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# The Effects Of Men's Acute Alcohol Intoxication, Overperception Of Sexual Intent, Interpersonal Rejection And Testosterone On Aggression Toward Women

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**THE EFFECTS OF MEN'S ACUTE ALCOHOL INTOXICATION, OVERPERCEPTION OF  
SEXUAL INTENT, INTERPERSONAL REJECTION AND TESTOSTERONE ON  
AGGRESSION TOWARD WOMEN**

by

**RHIANA WEGNER**

**DISSERTATION**

Submitted to the Graduate School

of Wayne State University,

Detroit, Michigan

in partial fulfillment of the requirements

for the degree of

**DOCTOR OF PHILOSOPHY**

2014

MAJOR: PSYCHOLOGY (Cognitive,  
Developmental and Social)

Approved by:

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Advisor

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Date

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## DEDICATION

This dissertation is dedicated to my late grandfather, Lyall Wegner, who was always my biggest supporter and confidant. His unfailing belief in my ability to succeed made it possible for me to overcome so many of life's obstacles. I know he would have been so incredibly proud to know that I received my Ph.D. Although he is no longer with us, his love and support will always be in my heart. Gramps – I will always miss our talks together and your wonderful sense of humor. For you, I will always keep my “dabber” up.

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## Chapter 1

### Introduction

#### Background Information

Sexual assaults are alarmingly common among college and community populations. Between 25% and 57% of men report having perpetrated at least one act of sexual aggression since age 14, defined as making someone engage in sexual activities when they did not want to do so (Abbey, McAuslan & Ross, 1998; Abbey, Parkhill, BeShears, Clinton-Sherrod, & Zawacki, 2006; Abbey, Jacques-Tiura, & LeBreton, 2011; Gidycz, Warkentin, & Orchowski, 2007; White & Smith, 2004). In a longitudinal study of men's perpetration across college, White and Smith (2004) found that by the end of the 4 years, 34.5% of college men reported having perpetrated at least once. Although these self-reported rates of sexual assault perpetration are alarmingly high, self-reports from sexual assault victims indicate an even higher prevalence of sexual assault. In Smith, White, and Holland's (2003) longitudinal study of college women, 79% reported having been a victim of at least one coercive sexual experience between age 14 and their fourth year of college. Sexual assault victimization is related to increased risk for physical health problems, difficulty trusting others, posttraumatic stress disorder, depression, anxiety disorders and substance abuse (Campbell, Dworkin, & Cabral, 2009; Kilpatrick, Resnick, Ruggiero, Conoscenti, & McCauley, 2007; Resnick, Acierno, & Kilpatrick, 1997). Given these alarmingly high prevalence rates and serious negative outcomes experienced by victims of these unwanted sexual experiences, it is imperative that researchers continue to explicate the factors that contribute to sexual assault perpetration. Although both men and women can be perpetrators, men are much more likely to be the perpetrators and women the victims (Black et al., 2011; Bureau of Justice Statistics, 2005; Tjaden & Thoennes, 1998). Therefore, the proposed research focuses on predictors of men's sexually aggressive behavior.

Alcohol use and misperception of sexual intent are two key contributors to sexual assault perpetration (Abbey, Zawacki, Buck, Clinton & McAuslan, 2001; Abbey, 2002). Nearly half of

sexual assaults perpetrated by college men include alcohol consumption by the victim, perpetrator, or both individuals (Abbey, 2002; Testa, 2002). Most of what is known about how alcohol contributes to sexual assault perpetration is based on self-report data from cross-sectional surveys (see Abbey, Wegner, Woerner, Pegram & Pierce, 2014 for review). Experimental designs in which participants are randomly assigned to alcohol conditions are required to make causal conclusions regarding alcohol's effects on behavior. However, for obvious ethical reasons, it is difficult to examine sexually aggressive behaviors directly in the laboratory. A handful of alcohol administration studies have examined the link between acute alcohol intoxication and sexual aggression using proxy measures (Abbey, Buck, Zawacki & Saenz, 2003; Abbey, Parkhill, Jacques-Tiura, & Saenz, 2009; George, Derman & Nochajski, 1989; George, Stoner, Norris, Lopez, & Lehman, 2000; Marx & Gross, 1995; Noel et al., 2008; Noel, Maisto, Johnson & Jackson, 2009; Norris, Davis, George, Martell, & Heiman, 2002; Norris, George, Davis, Martell, & Leonesio, 1999). The relationship between acute alcohol intoxication and men's sexually aggressive behavior toward women is however not fully understood, and further research is needed to determine how other factors might mediate or moderate this relationship (see Abbey & Wegner, in press).

