video, participants completed the CEOA, as well as responded to additional cover story related items. As an example of such an item at this stage of the study was that participants were asked to rate the extent to which they agree (from 1 *Strongly disagree* to 5 *Strongly agree*) that, “The consumer appeared to enjoy talking to the interviewer.” See Appendix L for cover story-related items.

Manipulation-check and debriefing related items were then presented. These included items assessing whether the consumer appeared anxious in the first half of the video, and whether the participant agreed with a brief description of the study’s cover story. There were additionally several qualitative items, including things such as, “How would you describe what you did in this task?” See Appendices M and O for manipulation check and debriefing items.

All participants were fully debriefed. They were informed of the true aim of the study, and that the video they watched was scripted. Links to mental health and alcohol use disorder resources were provided, in addition to contact information for the University of Arkansas IRB. Contact information for the researcher and his primary mentor, Dr. Lindsay Ham, was additionally provided to answer any questions or concerns that participants may have had following completion of the study. No one had yet reached out at the time of this paper, however. Participants were asked not to share details of the study or its true purpose with others. Lastly, they were reminded that they would be receiving $4.00 compensation for completing the study and provided a link back to Prolific that would automatically process this payment. See Appendix P for the statement of debriefing.

Analytic Approach

Preliminary Analyses

Following initial data cleaning, data were probed for any possible violations of statistical analysis assumptions. An *a priori* cutoff for skewness and kurtosis was set at a value of one. No variables were significantly skewed or kurtotic, per this cutoff. Additionally, the efficacy of random assignment of social modeling condition was assessed using independent samples *t*-tests and Chi-Square tests. This included analyses of demographic and background measures. Bivariate correlational analyses among the continuous study variables (AUDIT, SAD-D, and AOEs), as well as *t*-tests with condition and the AOEs, were additionally performed. No statistical assumption violations are noted.

Hypothesis 1. To address hypothesis 1, seven *t*-tests were conducted utilizing the condition variable and the seven AOE subscales from the CEOA. Treatment condition was dummy coded (0 = control; 1 = treatment). It was hypothesized that those exposed to the treatment condition, wherein the on-screen consumer appeared to become less anxious after drinking, would demonstrate statistically significantly higher AOEs in the sociability, tension

reduction, and liquid courage subscales, while the other four AOE subscales would be non-significant.

Hypothesis 2. To address hypothesis 2, three moderation analyses using the Hayes (2013) PROCESS Macro for SPSS were utilized. Again, the three social anxiety adjacent subscales were chosen to be analyzed (sociability, tension reduction, and liquid courage). Therefore, each of the three analyses entered one of these three AOE subscales as the dependent variable, condition as the independent variable, and SAD-D (social anxiety) scores as the moderator variable. Several PROCESS options were selected, including probing interactions to $p < .05$, providing Johnson-Neyman output, and testing for X by M interactions. A total of 20,000 bootstrap samples was selected for each analysis. It was hypothesized that, for these AOE subscales, social anxiety scores on the SAD-D would significantly moderate the proposed social modeling – AOE relationship from hypothesis 1.

Power Analysis. At the time of this project there was no study that examined social anxiety as a moderator of the hypothesized social modeling – AOE relationship. Given that hypothesis 2 is thereby evaluating a novel moderator of an already novel relationship, it was deemed problematic to borrow an effect size from any current research. As such, a moderate effect size ($f = .25$) was selected for use in the power analysis in G*Power (Version 3.1.9.2; IBM). Power analysis for an *a priori* ANCOVA (fixed effects, main effects, and interactions) was computed ($f = .25$, $\alpha = .0167$; input power = .80; numerator df = 3, groups = 2, covariates = 1). Results of this power analysis suggested a sample size of 230 was required to be adequately powered for hypothesis 2. Given that the regression model for hypothesis 2 includes the main effect predicted in hypothesis 1 (i.e., effect of condition on AOE subscales), the minimum number of participants to be adequately powered for hypothesis 2 would exceed that required for hypothesis 1 alone. It was determined that a minimum of 230 participants were needed in the final analyses to be sufficiently powered for testing both hypotheses.

Results

Preliminary analyses

Analyses were conducted using a final sample of 287 participants. As shown in Tables 3 and 4, there were no differences observed between conditions on demographic variables or background measures. All *t*-tests and Chi-Squared tests assessing for concerns regarding the effectiveness of random assignment were non-significant. Bivariate correlational analyses among continuous study variables and *t*-tests with condition and the AOEs found no violations of statistical analysis assumptions.

As shown in Table 5, most of the AOE subscales were positively correlated. Exceptions included tension reduction, which did not significantly correlate with cognitive impairment. Cognitive impairment did not correlate with tension reduction, liquid courage, nor positive AOEs broadly. Self-perception did not correlate with liquid courage, sexuality, nor positive AOEs broadly. Social anxiety (SAD-D) scores were positively correlated with cognitive impairment, self-perception, and negative AOEs broadly. Alcohol use and problems (AUDIT) scores were positively correlated with social anxiety, as well as with liquid courage, self-perception, risk and aggression, positive AOEs overall, and negative AOEs overall.

Primary Analyses

Hypothesis 1. Individual *t*-tests were conducted using condition as a predictor of the seven AOE subscales. As shown in Table 6, several AOE domains were significantly impacted by condition. As hypothesized, those in the treatment group reported higher sociability, tension reduction, and liquid courage AOEs than did those in the control group. Contrary to the hypothesis, those in the treatment group also reported higher sexuality (a positive AOE) and risk and aggression (a negative AOE) AOEs.

Two exploratory *t*-test analyses were conducted, using positive AOEs and negative AOEs overall in place of the specific subscales used above. Results of these exploratory analyses indicated that those in the treatment condition reported higher positive AOEs (but not

negative AOEs), compared to those in the control condition. Taken together, these findings provide partial support for hypothesis 1.

Hypothesis 2. Results of PROCESS Macro analysis for sociability AOEs as the dependent variable, with condition as the independent variable and SAD-D (social anxiety) scores as the moderator, showed a significant overall model, $F(3, 283) = 5.37$, $p = .001$, $R^2 = .054$. However, neither social anxiety itself nor the interaction term were significant. Condition, however, was significant, such that AOEs were higher in the treatment condition versus control. The tension reduction AOE subscale showed similar findings, with a significant overall model, $F(3, 283) = 5.84$, $p < .001$, $R^2 = .058$, but a non-significant social anxiety variable and interaction term. The condition variable was significant, such that AOEs were higher for those in the treatment condition versus control. Lastly, the overall model for the liquid courage AOE subscale was non-significant, $F(3, 283) = 2.59$, $p = .053$, $R^2 = .027$. As such, no support for hypothesis 2 was found. See Table 7 for additional information regarding these analyses.

Two exploratory analyses were performed, looking at the potential for social anxiety moderation with AOEs broadly clustered as positive or negative. The overall model for positive AOEs was significant, $F(3, 283) = 7.03$, $p < .001$, $R^2 = .063$. However, condition, social anxiety, and the interaction term were all non-significant in this model. The overall model for negative AOEs was significant, $F(3, 283) = 5.74$, $p < .001$, $R^2 = .057$. Additionally, the social anxiety variable was significant in this model. These results suggest that higher negative AOEs are associated with social anxiety, but there is no interaction between social anxiety and social modeling condition. Additional information regarding these analyses is included in Table 7.

Discussion

This study investigated how social anxiety and social modeling associate with alcohol outcomes expectancies (AOEs). Two hypotheses were tested: 1) Sociability, tension reduction, and liquid courage AOE subscales would be uniquely impacted by the social modeling manipulation, and 2) social anxiety would moderate this relationship. Beginning with hypothesis

one, the social modeling treatment condition associated with increased AOE scores in several domains (sociability, tension reduction, liquid courage, sexuality, risk and aggression, and positive AOEs overall). This suggests that while the predicted specificity of social modeling condition (i.e., that it would only impact sociability, liquid courage, and tension reduction AOE domains) was not supported, positive AOEs more broadly seem to have been affected by social modeling in this study. Additionally, sexuality AOEs may have been impacted by social modeling due to the high probability of social interaction being involved in sexual activities. This may have resulted in some overlap with the social anxiety markers portrayed in the video-taped manipulation and sexuality AOEs. Taking results of this study together provides partial support for hypothesis 1, as the three predicted to increase AOE domains were indeed higher in the treatment condition, and sexuality AOEs may have increased in the treatment condition due to internalized associations between sex and social interaction.

Looking at hypothesis two, social anxiety did not moderate and the predicted social modeling condition and AOE relationships. Social anxiety itself was partly predictive of higher negative AOE scores. However, social anxiety also did not appear to restrict the social modeling effect related to positive AOEs overall. Thus, while hypothesis 2 is unsupported in the current study, it appears that the social modeling manipulation was still efficacious at increasing positive AOEs for those in the treatment condition, as compared to control condition.

Past research has found AOEs related to tension reduction and increased social assertion to be associated with increased drinking motives to cope with social anxiety (Carrigan et al., 2008). Further, holding more positive AOEs is known to associate with potentially hazardous alcohol use (Jester et al., 2014; Pabst et al., 1993). If people's AOEs are impacted by social modeling, as the present study provides some support for, the potentially critical role of social context should be considered when assessing alcohol-related public health concerns. Further, social models most obviously may come in the form of one's peers, but the rising influence of social media, including popular internet "influencers," may also serve as social

models. This could present risk for young-adults in particular to alcohol-related social modeling. What is unclear from the current study, however, is how impactful such a change in AOEs would be in terms of changing real world drinking behavior, as well as how long-term any changes made may be.

Considering hypothesis two, which predicted that social anxiety would moderate the social modeling – AOE relationship, there was no support for a moderating role of social anxiety. However, exploratory analyses using positive AOEs overall and negative AOEs overall did provide some significant findings. There remained no support for a moderating influence of social anxiety, but higher social anxiety scores were associated with higher negative AOEs overall. As such, it appears that, in this sample, social anxiety did not interact with social modeling in any way, but those higher in social anxiety did hold more negative AOEs. Further, the main effect of condition on positive AOEs overall remained significant when including social anxiety in the regression model. One conclusion that can be drawn from this is that, for the more socially anxious, social modeling an anxiety reduction from drinking still associated with increased positive AOEs in the treatment condition (compared to control), even despite them appearing to hold higher negative AOEs in general. This finding may have important public health implications, when considering social anxiety as a risk factor for hazardous drinking. If those already at risk due to having heightened levels of social anxiety are placed at further increased risk due to social modeling, this would be important to research further.

