Cover Page
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Statistical Analysis Plan

All analyses for Study 1 and 2 will be conducted using Mplus v. 7.4 (Muthén & Muthén, 2015), except descriptive statistics and multivariate analysis of variance models to investigate participant differences between intoxication condition groups (i.e., alcohol, placebo control), as well as order effects and repeated measures effects for the Eye-Tracking Objectification Task and the Implicit Association Task, will be examined using SAS v. 9.4 (SAS Institute, 2014). Manipulation checks will be assessed prior to analyses and appropriate controls (e.g., key demographics such as sexual orientation, race/ethnicity) will be included in the models. Study 1 tests the hypotheses for Aim 1 that intoxication causes more aggression in men (H1a), more impaired attention and objectification (H1b), that impaired attention and objectification mediate the relation between alcohol and aggression (H1c). Hypothesis 1a will be tested by regressing the measures of sexual aggression on intoxication (alcohol vs. placebo control) groups. Hypothesis 1b will be tested by regressing the measures of impaired attention and objectification separately on intoxication condition. Hypothesis 1c will be tested by simultaneously regressing the impaired attention measures on intoxication condition, the objectification measures on the impaired attention measures and intoxication condition, and the aggression measure on the impaired attention, objectification, and intoxication condition measures. The mediated effect of intoxication condition on aggression through each measure of impaired attention and of objectification, as well as the overall mediated effect through all measures, will be estimated using the MODEL INDIRECT statement in Mplus. Mediation will be tested using the bias-corrected bootstrap test (1,000 samples, MacKinnon, 2008).

Study 2 tests the hypotheses for Aim 2 that intoxication condition (i.e., alcohol, placebo control) and objectification condition (i.e., objectifying gazes, eye contact control) each independently cause more victimization risk in women (H2a) and that these two factors interact; the highest victimization risk will occur in women who consumed alcohol and were sexually objectified. Likewise, intoxication and sexual objectification will interact to cause more impaired attention and self-objectification (H2b) with the higher levels occurring for the women who consumed alcohol and were sexually objectified than for women in the other experimental conditions. Finally, Study 2 tests whether impaired attention and self-objectification mediate the relation between alcohol, sexual objectification, and victimization risk (H2c). Hypotheses 2a-c will be tested in the same manner as Hypotheses 1a-c but with alcohol condition, objectification condition, and the interaction between these factors as predictors in the regression, the objectification measures replaced with self-objectification measures, and the aggression measure replaced with the victimization risk perception measure. Alternative models also will be tested. For example, in Study 2, separate indirect paths for both attention and self-objectification between alcohol and sexual victimization risk will be included, assessing whether self-objectification adds explanatory value beyond impaired attention and vice versa. In addition, mediation can be tested independently for each of the four experimental condition groups (e.g., alcohol-objectifying gazes) to determine if the same mechanisms are working for each group.

Since the majority of the moderation hypotheses for Aim 3 involve manifest, continuous variables, moderation will be tested using the conditional process model framework (Hayes, 2013) rather than multi-group structural equation methods. The conditional process model framework involves taking the mediation models from Aims 1 and 2, and adding the two-way interactions between measures of myopia (impaired attentional capacity and sexual and self-objectification) and the moderators. We hypothesize, (a) prior objectification of women by men and (b) self-objectification in women to moderate the relation between impaired attention and situational sexual and self-objectification. Specifically, we expect impaired attention to predict sexual objectification in men, but these effects should be particularly pronounced for men who chronically objectify women. Likewise, we expect impaired attention to predict self-objectification in women, but that these effects should be particularly pronounced for women who chronically self-objectify. We also expect histories of sexual assault perpetration (men), or

sexual victimization history (women), as well as, sex-related alcohol expectancies and rape myth acceptance to emerge as significant moderators of the relation between objectification and assault. Specifically, we expect sexual objectification to predict sexual aggression perpetration in men and self-objectification to predict victimization risk in women, but these effects should be particularly pronounced for people with a history of sexual assault (perpetration in men, victimization in women), as well as for people who endorse more rape myths and those who hold higher sex-alcohol expectancies. All continuous variables (i.e., all variables except the dichotomous measure of aggression in Study 1) will be grand mean centered prior to creating the interaction terms to improve interpretability as recommended by Cohen, Cohen, West, and Aiken (2003). The process will then be repeated for the measures of objectification and the moderator variables. Given the correlations between the moderator variables, the two-way interactions will be examined individually first. All significant interactions will be added to the model simultaneously to examine whether moderation remains. Type I error inflation across models will be controlled for using the Scheffe correction and no effects that explain less than 1% of the total variance will be considered important, regardless of statistical significance.

  Missing data. Because the proposed studies are lab experiments, large amounts of missing data are unexpected. Data missing due to equipment malfunctions are missing completely at random (MCAR) and data missing due to nonresponses from participants will be considered missing at random (MAR). The methods for dealing with MCAR and MAR data are full information maximum likelihood (FIML) and multiple imputation (Enders, 2010). By default, Mplus uses FIML, so FIML will be used here for all analyses. Also, bias analyses will be conducted to examine demographics of people who participated in our study compared to people who were recruited for the study, but did not meet the inclusion criteria or who did not agree to participate in our study.

  Statistical power. A single mediator model with standardized coefficients of $a=b=.26$ (approximately halfway between a small and medium effect as defined by Cohen, 1988) and $ab=.0676$ requires 148 participants to have statistical power of .80 for the bias-corrected bootstrap test (Fritz & MacKinnon, 2007). The mediation models for Aims 1 and 2 have two mediators entered serially (i.e., attentional impairment and objectification), however, with multiple measures of objectification. When X is dichotomous and two mediators are entered serially, 150 participants provide approximately .82 power to find a standardized mediated effect between .05 and .10 using the bias-corrected bootstrap test (Taylor, MacKinnon, & Tein, 2008) – a standardized mediated effect made up of three medium effects ($a=b1=b2=.39$) is equal to .06. Using multiple objectification measures slightly decreases individual effects due to partialling, but this will not affect the power calculations because they are based on partial effects. Research has found that alcohol predicts 10% of the objectification variance, and alcohol and objectification together predict 22% of the sexual assault variance (Gervais, et al., 2014; see also Haikalis et al., 2015). These are medium and large effects, so sample sizes of 150 (Study 1) and 210 (Study 2) will provide adequate power to test Aims 1 and 2. The power analyses for Aim 3 are different because they involve moderation effects in the context of mediation, which Hayes (2013) terms a conditional process model. An issue with detecting moderator effects is the small amount of variance explained by an interaction relative to a main effect (McClelland & Judd, 1993). No work on power for conditional process models has been conducted, but using G*Power (Faul, Erdfelder, Lang, & Buchner, 2007) to conduct a sensitivity analysis found that a sample size of 150 (Study 1) would provide .80 power to detect a moderation effect of $f2 = .053$ (slightly larger than a small effect of $f2 = .02$, Cohen, 1988) when the moderation term, a main effect term (for the 2 alcohol intoxication conditions), and two additional predictors are included in the model. A second sensitivity analysis found that a sample size of 210 (Study 2) would provide .80 power to detect a moderation effect of $f2 = .044$ when the moderation term being tested, two main effects terms (one for the 2 objectification conditions and one for the 2 alcohol conditions), two interaction terms (between the intoxication

and objectification factors), and two additional predictors are included in the model. This is equivalent to testing moderation of the relation between objectification and aggression/victimization risk in the mediation models, so sample sizes of 150 (Study 1) and 210 (Study 2) will allow adequate power to test Aim 3 (Figure 3).