Self-report surveys and cross-sex dyadic interaction studies have consistently demonstrated that men frequently overperceive women's degree of sexual interest, assuming women with whom they interact are more sexually attracted to them than the women actually are (Abbey, 1982; Abbey, Zawacki, McAuslan, 2000; Edmondson & Conger, 1995). Usual drinking and drinking during dating and sexual situations are related to a greater likelihood and length of misperception of sexual intent (Abbey et al., 1998; Jacques-Tiura et al., 2007). Misperceiving women's level of sexual intent is a direct predictor of sexual assault perpetration (Abbey et al., 1998; 2001; 2009; Muehlenhard & Linton, 1987). Several large studies with college and community samples have found that men's self-reports of misperceptions of women's sexual intentions mediated the relationship between heavy drinking and sexual assault

perpetration (Abbey et al., 1998; 2011). To the author's knowledge no experimental research has examined alcohol use, misperceptions of sexual intent, and aggressive behavior towards a woman in a single study.

### **Theoretical Model**

The current study is designed to test a theoretical model proposed by Abbey (1991; 2002; 2011) which describes interrelationships among situation-specific factors that contribute to sexually aggressive behavior. Both acute alcohol intoxication and misperceptions of women's level of sexual intent are incorporated in this model. Abbey posits that intoxication increases the likelihood of sexual aggression at two stages of a cross-sex interaction: early and later in the interaction.

Early in an interaction, men are looking for cues that indicate the woman is sexually interested in them. Alcohol's acute effects on higher order cognitive processing increase the likelihood that misperceptions of sexual intent will occur. Acute alcohol intoxication has been shown to limit individual's ability to focus and attend to multiple sources of information in a situation, thus making it easier to attend and respond to confirming cues of a woman's sexual interest and ignore more peripheral disconfirming cues of her disinterest (Abroms, Fillmore, & Marcuzinski, 2003; Curtin & Fairchild, 2003; Peterson, Rothfleisch, Zelazo, & Pihl, 1990). Biased perceptions of a woman's friendly cues as signs of sexual interest encourage a potential perpetrator to believe that the woman is implicitly agreeing to have sex with him (Abbey, Ross, McDuffie, & McAuslan, 1996).

Later in the interaction, if the man's sexual advances are rejected, his misperceptions of her sexual intent may lead him to feel like he had been 'led on' and therefore justified in pressuring her or using force to obtain sex (Muehlenhard & Linton, 1987; Willan & Pollard, 2003). Intoxication encourages an aggressive response, particularly if the man feels provoked by his (mis)perception of earlier encouragement (Giancola, 2000; 2004; Parrott & Giancola,

2004). Thus, intoxication, misperception, and rejection may independently and synergistically contribute to a man's sexually aggressive behavior toward a woman.

### **The Current Study**

Although pieces of this model have been supported in various studies (Abbey et al., 2003; 2005; 2009), the author is not aware of any studies that examine both stages of the model. In addition, although being rejected and made aware of one's misperceptions is often identified as a trigger for subsequent sexually aggressive behavior, this mechanism has not yet been examined in experimental research. This study adds to the current literature by examining both stages of the model and examining how acute alcohol intoxication, overperception of sexual intent, and rejection contribute to aggression toward a woman. Beyond this, the current study expands on Abbey's model by examining how participants' past sexual assault perpetration, trait aggression, and baseline testosterone levels moderate these relationships.