The relationship between social anxiety and hazardous drinking has been supported by numerous past studies (see Morris et al., 2005 for review). Drinking motives are conceptualized in the literature as factors that motivate individuals to choose to drink alcohol (e.g., Cooper, 1994). Someone might for instance be motivated to drink by the hopes that it will make them more fun to be around at a party. Further, drinking motives constitute an important component in the pathway towards hazardous drinking, being found in past research to be more predictive of drinking behavior than AOEs themselves (Cronin, 1997). Additionally, past research has

supported there being important associations between social anxiety, AOEs, and drinking motives. Ham and colleagues (2007) found that drinking motives associated with increases in hazardous drinking for those higher in social anxiety. Research on college students has further indicated that sociability AOEs may serve as a potential mediator between hazardous drinking and social anxiety (Ham, 2009).

Given the current study, the role of social modeling may be important to consider in combination with past drinking motives research. While no moderating effect of social anxiety was found, perhaps there are downstream effects of social anxiety and social modeling on drinking motives. Those higher in social anxiety may, for example, be more motivated to drink to get social anxiety reducing effects. Were such individuals to be exposed to social models exhibiting this effect, whether in-person or online, this could present a unique risk factor yet to be researched.

The overall complexity of the relationship between social anxiety and drinking may be in part further complicated by the current study's findings. For example, one past study found that social anxiety is associated with decreased drinking frequency and quantity, but also with increased AOEs, motives to drink, and drinking-related problems (Schry & White, 2013). While the current study provides no support for social modeling impacting AOEs uniquely for those higher in social anxiety, it does appear that social modeling is important broadly.

Ultimately, the current study found that the video-taped social modeling used did appear to lead to higher positive AOEs for those in the treatment condition as opposed to control, supporting the first hypothesis. However, the predicted role of social anxiety as a moderator of social modeling's impact, was unsupported. Despite this, social anxiety did not appear to inhibit the social modeling effect for positive AOEs. While the potential limitations of this will be discussed below, this opens the door to potential public health implications of considering how one's exposure to drinking-related social models may impact their ideas about alcohol's effects. Further, exploratory moderation analyses demonstrate that this effect of social modeling on

AOEs appears to be effective regardless of social anxiety level, even if those with elevated social anxiety levels hold generally more negative AOEs compared to their lower social anxiety counterparts. As a result, the role of social modeling in helping to mold AOEs may be important to consider across the general population.

Limitations and Future Directions.

The current study was conducted online. This represents a major limitation to its design, as there was no way to control environmental variables (i.e., it was not a controlled laboratory design). It is not verifiable, for instance, whether participants were intoxicated or consuming alcohol while participating. All measures were also self-report based, and we trusted that those who self-reported having paid attention to the videos were being honest. Further, while Mazzonni and colleagues (2010) successfully used a video-taped social modeling manipulation in their research, social modeling as it was used in the present study is entirely novel. It is unknown whether the observed impact of social modeling on AOEs would have differed had this study been an in-person design.

While a broad range of both active and non-drinkers were recruited to provide a relatively diverse sample, this serves as a potential limitation as well. Findings could have been different depending on participant drinking status. The relationship between social modeling and AOEs could for example differ depending on the individual's experience level with drinking. In the current study, scores on the AUDIT (assessed for drinking and drinking-related problems) ranged from 1 to 38 points. Additionally, a balanced sample of lower versus higher social anxiety individuals was not part of the current study's design. Most participants in the current study reported relatively low levels of social anxiety. Social anxiety scores, as measured using the SAD-D, ranged from 0 to 3.90 points. See Table 5 for means and *SD*s for the AUDIT and SAD-D. It is therefore unknown what effect greater variance in drinking and/or social anxiety might have had on the findings in this study.

This study provides some initial support that social modeling may impact AOEs. However, the video-taped manipulation specifically targets behavioral markers related to social anxiety. Thus, these findings may not generalize to social modeling of other potential effects of alcohol consumption (e.g., acting aggressively). It is not possible to conclude whether the social modeling manipulation even impacted social anxiety AOEs in the manner that was predicted, as sexuality AOEs were in fact those that were most significantly correlated with manipulation condition. Why this is the case is unknown. However, it is possible that the video-taped manipulation used may have somehow tapped into sexuality-related themes. Perhaps some who took part in the study interpreted behaviors intended to represent social anxiety markers or a reduction in social anxiety as a form of flirting, or even viewing the first half of the video as reflecting nerves associated with romantic attraction to the interviewer.

Another significant limitation is that AOEs were only assessed one time, shortly after the manipulation was presented. This prevented any measure of actual change in participant AOEs and therefore made it impossible to gauge how impactful the manipulation was. Additionally, how robust and long-lasting this effect is was not assessed for. Relatedly, the actual size of the effect of social modeling on AOEs is difficult to precisely gauge. Increased AOE subscale scores associated with the treatment condition were universally seen as an increase of less than 0.5 points, and the CEOA is on a one (*Disagree*) to four (*Agree*) scale.

For positive AOEs in the current study, those exposed to the control condition were approximately halfway (M = 2.51) between two (*Slightly disagree*) and three (*Slightly agree*). Those in the treatment condition edged closer towards three (M = 2.80; *Slightly agree*). For negative AOEs, those in the control group were closer to two (M = 2.15; *Slightly disagree*), as compared to those in the treatment group (M = 2.21). Further, some of the individual AOE subscales appear on their face noticeably impacted by the manipulation. Sociability, for example, went from the upper side of two (M = 2.87; *Slightly disagree*) in the control group to the lower side of three (M = 3.17; *Slightly agree*) in the treatment group. Whether these findings

represent impactful, lasting changes that would have significant downstream effects on drinking behavior is unclear, however.

Future research that builds upon the current study would help illuminate the nature of the impact of social modeling and social anxiety on specific AOEs. For one thing, using a controlled laboratory design, rather than online methods, would enable greater control over environmental variables. Further, most of the research in the pharmaceutical and medical domains that gets closest to the current study's methods utilized in-person, "live" social modeling manipulations (e.g., Faasse et al., 2015). It would also be potentially helpful to consider recruiting balanced samples of both lighter versus heavier drinkers, as well as lower versus higher levels of social anxiety. This would enable more detailed comparisons between groups.

The general methods of the current study could also be built upon. For instance, a within-subjects, repeated measures design would allow for detection of true changes in AOEs that may result from social modeling. Although admittedly this methodology might necessitate briefer assessment of AOEs due to balancing time constraints. More longitudinal follow-up and assessment of AOEs could also further help evidence whether changes due to social modeling have any longevity. Additionally, assessing *in vitro* laboratory drinking (e.g., giving participants the opportunity to drink *ad libitum*) following a social modeling manipulation may help establish an association between changes to AOEs and actual drinking behavior. This, coupled with longitudinal follow-up, would enable potential detection of downstream consequences to being exposed to drinking-related social models.

A prospective future study design might be to bring participants into the laboratory and assess for both pre- and post- manipulation AOEs, as well as expose them to a social modeling manipulation. Participants then could be allowed to socialize freely with, perhaps, other participants in the study, and they would be allowed to freely drink as they please. A bar laboratory setting might be helpful, as it would mimic real-world drinking environments. Data could be collected on how much participants choose to drink, comparing between social

modeling manipulation conditions. Then, longer-term follow-up could be conducted to gather data regarding their future drinking behavior and AOEs, over time.

Conclusions.

Little is known at the present time about the relationship between social anxiety and social modeling on AOEs. The current study, however, provides some initial support for social modeling impacting positive AOEs, even for those higher in social anxiety. While exposure to drinking-related social models at events such as parties is expected, the emergence of social media and internet “influencers” increases the potential risk in the modern era. Future research and interventions might benefit from considering what role social modeling may play in the pathway towards hazardous alcohol use, particularly for those already known to be at risk (e.g., the more socially anxious). For instance, alcohol challenge interventions could potentially benefit from including evaluation of what social models individuals in treatment have been exposed to, including evaluation of their social media usage in this regard.

References

Abar, C. C., & Maggs, J. L. (2010). Social influence and selection processes as predictors of normative perceptions and alcohol use across the transition to college. *Journal of College Student Development*, *51*(5), 496–508. https://doi.org/10.1353/csd.2010.0005

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). https://doi.org/10.1176/appi.books.9780890425596

Babor, T. F., & Grant, M. (1989). From clinical research to secondary prevention: international collaboration in the development of the Alcohol Disorders Identification Test (AUDIT). *Alcohol Health & Research World*, *13*(4), 371 – 374. http://go.galegroup.com.ezproxy.lib.utexas.edu/ps/i.do?id=GALE%7CA8276942&v=2.1&u=txshracd2598&it=r&p=AONE&sw=w&asid=7d5eb52baf6c32aca0c98c3d84ffe938

Bandura, A. (1977). *Social learning theory*. Prentice-Hall.

Broderick, J. E., Kaplan-Liss, E., & Bass, E. (2011). Experimental induction of psychogenic illness in the context of a medical event and media exposure. *American journal of disaster medicine*, *6*(3), 163. https://doi.org/10.5055/ajdm.2011.0056

Brown, S. A., Goldman, M. S., & Christiansen, B. A. (1985). Do alcohol expectancies mediate drinking patterns of adults? *Journal of Consulting and Clinical Psychology*, *53*(4), 512–519. https://doi.org/10.1037/0022-006X.53.4.512

Bunaciu, L., Leen-Feldner, E. W., Blumenthal, H., Knapp, A. A., Badour, C. L., & Feldner, M. T. (2014). An experimental test of the effects of parental modeling on panic-relevant escape and avoidance among early adolescents. *Behavior therapy*, *45*(4), 517-529. https://doi.org/10.1016/j.beth.2014.02.011

Burstein, M., & Ginsburg, G. S. (2010). The effect of parental modeling of anxious behaviors and cognitions in school-aged children: An experimental pilot study. *Behaviour research and therapy*, *48*(6), 506-515. https://doi.org/10.1016/j.brat.2010.02.006

Caudill, B. D., & Kong, F. H. (2001). Social approval and facilitation in predicting modeling effects in alcohol consumption. *Journal of Substance Abuse*, *13*(4), 425 – 441. https://doi.org/10.1016/S0899-3289(01)00099-2

Carrigan, M. H., Ham, L. S., Thomas, S. E., & Randall, C. L. (2008). Alcohol outcome expectancies and drinking to cope with social situations. *Addictive behaviors*, *33*(9), 1162–1166. https://doi.org/10.1016/j.addbeh.2008.04.020

Christiansen, B. A., Smith, G. T., Roehling, P. V., & Goldman, M. S. (1989). Using alcohol expectancies to predict adolescent drinking behavior after one year. *Journal of consulting and clinical psychology*, *57*(1), 93. https://doi.org/10.1037//0022-006x.57.1.93

Cooper, M. L. (1994). Motivations for alcohol use among adolescents: Development and validation of a four-factor model. *Psychological assessment*, *6*(2), 117. https://doi.org/10.1037/1040-3590.6.2.117

Colloca, L., & Benedetti, F. (2009). Placebo analgesia induced by social observational learning. *Pain, 144*(1-2), 28-34. https://doi.org/10.1016/j.pain.2009.01.033

Critchlow, B. (1986). The powers of John Barleycorn: Beliefs about the effects of alcohol on social behavior. *American Psychologist*, *41*(7), 751 – 764. https://doi.org/10.1037/0003-066X.41.7.751

Cronin, C. (1997). Reasons for drinking versus outcome expectancies in the prediction of college student drinking. *Substance Use & Misuse*, *32*(10), 1287-1311. https://doi.org/10.3109/10826089709039379

Crum, R. M., & Pratt, L. A. (2001). Risk of heavy drinking and alcohol use disorders in social phobia: a prospective analysis. *American Journal of Psychiatry*, *158*(10), 1693-1700. https://doi.org/10.1176/appi.ajp.158.10.1693

Dunn, E. M., & Goldman, M. S. (1996). Empirical modeling of an alcohol expectancy memory network in elementary school children as a function of grade. *Experimental and Clinical Psychopharmacology*, *4*(2), 209 – 217. https://doi.org/10.1037/1064-1297.4.2.209

Dunn, M. E., & Goldman, M. S. (1998). Age and drinking-related differences in the memory organization of alcohol expectances in 3rd-, 6th-, 9th-, and 12th-grade children. *Journal of Consulting and Clinical Psychology*, *66*(3), 579 – 585. https://doi.org/10.1037/0022-006X.66.3.579

Faasse, K., Grey, A., Jordan, R., Garland, S., & Petrie, K. J. (2015). Seeing is believing: Impact of social modeling on placebo and nocebo responding. *Health Psychology, 34*(8), 880 – 885. https://doi.org/10.1037/hea0000199

Fromme, K., Stroot, E. A., & Kaplan, D. (1993). Comprehensive effects of alcohol: Development and psychometric assessment of a new expectancy questionnaire. *Psychological assessment*, *5*(1), 19 – 26. https://doi.org/10.1037/1040-3590.5.1.19

Gosling, S. D., Rentfrow, P. J., & Swann Jr, W. B. (2003). A very brief measure of the Big-Five personality domains. *Journal of Research in personality*, *37*(6), 504-528. https://doi.org/10.1016/S0092-6566(03)00046-1

Ham, L. S. (2009). Positive social alcohol outcome expectancies, social anxiety, and hazardous drinking in college students. *Cognitive Therapy and Research, 33*(6), 615–623. https://doi.org/10.1007/s10608-009-9248-8

Ham, L. S., Bonin, M., & Hope, D. A. (2007). The role of drinking motives in social anxiety and alcohol use. *Journal of Anxiety Disorders*, *21*(8), 991-1003. https://doi.org/10.1016/j.janxdis.2006.10.014

Ham, L. S., Carrigan, M. H., Moak, D. H., & Randall, C. L. (2005). Social anxiety and specificity of positive alcohol expectancies: Preliminary findings. *Journal of Psychopathology and Behavioral Assessment*, *27*(2), 115-121. https://doi.org/10.1007/s10862-005-5385-x

Ham, L. S., Stewart, S. H., Norton, P. J., & Hope, D. A. (2005). Psychometric assessment of the Comprehensive Effects of Alcohol Questionnaire: Comparing a brief version to the original full scale. *Journal of Psychopathology and Behavioral Assessment*, *27*(3), 141-158. https://doi.org/10.1007/s10862-005-0631-9

Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach.* Guilford Press.

Jackson, K. K. (2019). Social Anxiety Reduction in the Context of Social Modeling Utilizing a Placebo Alcohol Beverage. https://scholarworks.uark.edu/etd/3528

Jester, J. M., Wong, M. M., Cranford, J. A., Buu, A., Fitzgerald, H. E., & Zucker, R. A. (2015). Alcohol expectancies in childhood: change with the onset of drinking and ability to predict adolescent drunkenness and binge drinking. *Addiction*, *110*(1), 71-79. https://doi.org/10.1111/add.12704

Kashdan, T. B., & Steger, M. F. (2006). Expanding the Topography of Social Anxiety: An Experience-Sampling Assessment of Positive Emotions, Positive Events, and Emotion Suppression. *Psychological Science*,*17*(2), 120-128. https://doi.org/10.1111/j.1467-9280.2006.01674.x

Kroenke, K., Spitzer, R. L., & Williams, J. B. (2001). The PHQ-9: validity of a brief depression severity measure. *Journal of general internal medicine*, *16*(9), 606–613. https://doi.org/10.1046/j.1525-1497.2001.016009606.x

Kushner, M. G., Sher, K. J., & Beitman, B. D. (1990). The relation between alcohol problems and the anxiety disorders. *The American Journal of Psychiatry*, *147*(6), 685–695. https://doi.org/10.1176/ajp.147.6.685

Labbe, A. K., & Maisto, S. A. (2011). Alcohol expectancy challenges for college students: A narrative review. *Clinical psychology review*, *31*(4), 673-683. https://doi.org/10.1016/j.cpr.2011.02.007

Larsen, H., Engels, R. C., Granic, I., & Overbeek, G. (2009). An experimental study on imitation of alcohol consumption in same-sex dyads. *Alcohol & Alcoholism*, *44*(3), 250-255. https://doi.org/10.1093/alcalc/agp002

Lee, C. M., Atkins, D. C., Cronce, J. M., Walter, T., & Leigh, B. C. (2015). A daily measure of positive and negative alcohol expectancies and evaluations: Documenting a two-factor

structure and within-and between-person variability. *Journal of studies on alcohol and drugs*, *76*(2), 326-335. https://doi.org/10.15288/jsad.2015.76.326

Mazzoni, G., Foan, L., Hyland, M. E., & Kirsch, I. (2010). The effects of observation and gender on psychogenic symptoms. *Health Psychology, 29*(2), 181-185. https://doi.org/10.1037/a0017860

Morris, E. P., Stewart, S. H., & Ham, L. S. (2005). The relationship between social anxiety disorder and alcohol use disorders: A critical review. *Clinical psychology review*, *25*(6), 734-760. https://doi.org/10.1016/j.cpr.2005.05.004

Pabst, A., Kraus, L., Piontek, D., Mueller, S., & Demmel, R. (2014). Direct and indirect effects of alcohol expectancies on alcohol-related problems. *Psychology of Addictive Behaviors*, *28*(1), 20-30. https://doi.org/10.1037/a0031984

Patel, A. B., & Fromme, K. (2010). Explicit outcome expectancies and substance use: Current research and future directions. In L. Scheier (Ed.), *Handbook of drug use etiology: Theory, methods, and empirical findings.* (pp. 147–164). American Psychological Association. https://doi.org/10.2307/j.ctv1chs5kg

Rapee, R. M., & Heimberg, R. G. (1997). A cognitive-behavioral model of anxiety in social phobia. *Behaviour research and therapy*, *35*(8), 741-756. https://doi.org/10.1016/S0005-7967(97)00022-3

Read, J. P., Wood, M. D., & Capone, C. (2005). A prospective investigation of relations between social influences and alcohol involvement during the transition into college. *Journal of Studies on Alcohol*, *66*(1), 23-34. https://doi.org/10.15288/jsa.2005.66.23

Reese, F. L., Chassin, L., & Molina, B. S. (1994). Alcohol expectancies in early adolescents: predicting drinking behavior from alcohol expectancies and parental alcoholism. *Journal of Studies on Alcohol*, *55*(3), 276-284. https://doi.org/10.15288/jsa.1994.55.276

Sauber-Schatz, E. K., Ederer, D. J., Dellinger, A. M., & Baldwin, G. T. (2016). Vital signs: motor vehicle injury prevention—United States and 19 comparison countries. *Morbidity and Mortality Weekly Report*, *65*(26), 672-677. https://doi.org/10.15585/mmwr.mm6526e1

Schneier, F. R., Blanco, C., Antia, S. X., & Liebowitz, M. R. (2002). The social anxiety spectrum. *Psychiatric Clinics*, *25*(4), 757-774. https://doi.org/10.1016/S0193-953X(02)00018-7

Schry, A. R., & White, S. W. (2013). Understanding the relationship between social anxiety and alcohol use in college students: a meta-analysis. *Addictive behaviors*, *38*(11), 2690–2706. https://doi.org/10.1016/j.addbeh.2013.06.014

Skinner, B. F. (1965). *Science and human behavior* (No. 92904). Simon and Schuster.

Sunderland, M., Batterham, P. J., Calear, A. L., Carragher, N., & Slade, T. (2020). The psychometric properties of 30-day versions of the DSM-5 dimensional severity scales for social anxiety disorder and panic disorder. *Psychiatry Research*, *291*. https://doi.org/10.1016/j.psychres.2020.113229

Talbot, B. H. (2012). The relationship of family and peer factors to college students' alcohol use [ProQuest Information & Learning]. In *Dissertation Abstracts International Section A: Humanities and Social Sciences* (Vol. 73, Issue 5–A, p. 1654).