In this study, eligible participants were invited to the lab to take part in an alcohol administration study. Similar to Abbey and colleagues (2005) study, participants were randomly assigned to an alcohol condition (alcohol vs. sober) and then took part in a brief 'getting acquainted' interaction with a female participant (actually a study confederate). Participants then indicated their perceptions of her level of interest in them, and if they would like to try to exchange numbers with her so that they could meet again in the future. This dyadic interaction paradigm provides an assessment of the male participant's overperception of the woman's level of sexual interest. Throughout this proposal the terms *misperceptions* and *overperceptions* of sexual intent are used interchangeably. Misperceptions and overperceptions of sexual intent are similar, in that both involve perceiving greater levels of sexual intent based on a cross-sex interaction. In the proposed study, men's perceptions of sexual intent are however actually *overperceptions*, because their perceptions are considered in comparison to other participants' perceptions of the woman's level of sexual interest, rather than the woman's actual level of sexual interest (because she is a confederate to the study).

The study goes beyond Abbey's (2005) study by incorporating a rejection manipulation (rejection vs. acceptance condition) in which half of the participants are told the woman does not want to exchange numbers with them and half are told she does want to exchange numbers with them. Participants are then given an opportunity to be aggressive toward the woman by allocating more or less hot sauce for her to consume as a part of a seemingly unrelated taste-testing task (Hot Sauce Paradigm, Lieberman et al., 1999). The proposed study uses a general aggression proxy instead of a sexual assault proxy because it was viewed as especially important to include a behavioral proxy outcome measure that allowed participants to direct their aggression toward the woman who rejected them. The sexual aggression proxies that have been developed do not lend themselves well to examining post-rejection sexual aggression, as they most often involve having participants respond to third-person situations (Marx & Gross, 1995; Gross et al., 2001; Johnson, Noel Sutter-Hernandez, 2000; Marx, Gross & Adams, 1999; Noel et al., 2009; Norris et al., 2002). The Hot Sauce Paradigm however, allows participants to allocate more or less hot sauce for the woman to consume as a part of a seemingly unrelated taste-testing task, therefore providing a measure of post-rejection aggression toward the woman. The Hot Sauce Paradigm was chosen instead of other general aggression proxy measures (e.g., Taylor Aggression Paradigm, Taylor, 1967, Point Subtraction Aggression Paradigm, Cherek, 1982) because it: 1) is not immediately obvious to participants that it is an aggression measure, and 2) the task is not provocative in and of itself.

### **Alcohol's Effects on Perceptions of Sexual Intent and Aggression in the Lab**

**Alcohol and overperceptions of sexual intent.** As previously mentioned, acute alcohol intoxication impairs individuals' abilities to attend to multiple situational cues at once (Abroms et al., 2003; Curtin & Fairchild, 2003; Finn, Justus, Mazas, & Steinmetz, 1999; Peterson et al., 1990). When presented with impelling and inhibiting cues, it is difficult for drinkers to attend to both sets of cues. The most salient and impelling cues are processed; whereas the inhibiting cues, that require more cognitive effort to process, are overlooked.

Beyond limiting drinkers' abilities to attend to the full array of situational cues, alcohol also impairs the drinker's ability to accurately process information from the cues that they do perceive (Steele & Josephs, 1990). Thus, drinkers are thought to be making choices based on "an impoverished version of reality" (Steele & Josephs, 1990, p. 923).

Abbey and colleagues (2005) demonstrated that intoxicated men do pay more attention to cues that indicate a woman's sexual interest, and miss cues that don't, thus increasing their likelihood of misperceiving her level of sexual interest. Abbey and colleagues invited participants to the lab to interact for 20 minutes with a female confederate who exhibited an equal number of positive and negative cues of sexual interest throughout the conversation. The participant and the confederate then rated their own sexual interest, and the perceived sexual interest of their interaction partner, following their brief interaction. There was a significant main effect of participants' intoxication on ratings of the confederate's level of sexual interest. Intoxicated participants perceived the confederate as being more sexually attracted to them than did placebo or sober participants, and intoxicated participants recalled a greater proportion of the confederate's positive relative to negative cues.