White, A. M., Castle, I. J. P., Hingson, R. W., & Powell, P. A. (2020). Using death certificates to explore changes in alcohol-related mortality in the United States, 1999 to 2017. *Alcoholism: Clinical and Experimental Research*, *44*(1), 178-187. https://doi.org/10.1111/acer.14239

Tables

Table 1. *Demographic information for total recruited sample*

Variable	**Total**	**Percentage**
Gender Identity		
Men	147	49.2
Women	134	44.8
Non-Binary	17	5.7
Other	1	0.3
Chosen video gender for non-binary/other		
Male	3	16.7
Female	15	83.3
Ethnicity		
White	171	57.2
Hispanic/Latino	48	16.1
Black	35	11.7
Asian	36	12.0
Other	9	3.0
College Status		
Current Student	102	34.1
Not a current student	197	65.9
	M	*SD*
Age	23.86	2.89

Table 2. *Demographic information for analyzed sample*

Variable	**Total**	**Percentage**
Gender Identity		
Men	139	48.4
Women	131	45.6
Non-Binary	16	5.6
Other	1	0.3
Chosen video gender for non-binary/other		
Male	3	17.6
Female	14	82.4
Ethnicity		
White	162	56.4
Hispanic/Latino	47	16.4
Black	35	12.2
Asian	35	12.2
Other	8	2.8
College Status		
Current Student	100	34.8
Not a current student	187	65.2
	M	*SD*
Age	23.82	2.91

Table 3. *Background variables by condition (t-tests)*

Variable	**Mean (*SD*)**		**Statistic**		
	Treatment	*Control*	*t-test*	*df*	*p*
Total AUDIT score	6.09 (5.82)	5.92 (6.42)	-0.19	204	.847
TIPI Extraversion score	34.20 (5.63)	35.33 (5.68)	1.69	285	.091
TIPI Openness score	10.06 (2.51)	10.23 (2.40)	0.57	285	.567
SAD-D (average) score	0.99 (0.78)	1.05 (0.99)	0.64	285	.521
PHQ-9 (Depression) score	7.57 (5.88)	7.85 (6.38)	0.39	285	.699

Note. AUDIT = Alcohol Use Disorders Identification Test; TIPI = Ten-Item Personality Inventory; SAD-D = *DSM-5* Severity Measure for Social Anxiety Disorder; PHQ-9 = Patient Health Questionnaire-9

Table 4. *Background variables by condition (Chi-squared tests)*

Variable	**Mean**		**Statistic**		
	Treatment	*Control*	X^2	*df*	*p*
Race/ethnicity			1.20	4	.879
White	143	144			
Hispanic	22	25			
Black	18	17			
Asian	16	19			
Other	3	5			
Gender			1.32	3	.724
Men	69	70			
Women	64	67			
Non-Binary	9	7			
Other	1	0			
Current college student			0.002	1	.966
Yes	50	50			
No	93	94			
Employment status			1.87	5	.867
Full time	54	53			
Part time	23	20			
Temporary	6	7			
Full time student	30	29			
Retired	1	0			
Unemployed	29	35			
Marketing course/workshop experience			0.15	2	.928
Yes	36	34			
No	101	103			
Not sure	6	7			
Type of device used during study			1.34	2	.511
Computer/PC (laptop or desktop)	116	116			
Tablet	6	3			
Smartphone	21	25			

Table 5. *Correlations Between AOE Subscales, SAD-D Scores, and AUDIT Scores*

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10
1. AUDIT	6.00	6.11	--									
2. SAD-D (average)	1.02	.90	.27**	--								
3. Sociability	3.02	.65	.10	-.04	--							
4. Tension Reduction	2.78	.72	.13	-.10	.60**	--						
5. Liquid Courage	2.62	.75	.20**	-.02	.69**	.51**	--					
6. Cog Impairment	2.59	.68	.06	.24**	.13*	.02	.09	--				
7. Self-Perception	1.86	.68	.20**	.26**	-.19**	-.18**	.03	.47**	--			
8. Sexuality	2.20	.75	.22**	.11	.49**	.37**	.56**	.12*	.11	--		
9. Risk & Aggression	2.10	.65	.27**	.03	.41**	.22**	.61**	.38**	.38**	.55**	--	
10. Positive AOEs	2.65	.58	.22**	-.01	.85**	.76**	.86**	.11	-.06	.76**	.56**	--
11. Negative AOEs	2.18	.52	.23**	.23**	.15*	.02	.31**	.80**	.79**	.33**	.75**	.26**

Note. *p < .05. **p < .01; AUDIT = Alcohol Use Disorders Identification Test; SAD-D = *DSM-5* Severity Measure for Social Anxiety Disorder; AOEs = Alcohol Outcome Expectancies

Table 6. *Results of Individual t-tests Examining the Impact of Condition on AOE Scores*

AOE Subscale	Control		Treatment		*t*(285)	*p*
	M	*SD*	*M*	*SD*		
Sociability	2.87	.71	3.17	.55	-3.98	<.001
Tension Reduction	2.62	.74	2.94	.66	-3.87	<.001
Liquid Courage	2.51	.80	2.74	.69	-2.60	.01
Cognitive Impairment	2.56	.75	2.62	.59	-0.69	.49
Self-Perception	1.88	.71	1.83	.66	0.57	.57
Sexuality	2.03	.74	2.37	.73	-3.86	<.001
Risk & Aggression	2.02	.65	2.19	.64	-2.30	.02
Positive AOEs	2.51	.61	2.80	.51	-4.46	<.001
Negative AOEs	2.15	.54	2.21	.51	-0.99	.32

Note. AOEs = Alcohol Outcome Expectancies

Table 7. *Moderation Analyses of Condition and Social Anxiety on AOEs*

Outcome	**Effect**	**Estimate**	***SE***	**95% CI**		***t*(283)**	***p***
				LL	*UL*		
Sociability	Intercept	2.905	.078	2.752	3.057	37.46	<.001
	Condition	.265	.116	.037	.493	2.28	.023
	Social Anxiety	-.031	.054	-.137	.074	-.58	.561
	Interaction	.032	.087	-.140	.203	.36	.718
Tension Reduction	Intercept	2.713	.086	2.544	2.882	31.62	<.001
	Condition	.275	.128	.023	.528	2.15	.033
	Social Anxiety	-.088	.059	-.205	.029	-1.47	.142
	Interaction	.041	.097	-.149	.231	.42	.673
Liquid Courage	Intercept	2.556	.091	2.377	2.736	28.06	<.001
	Condition	.124	.136	-.144	.392	.91	.365
	Social Anxiety	-.047	.063	-.171	.077	-.74	.459
	Interaction	.103	.103	-.098	.305	1.01	.314
Positive AOEs	Intercept	2.541	.069	2.406	2.676	37.04	<.001
	Condition	.210	.103	.009	.412	2.05	.041
	Social Anxiety	-.032	.048	-.125	.062	-.67	.503
	Interaction	.085	.077	-.067	.237	1.10	.274
Negative AOEs	Intercept	2.002	.062	1.880	2.125	32.13	<.001
	Condition	.089	.093	-.095	.272	.95	.341
	Social Anxiety	.143	.043	.058	.228	3.32	.001
	Interaction	-.018	.070	-.156	.120	-.25	.801

Note. Total *N* = 287; AOEs = Alcohol Outcome Expectancies; CI = Confidence interval; LL = Lower limit; UL = Upper limit

Appendices

Appendix A

Prolific Advertising Blurb

This project involves gathering important training-related analytics. We want to maximize the effectiveness of our interviews, and we are asking you to provide us feedback based on a video-taped interview. Your evaluations of an on-screen consumer's reactions to questions, as well as the overall interaction between the interviewer and consumer, will help inform our training procedures for future interviewers. It is believed that we can develop some key performance indicators with which to gauge the effectiveness of our interviewers. We will be using these interviews to gather valuable marketing analytics to help us better market and advertise a mixed drink we hope to bring to market. As part of this project, you will need to:

- Be between 18 and 28 years-old
- Reside in the United States
- Be a native English speaker
- Have video and audio capabilities on your device
- Currently have access to high-speed internet

We ask that you pay full attention to all questionnaires and, critically, to the videotaped interview you will watch. This task is estimated to take approximately 20 minutes, and you will be compensated $4.00 upon successful completion of the task. Thank you!

Appendix B

Initial Eligibility Items

1. What type of device will you be using?
    a. Computer/PC (laptop or desktop)
    b. Tablet
    c. Smartphone
    d. Other

2. Do you have high-speed internet access at this time?
    a. (If “yes”) You may proceed to the next question.
    b. (If “no”) Please try again later when you have high-speed internet access.

3. Does your device have sound? Yes / No
    a. (If “yes”) You may proceed with the study.

(If “no”) Please plug in a sound device (e.g., headphones) before proceeding.

Appendix C

Demographics

1. With what gender do you identify? Male / Female / Non-Binary or Other
    a. (If response is other than “male” or “female”) The video you watch will either have a man or a woman as the on-screen consumer. Would you prefer to see the man or the woman? Man / Woman

2. What is your age? _____

3. With which race/ethnicity do you most identify?
White (non-Hispanic) **/** African American (non-Hispanic) **/** Hispanic **/** Asian **/** American Indian / Other

4. Are you currently a college student? Yes / No
    a. (If Yes) What year are you in college?
        i. ____Freshman
        ii. ____Sophomore
        iii. ____Junior
        iv. ____Senior
        v. ____Graduate School
    b. (If Yes) What is your major? _____
    c. (If No) What best describes your highest level of education?
        ____ Eighth grade or less
        ____ High school degree or less
        ____ Some college
        ____ Two year college degree
        ____ Four-year college degree
        ____ Graduate degree
        ____ Professional school
5. Have you taken any courses or workshops on marketing or advertising? Yes / No / Not sure

6. How many members currently live in your household? _____

7. Which of the following best describes your employment status?
    a. Full time regular employment
    b. Part-time regular employment
    c. Temporary employment
    d. Full time student
    e. Retired
    f. Unemployed

8. What is your household income? _____

9. How much money do you spend per month on alcohol? _____

Appendix D

Informed Consent

Title: Evaluating Consumer Product Test Interviews

Principal Researcher:
Kyle K. Jackson, M.A.
University of Arkansas
479-575-4256
kkjackso@uark.edu

Faculty Advisor:
Dr. Lindsay Ham
University of Arkansas
479-575-3489
lham@uark.edu

Description: The purpose of this project is to provide feedback on the quality of consumer product test interviews and help us acquire important training-related analytics. You would watch and provide feedback about a video-recorded interview in which the interviewer asks a consumer various questions about the new product the consumer sampled as well as their experiences and preferences related to similar products. The consumer will sample a new mixed alcoholic beverage product undergoing consumer testing. As part of this project, you will answer questions including demographic information and rating scales. You will also be required to watch a brief video and provide your evaluations of both the overall quality of the interview and the consumer's perceived response to the interviewer. Some questions will ask about your drinking behaviors, drinking preferences, buying behaviors, personality, mood, and attitudes towards drinking more generally. This will enable us to form a unique consumer profile for each person who takes part in the project.

You must be between the ages of 18 and 28 years-old, be a native English speaker, and reside in the United States. Due to the need for you to watch a video, you must have high-speed internet access, as well as functioning sound and video on your present device (e.g., if you are using a tablet, it must have sound and be able to play video). We ask that you do this task alone, so as not to have any distractions around you.

The study is estimated to take approximately twenty minutes. However, it may take longer depending upon the speed at which your device buffers the videos and the rate at which you answer questions.

Risks and Benefits: There are no known or expected risks from participation in this project. However, there might be temporary discomfort caused by answering questions related to your personality and drinking behaviors. All of your responses to the questionnaires will remain anonymous and secure.

In terms of benefits, you will receive $4.00 upon completion of the tasks. Additionally, the training analytics gained will help us better train and prepare our future interviewers to assess consumer opinions about new drink products.

Voluntary Participation and Right to Discontinue: Throughout all portions of the study, participation is completely voluntary. Individuals can discontinue participation at any time without negative consequence.

Confidentiality: All information about individuals obtained as a result of participation in this research will be kept confidential to the extent allowed by law and University policy. All data will

be stored in password-protected files in locked rooms only accessible to the researchers and will be recorded anonymously using coded subject numbers. Names will only be recorded for the purpose of contacting about your appointment and names will not be linked to your data. Identifying information will be destroyed after six months. Your anonymous research records will be kept for five years after the study is closed and then destroyed. Any scientific reports or other applications of the results of the research will include no individual identifying information. We will present the research results as a group.

Informed Consent: By proceeding onto the project, I am indicating that I have read this form and I understand what it says. I have had a chance to ask any questions and my questions were answered to my satisfaction and that I agree to participate in this study.

Principal Researcher: Kyle K. Jackson, kkjackso@uark.edu, 479-575-4256

Faculty Adviser: Dr. Lindsay Ham, lham@uark.edu, 479-575-3489

You may also contact the University of Arkansas Research Integrity and Compliance office listed below if you have questions about your rights as a participant, or to discuss any concerns about, or problems with the research.

Ro Windwalker, CIP
Institutional Review Board Coordinator
Research Integrity and Compliance
University of Arkansas
105 MLKG Building
Fayetteville, AR 72701-1201
479-575-2208
irb@uark.edu

I have read the above statement and have been able to ask questions and express concerns, which have been satisfactorily responded to by the investigator. I understand the purpose of the study as well as the potential benefits and risks that are involved. I understand that participation is voluntary. I understand that significant new findings developed during this research will be shared with the participant. I understand that no rights have been waived by signing the consent form. I have been given a copy of the consent form

Appendix E

Product Expertise Profile

1. Are you the person in your household who makes alcohol-related purchasing decisions? Yes / No

2. Do you or someone else in your household ever purchase premixed alcoholic drinks (for example, a premixed beverage containing gin and tonic)? Yes / No
    a. (If Yes) What do you or they usually buy? _____

3. When I drink alcohol, I prefer to drink:
    a. ____ Pre-Mixed Drinks
    b. ____ Mixed Drinks
    c. ____ Hard Liquor (not in a mixed drink)
    d. ____ Beer
    e. ____ Wine
    f. ____ Other. Describe: _____

4. People learn a lot about others from what type of drink they choose.
    a. ____ Strongly Disagree
    b. ____ Somewhat Disagree
    c. ____ Neither Agree or Disagree
    d. ____ Somewhat Agree
    e. ____ Strongly Agree

5. People usually drink something that reflects their style.
    a. ____ Strongly Disagree
    b. ____ Somewhat Disagree
    c. ____ Neither Agree or Disagree
    d. ____ Somewhat Agree
    e. ____ Strongly Agree

6. People enjoy a drink more if it is a good fit for their personality.
    a. ____ Strongly Disagree
    b. ____ Somewhat Disagree
    c. ____ Neither Agree or Disagree
    d. ____ Somewhat Agree
    e. ____ Strongly Agree

7. People would spend more on a drink if it was a better fit for their personality.
    a. ____ Strongly Disagree
    b. ____ Somewhat Disagree
    c. ____ Neither Agree or Disagree
    d. ____ Somewhat Agree
    e. ____ Strongly Agree

Appendix F

Evaluation Experience Profile

1. Have you ever or do you currently work in the marketing field? Yes, in the past / Yes, currently / No

2. Have you ever or do you currently work in the alcohol and/or bar industry? Yes, in the past / Yes, currently / No

3. Have you ever evaluated the quality of an interview before? Yes / No
    a. (If Yes) How many times would you estimate? _____

4. I have a lot of experience conducting interviews (i.e., being the interviewer).

    a. ____ Strongly Disagree
    b. ____ Somewhat Disagree
    c. ____ Neither Agree or Disagree
    d. ____ Somewhat Agree
    e. ____ Strongly Agree

5. I have a lot of experience being interviewed (i.e., being interviewed as the consumer).

    a. ____ Strongly Disagree
    b. ____ Somewhat Disagree
    c. ____ Neither Agree or Disagree
    d. ____ Somewhat Agree
    e. ____ Strongly Agree

6. I am skilled at reading other people's reactions.
    a. ____ Strongly Disagree
    b. ____ Somewhat Disagree
    c. ____ Neither Agree or Disagree
    d. ____ Somewhat Agree
    e. ____ Strongly Agree

7. I am a good judge of character.
    a. ____ Strongly Disagree
    b. ____ Somewhat Disagree
    c. ____ Neither Agree or Disagree
    d. ____ Somewhat Agree
    e. ____ Strongly Agree

8. I know when a conversation is going well.
    a. ____ Strongly Disagree
    b. ____ Somewhat Disagree
    c. ____ Neither Agree or Disagree
    d. ____ Somewhat Agree
    e. ____ Strongly Agree

9. It is easy for me to tell when a person is at ease in a social interaction.

a. ____ Strongly Disagree
b. ____ Somewhat Disagree
c. ____ Neither Agree or Disagree
d. ____ Somewhat Agree
e. ____ Strongly Agree

Appendix G

Patient Health Questionnaire (PHQ-9; Kroenke et al., 2001)

Over the last 2 weeks, how often have you been bothered by any of the following problems?

1. Little interest or pleasure in doing things
   a. ____ Not at all
   b. ____ Several days
   c. ____ More than half the days
   d. ____ Nearly every day
2. Feeling down, depressed, or hopeless
   a. ____ Not at all
   b. ____ Several days
   c. ____ More than half the days
   d. ____ Nearly every day
3. Trouble falling or staying asleep, or sleeping too much
   a. ____ Not at all
   b. ____ Several days
   c. ____ More than half the days
   d. ____ Nearly every day
4. Feeling tired or having little energy
   a. ____ Not at all
   b. ____ Several days
   c. ____ More than half the days
   d. ____ Nearly every day
5. Poor appetite or overeating
   a. ____ Not at all
   b. ____ Several days
   c. ____ More than half the days
   d. ____ Nearly every day
6. Feeling bad about yourself – or that you are a failure or have let yourself or your family down
   a. ____ Not at all
   b. ____ Several days
   c. ____ More than half the days
   d. ____ Nearly every day
7. Trouble concentrating on things, such as reading the newspaper or watching television
   a. ____ Not at all
   b. ____ Several days
   c. ____ More than half the days
   d. ____ Nearly every day
8. Moving or speaking so slowly that other people could have noticed. Or the opposite – being so fidgety or restless that you have been moving around a lot more than usual
   a. ____ Not at all
   b. ____ Several days
   c. ____ More than half the days
   d. ____ Nearly every day
9. Thoughts that you would be better off dead, or of hurting yourself
   a. ____ Not at all
   b. ____ Several days
   c. ____ More than half the days

d. ____ Nearly every day

10. If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?
    a. ____ Not at all
    b. ____ Somewhat difficult
    c. ____ Very difficult
    d. ____ Extremely difficult

Appendix H

Ten Item Personality Inventory (TIPI; Gosling et al., 2003)

Here are a number of personality traits that may or may not apply to you. Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement. You should rate the extent to which the pair of traits applies to you, even if one characteristic applies more strongly than the other.

I see myself as:

1. Little interest or pleasure in doing things
   - a. ____ Disagree strongly
   - b. ____ Disagree moderately
   - c. ____ Disagree a little
   - d. ____ Neither agree nor disagree
   - e. ____ Agree a little
   - f. ____ Agree moderately
   - g. ____ Agree strongly
2. Critical, quarrelsome
   - a. ____ Disagree strongly
   - b. ____ Disagree moderately
   - c. ____ Disagree a little
   - d. ____ Neither agree nor disagree
   - e. ____ Agree a little
   - f. ____ Agree moderately
   - g. ____ Agree strongly
3. Dependable, self-disciplined
   - a. ____ Disagree strongly
   - b. ____ Disagree moderately
   - c. ____ Disagree a little
   - d. ____ Neither agree nor disagree
   - e. ____ Agree a little
   - f. ____ Agree moderately
   - g. ____ Agree strongly
4. Anxious, easily upset
   - a. ____ Disagree strongly
   - b. ____ Disagree moderately
   - c. ____ Disagree a little
   - d. ____ Neither agree nor disagree
   - e. ____ Agree a little
   - f. ____ Agree moderately
   - g. ____ Agree strongly
5. Open to new experiences, complex
   - a. ____ Disagree strongly
   - b. ____ Disagree moderately
   - c. ____ Disagree a little
   - d. ____ Neither agree nor disagree
   - e. ____ Agree a little
   - f. ____ Agree moderately
   - g. ____ Agree strongly
6. Reserved, quiet

a. ____ Disagree strongly
b. ____ Disagree moderately
c. ____ Disagree a little
d. ____ Neither agree nor disagree
e. ____ Agree a little
f. ____ Agree moderately
g. ____ Agree strongly

7. Sympathetic, warm
   a. ____ Disagree strongly
   b. ____ Disagree moderately
   c. ____ Disagree a little
   d. ____ Neither agree nor disagree
   e. ____ Agree a little
   f. ____ Agree moderately
   g. ____ Agree strongly
8. Disorganized, careless
   a. ____ Disagree strongly
   b. ____ Disagree moderately
   c. ____ Disagree a little
   d. ____ Neither agree nor disagree
   e. ____ Agree a little
   f. ____ Agree moderately
   g. ____ Agree strongly
9. Calm, emotionally stable
   a. ____ Disagree strongly
   b. ____ Disagree moderately
   c. ____ Disagree a little
   d. ____ Neither agree nor disagree
   e. ____ Agree a little
   f. ____ Agree moderately
   g. ____ Agree strongly
10. Conventional, uncreative
    a. ____ Disagree strongly
    b. ____ Disagree moderately
    c. ____ Disagree a little
    d. ____ Neither agree nor disagree
    e. ____ Agree a little
    f. ____ Agree moderately
    g. ____ Agree strongly

Appendix I

Severity Measure for Social Anxiety Disorder (SAD-D; American Psychiatric Association, 2013)

The following questions ask about thoughts, feelings, and behaviors that you may have had about social situations. Usual social situations include: public speaking, speaking in meetings, attending social events or parties, introducing yourself to others, having conversations, giving and receiving compliments, making requests of others, and eating and writing in public. Please respond to each item by selecting the response that most applies to you.