These results provide support for the first stage of Abbey's model which hypothesizes that alcohol contributes to perceptions of sexual intent early in an interaction, and that individuals who consume alcohol are biased toward perceiving more positive cues of sexual interest. The author is unaware of any previous research that has attempted to replicate these findings. The current study attempts to provide further support for this previous research.

*Hypothesis 1: A main effect of alcohol condition on perceptions of sexual intent was hypothesized. Following the brief getting acquainted interaction with the female confederate, men in the alcohol condition were expected to perceive greater sexual intent from the confederate, than men in the sober condition.*

**Alcohol and aggression in the lab.** The link between acute alcohol intoxication and interpersonal aggression has been well established (Bushman & Cooper, 1990; Chermack &

Giancola, 1997; Giancola, Josephs, Dewall & Gunn, 2009; Ito, Miller & Pollack, 1996; Taylor & Chermack, 1993). Alcohol's pharmacological effects on higher-order cognitive processing (Giancola, 2004; Steele & Josephs, 1990) and behavioral disinhibition (Ito et al., 1996) are believed to facilitate alcohol-related aggression. In experimental studies, individuals who receive alcohol respond more aggressively than individuals who receive a placebo or nonalcoholic beverage (Bushman & Cooper, 1990; Chermack and Giancola, 1997; Taylor & Chermack, 1993). Meta-analyses have demonstrated that acute alcohol intoxication has a "medium" effect size ( $d = .47$  to  $.61$ ) on aggression (Bushman & Cooper, 1993; Ito et al., 1996), and the effect of alcohol on post-drinking aggression increases with alcohol dosage (Ito et al., 1996).

*Hypothesis 2: A main effect of alcohol condition on aggressive responding was hypothesized. Intoxicated participants were expected to allocate a greater amount of hot sauce to their interaction partner than sober participants.*

**Alcohol, provocation and aggression in the lab.** Of course, not all individuals who consume alcohol become aggressive. A number of situational and individual difference characteristics moderate the alcohol-aggression link, contributing to some individuals' increased likelihood of alcohol-related aggression. The current study focused on situational provocation (i.e., interpersonal rejection from the female confederate) as a trigger for alcohol-related aggression toward a woman. One of the most common forms of provocation used in experimental general aggression studies is social rejection by an individual partner or group. Participants who are socially rejected deliver significantly louder and longer sound blasts to their rejectors (Bushman & Baumeister, 2002; Twenge, Baumeister, Tice, & Stucke, 2001), rate their rejectors more negatively, report stronger inclinations to behave in antisocial ways toward their rejector, and are more willing to assign an aversive stimuli to their rejector than individuals who are not socially rejected (Buckley, Winkel, & Leary, 2004). Thus, social rejection increases the likelihood of aggressive responding toward the rejector.

*Hypothesis 3: A main effect of rejection condition on aggressive responding was hypothesized. Participants in the rejection condition, who were told their interaction partner (confederate) did not want to exchange numbers with them, were expected to allocate a greater amount of hot sauce for their interaction partner to consume than participants in the acceptance condition, who were told their interaction partner did want to exchange numbers.*

In situations of high provocation, alcohol's acute pharmacological effects on higher-order cognitive processing make it difficult for the intoxicated individual to attend to both aggression-provoking cues and aggression-inhibiting cues (see Giancola et al., 2009 for a review). Aggression-provoking cues are often highly salient and difficult to ignore. While intoxicated, a social rejection from a woman may be especially anger-provoking and ego-threatening, leading some men to have a greater desire to retaliate or respond aggressively toward the woman. Coupled with the disinhibiting properties of acute alcohol intoxication, individuals in these situations are at increased risk for alcohol-related aggression. One meta-analysis (Ito et al., 1996) examining the effects of provocation on post-drinking aggression showed that provocation level moderated the relationship between alcohol and aggressive behavior. At high levels of provocation, provocation is a stronger predictor of aggressive behavior than alcohol. At low levels of provocation or when there is no provocation, alcohol is the stronger predictor of aggressive behavior. Based on this research, rejection condition was expected to moderate the effects of alcohol condition on aggressive responding.