							Clinician Use
	During **the PAST 7 DAYS**, I have…	Never	Occasionally	Half of the time	Most of the time	All of the time	Item score
1.	felt moments of sudden terror, fear, or fright in social situations	❑ 0	❑ 1	❑ 2	❑ 3	❑ 4	
2.	felt anxious, worried, or nervous about social situations	❑ 0	❑ 1	❑ 2	❑ 3	❑ 4	
3.	had thoughts of being rejected, humiliated, embarrassed, ridiculed, or offending others	❑ 0	❑ 1	❑ 2	❑ 3	❑ 4	
4.	felt a racing heart, sweaty, trouble breathing, faint, or shaky in social situations	❑ 0	❑ 1	❑ 2	❑ 3	❑ 4	
5.	felt tense muscles, felt on edge or restless, or had trouble relaxing in social situations	❑ 0	❑ 1	❑ 2	❑ 3	❑ 4	
6.	avoided, or did not approach or enter, social situations	❑ 0	❑ 1	❑ 2	❑ 3	❑ 4	
7.	left social situations early or participated only minimally (e.g., said little, avoided eye contact)	❑ 0	❑ 1	❑ 2	❑ 3	❑ 4	
8.	spent a lot of time preparing what to say or how to act in social situations	❑ 0	❑ 1	❑ 2	❑ 3	❑ 4	
9.	distracted myself to avoid thinking about social situations	❑ 0	❑ 1	❑ 2	❑ 3	❑ 4	
10.	needed help to cope with social situations (e.g., alcohol or medications, superstitious objects)	❑ 0	❑ 1	❑ 2	❑ 3	❑ 4	
						Total/Partial Raw Score:	
						Prorated Total Raw Score: (if 1-2 items left unanswered)	
						Average Total Score:	

Appendix J

10-Item Alcohol Use Disorders Identification Test (AUDIT; Babor et al., 1989)

Box 4

The Alcohol Use Disorders Identification Test: Interview Version

Read questions as written. Record answers carefully. Begin the AUDIT by saying "Now I am going to ask you some questions about your use of alcoholic beverages during this past year." Explain what is meant by "alcoholic beverages" by using local examples of beer, wine, vodka, etc. Code answers in terms of "standard drinks". Place the correct answer number in the box at the right.

1. How often do you have a drink containing alcohol?
   (0) Never [Skip to Qs 9-10]
   (1) Monthly or less
   (2) 2 to 4 times a month
   (3) 2 to 3 times a week
   (4) 4 or more times a week

2. How many drinks containing alcohol do you have on a typical day when you are drinking?
   (0) 1 or 2
   (1) 3 or 4
   (2) 5 or 6
   (3) 7, 8, or 9
   (4) 10 or more

3. How often do you have six or more drinks on one occasion?
   (0) Never
   (1) Less than monthly
   (2) Monthly
   (3) Weekly
   (4) Daily or almost daily
   Skip to Questions 9 and 10 if Total Score for Questions 2 and 3 = 0

4. How often during the last year have you found that you were not able to stop drinking once you had started?
   (0) Never
   (1) Less than monthly
   (2) Monthly
   (3) Weekly
   (4) Daily or almost daily

5. How often during the last year have you failed to do what was normally expected from you because of drinking?
   (0) Never
   (1) Less than monthly
   (2) Monthly
   (3) Weekly
   (4) Daily or almost daily

6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?
   (0) Never
   (1) Less than monthly
   (2) Monthly
   (3) Weekly
   (4) Daily or almost daily

7. How often during the last year have you had a feeling of guilt or remorse after drinking?
   (0) Never
   (1) Less than monthly
   (2) Monthly
   (3) Weekly
   (4) Daily or almost daily

8. How often during the last year have you been unable to remember what happened the night before because you had been drinking?
   (0) Never
   (1) Less than monthly
   (2) Monthly
   (3) Weekly
   (4) Daily or almost daily

9. Have you or someone else been injured as a result of your drinking?
   (0) No
   (2) Yes, but not in the last year
   (4) Yes, during the last year

10. Has a relative or friend or a doctor or another health worker been concerned about your drinking or suggested you cut down?
    (0) No
    (2) Yes, but not in the last year
    (4) Yes, during the last year

Record total of specific items here

If total is greater than recommended cut-off, consult User's Manual.

Appendix K

Video-Taped Interview Script (Control and Treatment conditions)

Control

	Word count or Time in seconds	SSAQ item	Behavioral indicator of SA
Footage begins by showing the participant seated, having a full drink **Participant is making fairly little eye contact (looking downwards)**	4 seconds		-Gaze avoidance -Short speech -Monotone
There are frequent, at times awkward pauses between dialogue, and the participant is clearly not entirely comfortable			-Rigid posture
I: I'd like you to drink this drink evenly over a 10 minute period. I'll leave you alone so that you can focus on the drink during that time. After the 10 minute period I'll return and ask you questions. Before you get started and I begin timing I'd like to ask a few preliminary questions. Sound good?	57 words 1 word		-Gaze Avoidance -Short speech -Monotone
P: **Monotone** Sure.	8 words		
I: How appetizing does the drink look to you?	5 words		-Monotone -Short Speech
P: **Monotone, looking downwards** It looks fine, I guess.			-Gaze Avoidance
I: What about it makes it appear good or bad?	9 words 10 words 5 words 19 words		 -Short Speech
P: It looks like it might be a little sour.			
I: How similar does the drink appear to others you've had?	4 words		-Monotone
P: **Monotone** It looks normal, I guess.			
I: Looking at it, does this seem like a drink you'd order at a bar or even make at home?			-Short Speech
P: **Looking downwards** Maybe. I don't know.			-Monotone
I: How wide of a variety of drinks would you say that you find enjoyable?		*From SSAQ Question 3 ("I was afraid that others did not approve of me")*	-Monotone
P: I like most drinks alright.			
I: Alright. **Researcher writes something down**			
P: I hope this is helpful. I don't know what kind of information you're looking for here.			

I: I just want your thoughts and opinions. You're doing just fine. I: In what kinds of contexts, places, or situations do you usually do your drinking? P: **Looking downwards** Usually socially, I guess. I don't really go out all that much though. I'm not very outgoing. I: Why do you say that you're not very outgoing? P: I don't know exactly. I think it just takes a lot of effort for me to do things with other people. I: I see. So you usually drink with other people when you do drink, but you don't go out that much because it feels like it takes a lot of effort? P: **Monotone** Yeah. I: When in social settings then, can you say a little bit more about the extra effort you feel it requires from you? P: I don't know sometimes I'm nervous I'll say something stupid or whatever. Something awkward. You know? I: Yeah, that sounds like it would be tough. Are there any other things you might think about in those settings? P: Sometimes I think that people are just judging me. Like they're going to, I don't know, think I'm just not fun to be around or something. I: Well thank you for sharing that with me. I don't mean to be overly personal. Last question: How much do you think a drink says about the person drinking it? P: Ummmmm... **Brief pause** What do you mean? I: For example, some people will stereotype that a guy drinking a wine cooler is less manly or something like that. Do you have any thoughts about that kind of thing?		*From SSAQ Question 7 ("I found it hard to interact with people")* *From SSAQ Question 4 ("I was worried I would say or do the wrong things")* *From SSAQ Question 2 ("I was afraid other people noticed my shortcomings")*	-Gaze Avoidance -Monotone -Short Speech -Gaze Avoidance

P: Oh, not really. I don't pay much attention to what other people are drinking usually. I just focus on what I'm drinking. I: Could you say more about that? P: **Looking downwards** Yeah. I just order what sounds good usually. I: So, to make sure I understand you correctly, you don't really worry about drink stereotypes, you just order what sounds tasty at that moment? P: Yes.			
I: Ok, thank you. I'll leave for 10 minutes. Please remember to drink the drink evenly over that period. **The researcher walks off camera as the participant is seen taking their first sip**	18 words 4 seconds		
****The video is now skipped towards the end**** **The drink it is now empty**			
I: All done? P: Yeah. **There's a brief pause. The participant looks downwards for a moment while the researcher writes a brief note**	2 words 1 word 5 seconds		-Short speech
P: Sorry. I hope I don't mess up your study. It's just uncomfortable being the center of attention in an interview like this I guess. I'm not used to someone writing down everything I say.	34 words	*From SSAQ, Question 6 ("I felt uncomfortable and embarrassed when I was the center of attention")*	
I: No worries. I'm going to ask you some questions now that you've finished the drink and are experiencing its effects. So, let's get started. How would you describe the taste of the drink?	33 words		
P: **Monotone, looking downwards** It was fine.	3 words		-Short Speech -Monotone -Gaze Avoidance
I: How sweet would you say the drink is?	8 words		

P: I hope you don't think it was weird that all I said about the taste was that it's fine. I'm not a drink expert or anything.	26 words	*From SSAQ, Question 5 ("When I was talking to someone, I was worried about what they were thinking of me")*	
I: Not a problem at all. We want your opinion, in a way, because you're not an expert. We want to know what normal people think. So, how sweet would you say the drink is?	34 words		
P: **Monotone** It's not very sweet, really.	5 words		-Short Speech -Monotone
I: How bitter would you say the drink is?	8 words		
P: **Looking downwards** It was bitter. But it wasn't so strong I couldn't finish it.	12 words		-Gaze Avoidance
I: Alright.	1 word		
I: How smooth, if you will, would you say the drink is?	11 words		
P: **Monotone** It was pretty smooth. **Brief pause** So are you gonna look at all these answers yourself?	18 words		-Monotone
I: No, we'll have an undergraduate research assistant enter it. Why?	10 words		
P: Oh. I just hope that they don't think my answers are weird or anything.	14 words	*From SSAQ, Question 1 ("I worried what other people thought of me")*	
I: They'll be focused on just entering it. I doubt they'd think anything bad about you. Plus, your name won't be attached to the data anyways. How did the flavor of the drink change as you drank more of it, if it changed at all?	44 words		
P: **Monotone, looking downwards** I got a little sick of it towards the end. But it was fine.	14 words		-Gaze Avoidance