*Hypothesis 4: It was hypothesized that rejection condition would moderate the effect of alcohol condition on aggressive responding. After being rejected, intoxicated and sober participants were expected to allocate comparable amounts of hot sauce. However, after being accepted, intoxicated participants were expected to allocate a greater amount of hot sauce than sober participants.*

**Interactive effects of alcohol, overperception of sexual Interest, and rejection on aggression.** According to Abbey's model (1991; 2002; 2011), when intoxicated men, who



believe a woman is sexually interested in them have their sexual advances rebuffed, there is an increased likelihood of sexual aggression. As previously mentioned, there has not been research specifically examining the potential interactive effect of acute alcohol intoxication, misperception, and rejection on aggressive behavior in the sexual aggression literature. Cross-sectional research has shown that men's self-reported frequency of misperceptions of sexual intent are a direct predictor of their frequency of sexual assault perpetration in adolescence and adulthood (Abbey et al., 1998; 2001; 2009; Jacques-Tiura et al., 2007). However, many misperceptions of sexual intent do not result in sexually aggressive behavior. The relationship between misperception and sexual aggression is likely to be moderated by rejection from the woman. Without the rejection, a man who thinks a woman is sexually interested will continue to hold this belief. A rejection informs the man both of the woman's disinterest and also of his mistake. For some men this may be especially threatening to their ego, and they may feel like it is appropriate to retaliate against the woman in order to regain their status.

*Hypothesis 5: It was hypothesized that overperceptions of sexual intent would moderate the effect of rejection on aggressive responding. Participants who overperceived their interaction partner's level of sexual interest, and were then rejected, were expected to allocate a greater amount of hot sauce to their interaction partner than participants who did not overperceive their interaction partner's level of sexual interest, and were then rejected. Thus, overperceptions of sexual intent were expected to increase participant's motivations to retaliate against their interaction partner after they had been rejected.*

*Participants who overperceived their interactions partner's level of sexual intent, and were accepted, were expected to allocate the smallest amount of hot sauce to their interaction partner, compared to all other groups. Their perceptions of her sexual interest would be supported by her decision to exchange numbers with them, and this may lead participants to want to allocate their interaction partner a small amount of hot sauce, as a way of being nice.*

Alcohol may exacerbate these effects. Intoxicated individuals who overperceived a woman's sexual intent may be even more aggressive when they are rejected; whereas, intoxicated individuals who overperceived a woman's sexual intent and learn the woman does want to exchange numbers with them may be especially nice to the woman. The acute pharmacological effects of alcohol on cognitive functioning reduce inhibitions for both negative and positive behaviors.

*Hypothesis 6: A three-way interaction between alcohol condition, overperception of sexual intent and rejection condition on aggressive responding was hypothesized. Intoxicated participants who overperceived the woman's sexual intent and were rejected were expected to allocate the greatest amount of hot sauce to their interaction partner. Intoxicated participants who overperceived the woman's sexual intent and were accepted were expected to allocate the smallest amount of hot sauce to their interaction partner. All other group differences are expected to be consistent with the aforementioned 2-way interactions.*

## **Secondary Study Goals and Hypotheses**

### **Past Perpetration**

**Past perpetration and overperception of sexual intent.** Men who are sexually aggressive toward women perceive women's cues of sexual interest differently than other men (Shea, 1993). A handful of experimental studies have examined how previous perpetration history is related to perceptions of a woman's level of sexual intent. Bondurant and Donat (Study 1, 1999) examined how men with perpetration histories, men without perpetration histories and women in general, perceived the sexual connotativeness of a list of dating behaviors (Kowalski, 1993). Men with a history of sexual aggression perceived *mundane dating behaviors* (e.g. she smiles at him, she makes eye contact with him) as significantly more sexual than men without such a history. Both groups of men rated these behaviors as more sexually connotative than women rated these behaviors. These findings provide support for previous research which suggests that men in general perceive a wider range of cues as indicating

sexual interest than do women (Kowalski, 1993). As well, it demonstrates that men with a history of sexual aggression infer greater levels of sexual intent from mundane dating behaviors and romantic dating behaviors than women do.

Two studies employing the dyadic interaction paradigm investigated how past perpetrators differ in their perceptions of a female interaction partners' level of sexual interest. Shea (1993) found that college men with a perpetration history rated their female interaction partners as being significantly more sexual than did men without this history. Abbey and colleagues (2005) however did not find that college men with a history of sexual assault perpetration significantly differed from men without such a history in their perceptions of the female confederate's level of sexual interest. However, they did find that rapists reported being more sexually attracted to their interaction partner, that their partner behaved more sexually during the interaction and that they were more interested in being in a future study with their interaction partner, than did nonperpetrators. Verbal coercers' ratings fell between the ratings of rapists and nonperpetrators, and only significantly differed from nonperpetrators in their level of sexual attraction to their interaction partner. The combination of Shea's (1993) and Abbey's (2005) findings suggests that men with a history of sexual assault perpetration may have biased perceptions of initial interactions with women as compared to men without such a history.

*Hypothesis 7: A main effect of past perpetration status on overperceptions of sexual intent was hypothesized. Participants with a previous history of sexual assault perpetration were expected to perceive greater sexual intent from the confederate than participants without a history of sexual assault perpetration.*

**Past perpetration, alcohol, and overperceptions of sexual intent.** Additionally, alcohol condition might interact with past perpetration history, such that men who are biased toward overperceiving a woman's level of sexual interest (i.e., past perpetrators) may be at heightened risk for overperception of a female interaction partner's level of sexual interest with the added myopic effects of acute alcohol intoxication. In Abbey's (2005) study, there was not a

significant interactive effect of alcohol condition and past perpetration history on participant's rating of their own sexual interest or their ratings of their interaction partner's level of sexual interest in them. However, there has not been any further research published that examines this potential relationship. Therefore, the current study examined this interaction.

*Hypothesis 8: It was hypothesized that alcohol condition would moderate the effect of past perpetration on overperceptions of sexual intent. Intoxicated participants with a previous history of sexual assault perpetration were expected to perceive greater sexual intent from the confederate than sober perpetrators and intoxicated nonperpetrators. Sober nonperpetrators were expected to perceive the lowest levels of sexual intent from the confederate.*

**Past perpetration, alcohol, and aggression in the laboratory.** Past behavior is a strong predictor of future behavior (Ouellette & Wood, 1996). Thus, it stands to reason that if participants were sexually aggressive in the past, then they should be more likely to behave in an aggressive manner when provided the opportunity in a lab setting, as compared to men without a history of sexual aggression. Bernat, Calhoun and Stolp (1998) compared past sexual assault perpetrators' and nonperpetrators' sexually aggressive responding to a date rape analog. In the date rape analog, half of the time the characters were drinking alcohol and the other half of the time alcohol consumption was not mentioned. Results showed significant main effects of perpetration history and alcohol condition. There was also a significant sexual assault perpetration by alcohol condition interaction. Sexually aggressive men who were told that the characters were drinking allowed the date rape to continue significantly longer before deciding to stop the tape, than did sexually aggressive men who were not told that the characters were drinking. Nonaggressive men did not significantly differ in how long they let the tape play based on the alcohol condition.

*Hypothesis 9: A main effect of past perpetration on aggressive responding was hypothesized. Participants with a previous history of sexual assault perpetration were expected*

*to allocate a greater amount of hot sauce to their interaction partner than participants without a previous history of sexual assault perpetration.*

*Hypothesis 10: It was hypothesized that alcohol condition would moderate the effects of past perpetration on aggressive responding. Intoxicated participants with a history of sexual assault perpetration were expected to allocate a greater amount of hot sauce to their interaction partners than intoxicated nonperpetrators, and sober participants.*

### **Trait Aggression**

**Trait aggression and aggressive responding.** In addition to past behavior (i.e., past perpetration), stable personality traits also predict future behaviors consistent with that personality trait. Previous research has shown that individuals high in trait aggression are more likely to be aggressive in lab paradigms (Miller, Parrott, & Giancola, 2009). Research using the Hot Sauce Paradigm has found that the total and physical aggression scales of Buss and Perry's (1992) Aggression Questionnaire are moderately positively correlated with hot sauce allocation (Lieberman et al., 1999). Based on this previous research, a relationship between self-reported trait aggression and aggressive responding in the lab was hypothesized.