			-Monotone
Interviewer nods and then consults their clipboard briefly **Participant picks up a pen off the table and toys with it** **The pen falls apart in their hands (e.g., the little spring spits out the ink cartridge or something)**	5 seconds		
P: **As the participant scrambles to pick up the pieces of the pen** Sorry, sorry. I probably wasn't supposed to do that.	9 words	*From SSAQ, Question 4 ("I was worried I would say or do the wrong things")*	
I: Do what?	2 words		
P: **Looking downwards** Mess with the pen. Sorry.	5 words		-Gaze Avoidance
I: No worries. It's just a pen.	6 words		
There's an awkward pause while the participant looks downwards and the researcher jots down some notes	5 seconds		
P: **Monotone, looking downwards** I hope you think I'm doing a good job. I've never done this before.	14 words	*From SSAQ, Question 3 ("I was afraid that others did not approve of me")*	-Monotone -Gaze Avoidance
I: *Smiling* You're doing just fine. There's no right or wrong answers. If you ordered this drink at a bar, would you recommend it to others?	24 words		
P: **Monotone** I don't know. Maybe.	4 words		-Monotone
I: Overall, how would you rate the drink from 1 to 7, with 1 being the worst you've ever had and 7 being the best you've ever had?	27 words		
P: **Monotone** Five, maybe.	2 words		-Short Speech -Monotone
I: As a drink that would hopefully prove popular, this drink is meant to be fairly enjoyable to a wide spectrum of people. How well do you think it accomplishes that goal?	30 words		

P: **Monotone** It's fine, I guess. I don't think many people would refuse to drink it.	14 words		-Monotone
I: Awesome. Now I just want to ask you some general questions about how you're feeling. How do you feel about yourself after finishing the drink?	25 words		
P: I was kinda [sic] thinking about you noticing the zit on my nose. I know that's sort of embarrassing.	19 words	*From: SSAQ, Question 2 ("I was afraid other people noticed my shortcomings").*	
I: Honestly, I didn't even notice. I'm not here to judge you. How do you feel towards other people having finished the drink?	23 words		
P: Other people, like, you? Or just other people in general?	10 words		
I: Other people in general.	4 words		
P: Oh, I dunno. I feel like I'm not being very conversational right now. I feel like I'm not talking a lot.	19 words	*From SSAQ, Question 7 ("I found it hard to interact with people")*	
I: I think you're doing fine. I appreciate your honesty. We're done with the questions, by the way, so let's go ahead and move on with the study.	25 words		

Treatment

	Word count or Time in seconds	SSAQ item	Behavioral indicator of SA
Footage begins by showing the participant seated, having a full drink **Participant is making fairly little eye contact (looking downwards)**	4 seconds		-Gaze avoidance -Short speech -Monotone
There are frequent, at times awkward pauses between dialogue, and the participant is clearly not entirely comfortable			- ?? (Note to self: Find a proper term for this in lit)

			-Rigid posture
I: I'd like you to drink this drink evenly over a 10 minute period. I'll leave you alone so that you can focus on the drink during that time. After the 10 minute period I'll return and ask you questions. Before you get started and I begin timing I'd like to ask a few preliminary questions. Sound good? P: *Monotone* Sure. I: How appetizing does the drink look to you? P: *Monotone, looking downwards* It looks fine, I guess. I: What about it makes it appear good or bad? P: It looks like it might be a little sour. I: How similar does the drink appear to others you've had? P: *Monotone* It looks normal, I guess. I: Looking at it, does this seem like a drink you'd order at a bar or even make at home? P: *Looking downwards* Maybe. I don't know. I: How wide of a variety of drinks would you say that you find enjoyable? P: I like most drinks alright. I: Alright. *Researcher writes something down* P: I hope this is helpful. I don't know what kind of information you're looking for here. I: I just want your thoughts and opinions. You're doing just fine. I: In what kinds of contexts, places, or situations do you usually do your drinking? P: *Looking downwards* Usually socially, I guess. I don't really go out all that much though. I'm not very outgoing. I: Why do you say that you're not very outgoing? P: I don't know exactly. I think it just takes a lot of effort for me to do things with other people. I: I see. So you usually drink with other people when you do drink, but you don't go out that	57 words 1 word 8 words 5 words 9 words 10 words 5 words 19 words 4 words	*From SSAQ Question 3 ("I was afraid that others did not approve of me")* *From SSAQ Question 7 ("I found it hard to interact with people")* *From SSAQ Question 4 ("I was worried I would say or do the wrong things")*	-Gaze Avoidance -Short speech -Monotone -Monotone -Short Speech -Gaze Avoidance -Short Speech -Monotone -Short Speech -Monotone -Monotone -Gaze Avoidance -Monotone

much because it feels like it takes a lot of effort? P: **Monotone** Yeah. I: When in social settings then, can you say a little bit more about the extra effort you feel it requires from you? P: I don't know sometimes I'm nervous I'll say something stupid or whatever. Something awkward. You know? I: Yeah, that sounds like it would be tough. Are there any other things you might think about in those settings? P: Sometimes I think that people are just judging me. Like they're going to, I don't know, think I'm just not fun to be around or something. I: Well thank you for sharing that with me. I don't mean to be overly personal. Last question: How much do you think a drink says about the person drinking it? P: Ummmmm... **Brief pause** What do you mean? I: For example, some people will stereotype that a guy drinking a wine cooler is less manly or something like that. Do you have any thoughts about that kind of thing? P: Oh, not really. I don't pay much attention to what other people are drinking usually. I just focus on what I'm drinking. I: Could you say more about that? P: **Looking downwards** Yeah. I just order what sounds good usually. I: So, to make sure I understand you correctly, you don't really worry about drink stereotypes, you just order what sounds tasty at that moment? P: Yes.		*From SSAQ Question 2 ("I was afraid other people noticed my shortcomings")*	-Short Speech -Gaze Avoidance

I: Ok, thank you. I'll leave for 10 minutes. Please remember to drink the drink evenly over that period. **The researcher walks off camera as the participant is seen taking their first sip**	18 words 4 seconds		
****The video is now skipped towards the end**** **The drink it is now empty. The participant seems more relaxed and generally sociable. He or she is making normal eye contact, has a friendly intonation to his or her speech, and demonstrates a generally relaxed posture.**			
I: All done? P: Yup. **Participant smiles at the researcher while responding** **There's a brief pause. The participant appears content and comfortable. He or she glances lazily around the room while the researcher writes a brief note**	2 words 1 word 5 seconds		
P: I really hope it doesn't rain tonight. I was going to go down to Dickson with some friends later and sing karaoke. We all go pretty much every Thursday night, Friday now and then.	34 words	*From SSAQ, Question 6 ("I felt uncomfortable and embarrassed when I was the center of attention")*	
I: It sounds like a good time. I'm going to ask you some questions now that you've finished the drink and are experiencing its effects. How would you describe the taste of the drink?	33 words		
P: **Smiling** Not too bad.	3 words		
I: How sweet would you say the drink is?	8 words		
P: Well, before I answer, I just want to add that I'm not huge on mixed drinks in general. I like them fine and all, but I usually stick to beer or shots. I wouldn't really order a mixed drink at a bar.	43 words	*From SSAQ, Question 5 ("When I was talking to someone, I was worried about what they were*	

		thinking of me")	
I: Not a problem at all. We want your opinion, in a way, because you're not an expert. We want to know what normal people think. So, how sweet would you say the drink is?	34 words		
P: **Smiling** Oh, it was mildly sweet.	5 words		
I: How bitter would you say the drink is?	8 words		
P: It was bitter. Didn't really bother me though. It wasn't *that* strong.	12 words		
I: How smooth, if you will, would you say the drink is?	11 words		
P: It was fairly smooth. **Brief pause** So is this your study and you have to type in everything I've said?	18 words		
I: No, we'll have an undergraduate research assistant enter it. Why?	10 words		
P: I was just curious. You think they have a good time reading people's thoughts?	14 words	*From SSAQ, Question 1 ("I worried what other people thought of me")*	
I: They'll be focused on just entering it. I doubt they'll spend much time thinking about it too much, honestly. Maybe the first few they enter. How did the flavor of the drink change as you drank more of it, if it changed at all?	44 words		
P: It was fine, but I liked it better in the beginning I would say.	14 words		
Interviewer nods and then consults their clipboard briefly **Participant picks up a pen from the table and plays with it** **The pen breaks apart into several pieces as a result**	5 seconds		
While casually picking up the pieces of the pen P: **Laughs** Oh man, your pen just malfunctioned a bit there.	9 words	*From SSAQ, Question 4 ("I was worried I would say or do*	

		the wrong things")	
I: *Looking up from clipboard* Sorry, what?	2 words		
P: The pen, it fell apart.	5 words		
I: Oh, yeah, they're pretty cheap pens.	6 words		
There's a pause while the researcher jots down some brief notes	5 seconds		
P: This stuff is kind of cool. I've never volunteered for anything like this before.	14 words	*From SSAQ, Question 3 ("I was afraid that others did not approve of me")*	
I: *Smiling* Well you're doing just fine, and I'm glad you were able to make it. If you ordered this drink at a bar, would you recommend it to others?	24 words		
P: Yeah, I probably would.	4 words		
I: Overall, how would you rate the drink from 1 to 7, with 1 being the worst you've ever had and 7 being the best you've ever had?	27 words		
P: Probably five.	2 words		
I: As a drink that would hopefully prove popular, this drink is meant to be fairly enjoyable to a wide spectrum of people. How well do you think it accomplishes that goal?	30 words		
P: I think it'd be fine. I doubt you'd have people refuse to drink it.	14 words		
I: Awesome. Now I just want to ask you some general questions about how you're feeling. How do you feel about yourself after finishing the drink?	25 words		
P: I feel pretty good. I was worried earlier that I'd have to work today and maybe cancel on you. So I was probably a little more uptight than my normal self today.	32 words	*From: SSAQ, Question 2 ("I was afraid other people noticed my shortcomings").*	

I: I wouldn't have been upset. I'm not here to judge you. How do you feel towards other people having finished the drink?	23 words		
P: Other people, like, you? Or just other people in general?	10 words		
I: Other people in general.	4 words		
P: Normal. I mean, I guess that I'm feeling pretty relaxed after the drink. I'm feeling pretty social, you know.	19 words	*From SSAQ, Question 7 ("I found it hard to interact with people")*	
I: Awesome, and thanks. I appreciate your responses. We're done with the questions, by the way, so let's go ahead and move on with the study.	25 words		

Appendix L

Manipulation Check Multiple Choice Items

1. In watching the interview, I got a good sense of how the consumer was reacting to the interviewer.

   a. ____ Strongly Disagree
   b. ____ Somewhat Disagree
   c. ____ Neither Agree or Disagree
   d. ____ Somewhat Agree
   e. ____ Strongly Agree

2. The consumer appeared to enjoy talking to the interviewer.

   a. ____ Strongly Disagree
   b. ____ Somewhat Disagree
   c. ____ Neither Agree or Disagree
   d. ____ Somewhat Agree
   e. ____ Strongly Agree

3. The consumer appeared to feel comfortable with the interviewer.

   a. ____ Strongly Disagree
   b. ____ Somewhat Disagree
   c. ____ Neither Agree or Disagree
   d. ____ Somewhat Agree
   e. ____ Strongly Agree

4. The interviewer built a good relationship with the consumer.

   a. ____ Strongly Disagree
   b. ____ Somewhat Disagree
   c. ____ Neither Agree or Disagree
   d. ____ Somewhat Agree
   e. ____ Strongly Agree

Now we are going to ask you a few questions about the product.

5. How much alcohol do you think was in the mixed drink the consumer drank?

   a. ____ None / trace amount
   b. ____ Very little (less than 1 shot)
   c. ____ A fair amount (between 1 and 2 shots)
   d. ____ A moderate amount (2 – 3 shots)
   e. ____ Quite a bit (3 – 4 shots)
   f. ____ A lot (5+ shots)

6. Based on the consumer's response to the drink (in the second half of the interview), how effectively do you think it managed to hide the flavor of alcohol?

   a. ____ Not at all
   b. ____ Very slightly
   c. ____ Somewhat
   d. ____ Quite a bit

e. ____ Extremely

7. How intoxicated did the consumer appear after consuming the alcoholic drink?
   a. ____ Not at all intoxicated
   b. ____ Very slightly intoxicated
   c. ____ Tipsy/somewhat intoxicated
   d. ____ Noticeably drunk/quite intoxicated
   e. ____ Extremely intoxicated

8. The consumer acted differently as a result of having drank alcohol.
   a. ____ Strongly Disagree
   b. ____ Somewhat Disagree
   c. ____ Neither Agree or Disagree
   d. ____ Somewhat Agree
   e. ____ Strongly Agree

9. The interaction between the consumer and interviewer felt natural.
   a. ____ Strongly Disagree
   b. ____ Somewhat Disagree
   c. ____ Neither Agree or Disagree
   d. ____ Somewhat Agree
   e. ____ Strongly Agree

10. The consumer provided rich detail regarding their opinion about the drink.
    a. ____ Strongly Disagree
    b. ____ Somewhat Disagree
    c. ____ Neither Agree or Disagree
    d. ____ Somewhat Agree
    e. ____ Strongly Agree

11. The interviewer asked useful and effective questions to learn more about how the consumer felt about the drink.
    a. ____ Strongly Disagree
    b. ____ Somewhat Disagree
    c. ____ Neither Agree or Disagree
    d. ____ Somewhat Agree
    e. ____ Strongly Agree

12. The consumer appeared nervous in the first part of the interview.
    a. ____ Strongly Disagree
    b. ____ Somewhat Disagree
    c. ____ Neither Agree or Disagree
    d. ____ Somewhat Agree
    e. ____ Strongly Agree

13. The consumer appeared nervous in the second part of the interview.
    a. ____ Strongly Disagree
    b. ____ Somewhat Disagree
    c. ____ Neither Agree or Disagree
    d. ____ Somewhat Agree
    e. ____ Strongly Agree

14. I would like to try the drink the consumer had.
    a. ____ Strongly Disagree
    b. ____ Somewhat Disagree
    c. ____ Neither Agree or Disagree
    d. ____ Somewhat Agree
    e. ____ Strongly Agree

15. I think the drink sounded tasty and/or appealing.
    a. ____ Strongly Disagree
    b. ____ Somewhat Disagree
    c. ____ Neither Agree or Disagree
    d. ____ Somewhat Agree
    e. ____ Strongly Agree

16. In this task, I watched a pre-recorded interview featuring an off-screen interviewer probing the thoughts and opinions of an on-screen consumer. My goal is to provide feedback and evaluation of the quality of that interview, particularly as regards the reactions of the consumer to the interviewer. This will help the researcher better develop training for future interviewers.

    This describes the study you are presently taking part in accurately.
    a. ____ Strongly Disagree
    b. ____ Somewhat Disagree
    c. ____ Neither Agree or Disagree
    d. ____ Somewhat Agree
    e. ____ Strongly Agree

Appendix M

Manipulation Check Open-Ended Items

1. What was the purpose of this evaluation? _____
2. How would you describe what you did in this task? _____
3. Please briefly describe what happened in the two parts of the video _____
4. How would you describe the relationship between the interviewer and consumer? _____
5. How much alcohol do you think the consumer drank in between the two parts of the video? _____
6. Based on the consumer's responses, what do you imagine the drink would taste like? _____
7. Please describe how the relationship between the interviewer and consumer changed as the interview progressed, if you feel it did. _____
8. Please describe how the demeaner and/or mood of the consumer changed as the interview progressed, if you feel it did. _____

Appendix N

Comprehensive Effects of Alcohol Subscales (CEOA; Fromme et al., 1993)

If you were to drink right now, how likely would you be to feel or do the following things?

1. I would be outgoing

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

2. My senses would be dulled

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

3. I would be humorous

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

4. My problems would seem worse

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

5. It would be easier to express my feelings

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

6. My writing would be impaired

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

7. I would feel sexy

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

8. I would have difficulty thinking

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

9. I would neglect my obligations

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

10. I would be dominant

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

11. My head would feel fuzzy

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

12. I would enjoy sex more

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

13. I would feel dizzy

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

14. I would be friendly

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

15. I would be clumsy

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

16. It would be easier to act out my fantasies

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

17. I would be loud, boisterous, or noisy

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

18. I would be feel peaceful

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

19. I would be brave and daring

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

20. I would feel unafraid

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

21. I would feel creative

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

22. I would be courageous

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

23. I would feel shaky or jittery the next day

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

24. I would feel energetic

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

25. I would act aggressively

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

26. My responses would be slow

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

27. My body would be relaxed

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

28. I would feel guilty

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

29. I would feel calm

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

30. I would feel moody

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

31. It would be easier to talk to people

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

32. I would be a better lover

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

33. I would feel self-critical

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

34. I would be talkative

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

35. I would act tough

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

36. I would take risks

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

37. I would feel powerful

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

38. I would act sociable

Disagree	Slightly disagree	Slightly agree	Agree
1	2	3	4

Appendix O

Final Cover Story and Manipulation Check Items

1. I fully believed that this was a marketing study looking to get my thoughts and opinions on the quality of the interview I watched.
    a. ____ Strongly Disagree
    b. ____ Somewhat Disagree
    c. ____ Neither Agree or Disagree
    d. ____ Somewhat Agree
    e. ____ Strongly Agree

2. I responded accurately to the questions throughout this survey. In other words, I answered all questions truthfully.
    a. ____ Strongly Disagree
    b. ____ Somewhat Disagree
    c. ____ Neither Agree or Disagree
    d. ____ Somewhat Agree
    e. ____ Strongly Agree

3. I paid attention to the videos that I was shown.
    a. ____ Strongly Disagree
    b. ____ Somewhat Disagree
    c. ____ Neither Agree or Disagree
    d. ____ Somewhat Agree
    e. ____ Strongly Agree

Appendix P

Statement of Debriefing

Title: Evaluating Consumer Product Test Interviews

Principal Researcher:
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Thank you for your participation! You have just participated in a study that was designed to test the degree to which your opinions about the expected effects of alcohol consumption change based upon exposure to a drinking social model.

While this study examined this proposed social modeling effect, rather than investigating how you perceived the quality of the interview you watched, it was necessary to deceive you so as to observe the most realistic impact of the videotaped interview on your own beliefs about alcohol.

We apologize for the deception, but it was necessary to examine how people would be impacted by this type of social modeling when watching a video of someone reacting to having drank alcohol. A scientific understanding of how social modelling may play a role in people's beliefs about alcohol's effects can assist researchers in developing treatment and prevention programs for alcohol use disorders.

If you have any questions regarding the research you just participated in, feel free to ask the experimenter. You may also contact Dr. Lindsay Ham (479-575-3489). If you have any questions concerning the rights of participants in research studies, you may contact the Office of Research Integrity & Compliance (479-575-4572).

In order to maintain strict confidentiality, please refrain from discussing any part of this experiment with others once you have completed the study. This is an ongoing experiment, so we would greatly appreciate if you would not discuss this with other students, as they may participate in the experiment later. It is really important that people do not find out about these details of the study before they participate so we can study their realistic behavior. The study will not work properly if our participants know what is going to happen when they come in.

If you experience any adverse effects from participating in this study, or have any questions, please contact Kyle Jackson (kkjackso@uark.edu) or Dr. Lindsay Ham (lham@uark.edu). Provided below is a list of local mental health resources if you experience distress from the study or otherwise have feelings, emotions, or behaviors that you would like to discuss with a mental health professional.

This information is provided solely for your convenience. The University of Arkansas provides no endorsement or guarantee of the services provided by the facilities.

1. Crisis Center Hotline 1-888-274-7472
2. Substance Abuse & Mental Health Services Administration (SAMSHA) treatment referral hotline: 1-800-662-HELP (4357)

Faculty Adviser: Dr. Lindsay Ham, lham@uark.edu, 479-575-3489

You may also contact the University of Arkansas Research Integrity and Compliance office listed below if you have questions about your rights as a participant, or to discuss any concerns about, or problems with the research.

Ro Windwalker, CIP
Institutional Review Board Coordinator
Research Integrity and Compliance
University of Arkansas
105 MLKG Building
Fayetteville, AR 72701-1201
479-575-2208
irb@uark.edu

UNIVERSITY OF ARKANSAS

To:	Kyle K Jackson
From:	Douglas J Adams, Chair IRB Expedited Review
Date:	10/14/2022
Action:	**Exemption Granted**
Action Date:	10/14/2022
Protocol #:	2104330291
Study Title:	The Impact of Video-Taped Social Modeling on Alcohol Outcome Expectancies of Young Adults and the Role of Social Anxiety

The above-referenced protocol has been determined to be exempt.

If you wish to make any modifications in the approved protocol that may affect the level of risk to your participants, you must seek approval prior to implementing those changes. All modifications must provide sufficient detail to assess the impact of the change.

If you have any questions or need any assistance from the IRB, please contact the IRB Coordinator at 109 MLKG Building, 5-2208, or irb@uark.edu.

cc: Lindsay S Ham, Investigator