*Hypothesis 11: A main effect of trait aggression on aggressive responding was hypothesized. Participants who were high in trait aggression were expected to allocate greater amounts of hot sauce to their interaction partner than participants who were low in trait aggression.*

**Trait aggression, alcohol condition, and aggressive responding.** In addition, trait aggression may help to explain why some men are aggressive after drinking, whereas others are not. Individuals who have greater levels of trait aggression (Bailey & Taylor, 1992; Giancola & Zeichner, 1995) and trait anger (Giancola et al., 2003; 2012; Parrott & Zeichner, 2002) are significantly more likely to be aggressive when intoxicated than are men who are low in these personality characteristics. Thus, alcohol does not make someone who is non-aggressive

suddenly become a 'loose cannon' after drinking. Rather, individuals with a greater propensity toward aggression, in general, are more likely to be aggressive when intoxicated.

*Hypothesis 12: It was hypothesized that alcohol condition would moderate the relationship between trait aggression and aggressive responding. Intoxicated participants who were high in trait aggression were expected to allocate greater amounts of hot sauce to their interaction partner than sober participants high in trait aggression, or participants low in trait aggression.*

**Trait aggression, alcohol condition, rejection condition, and aggressive responding.** In their alcohol administration study, Miller and colleagues (2009) examined how trait aggression (measured by the Aggression Questionnaire), alcohol condition (alcohol vs. none) and provocation level (high vs. low) were related to aggression toward a fictitious opponent using the Taylor Aggression Paradigm. They found that the relationship between trait aggression and aggressive behavior was moderated by alcohol condition in situations of low provocation, but not high provocation. Trait aggression was related to aggressive behavior in the lab when participants were intoxicated, but not when they were sober. As well, this relationship emerged in situations of low provocation, but not high provocation. This is consistent with previous research that suggests alcohol's effect on aggressive behavior is stronger in situations with low provocation (Ito et al., 1996). As well, Giancola (2002) used a similar research design and found consistent results. The strongest predictor of aggressive behavior was provocation level and alcohol moderated the relationship between trait aggression and aggressive behavior in situations of low provocation, but not in situations of high provocation.

*Hypothesis 13. A 3-way interaction between trait aggression, alcohol condition, and rejection condition on aggressive responding was hypothesized. Similar to Miller and colleagues (2009) findings, alcohol condition was expected to moderate the relationship between trait*

*aggression and hot sauce allocation, when participants were in the acceptance condition but not the rejection condition.*

*Among participants in the acceptance condition, intoxicated participants high in trait aggression were expected to allocate greater amounts of hot sauce to the interaction partner than sober participants high in trait aggression. No differences were expected based on alcohol condition for participants in the acceptance condition who were in trait aggression.*

*Among participants in the rejection condition, intoxicated participants were expected to allocate greater amounts of hot sauce to the interaction partner than sober participants, independent of trait aggression.*

### **Baseline Testosterone Levels**

**Self-reported violence perpetration and baseline testosterone.** There is considerable evidence to suggest that testosterone (T) is linked to aggression and dominance in men (Archer, 2006; Josephs, Sellers, Newman, & Mehta, 2006; Mazur & Booth, 1998; Mehta, Jones & Josephs, 2008; Slatcher, Mehta, & Josephs, 2011). Higher testosterone levels have been shown to be related to social assertiveness, dominance seeking, and mating effort (Archer, 2006; Ellison, 2001, p. 265; Mazur & Booth, 1998), with men who are higher in testosterone being more likely to engage in male-male competition as well as mate-seeking behaviors (Ellison, 2001).

Biosocial theories of sexual aggression suggest that individual differences in men's baseline levels of testosterone may explain why some men are more sexually aggressive than others (Ellis, 1991). Ellis hypothesized that rapists have increased sex drives and desires to possess and control their partners (i.e., dominance drive), and baseline testosterone levels are a key determinant of the strength of these sex and dominance drives in men. Therefore, T is assumed to be a stable, biologically-based individual difference factor that can differentiate between men who perpetrate and those who do not. A number of researchers have tested this hypothesis using cross-sectional designs comparing T levels in incarcerated offenders based on

the type (e.g., rape vs. physical violence, or rape vs. child molestation) and severity of the offense (e.g., no violence, low violence, high violence) for which they were incarcerated. Some researchers found a relationship between past perpetration and elevated T (Dabbs et al., 1987; 1991; 1995) and others did not (Bain et al., 1987; 1988; Bradford & McLean, 1984; Rada et al., 1976; 1983). Incarcerated samples represent a very specific and limited subset of the population of men who perpetrate sexually assaultive behaviors (Bureau of Justice Statistics, 2005). Therefore these findings are difficult to generalize to the general population, especially to men who perpetrate less severe forms of sexual aggression. In addition, it is difficult to extrapolate from this research how baseline testosterone might impact future aggressive behavior.

A more recent study conducted by Soler, Vinayak, and Quadagno (2000) examined the link between community men's baseline testosterone levels, self-reported alcohol use and domestic violence. Basal testosterone was significantly positively related to self-reported verbal abuse. When self-reported alcohol consumption was taken into account, the effect of basal testosterone on verbal abuse decreased, but remained a significant predictor of verbal abuse. This same pattern was observed when examining physical abuse. Therefore, there is some evidence that baseline testosterone is related to interpersonal violence within community samples, and although alcohol attenuates the relationship, testosterone is still an independent predictor. This research is still however limited by its reliance on retrospective self-report measures. The current study examines the links between self-reported past perpetration and baseline testosterone levels in an attempt to replicate this previous research. It also expands on this previous research by examining how baseline testosterone is related to aggressive behavior after a cross-sex interaction.

*Hypothesis 14: A significant positive correlation between past perpetration status and baseline testosterone levels was hypothesized. Participants with high baseline levels of testosterone were expected to be more likely to report a history of sexual assault perpetration.*



### **Testosterone, status manipulations (rejection), and aggressive behavior in the lab.**

The strength of the relationship between testosterone and aggression increases when there is a threat or challenge to one's social status (Archer, 2006; Josephs et al., 2003; 2006, Mehta et al., 2008; 2009). Josephs and colleagues (2006) have suggested that testosterone may act as a biological measure of need for status or as a stable trait-like biological measure of dominance (Josephs et al., 2006; Sellers, Mehl, & Josephs, 2007). Therefore, when high status individuals (high T) feel that their status is threatened, the common response is to behave in antagonistic ways in order to restore their previous status level (Josephs et al., 2006).

A number of recent experimental studies have examined how baseline testosterone and status-induced changes in testosterone are related to future aggressive behavior (Carré, Putnam, & McCormick, 2009; Carré & McCormick, 2008; Mehta et al., 2008; Mehta & Josephs, 2006). In these research designs, status between two males is often manipulated using a rigged competitive task (status manipulation, winner vs. loser), and then participants are given the opportunity to take part in a second task that allows them to be aggressive toward their competitor, if they choose to do so. This research has frequently found that post status manipulation changes in testosterone are related to decisions to behave aggressively in the laboratory. The relationship between baseline testosterone and subsequent aggressive responding in the lab is less clear.

The current study builds on this previous literature by examining how baseline testosterone levels are related to subsequent aggressive behavior in men. This is innovative because testosterone effects are examined within the context of male-female aggression, as opposed to male-male aggression. In addition, social status in the relationship between the participant and confederate is manipulated using an interpersonal rejection (or not) from the confederate. The current study also examines how baseline testosterone levels interact with this status manipulation (rejection condition) to promote aggressive responding. Based on the

limited previous research examining these relationships in cross-sex dyads and in the context of male-female aggression, the following hypotheses are considered exploratory in nature.

*Exploratory Hypothesis 1: A main effect of baseline testosterone level (high vs. low) on aggressive responding was hypothesized. Participants with higher baseline levels of testosterone were expected to allocate a greater amount of hot sauce to their interaction partners than participants with lower baseline levels of testosterone.*

The mismatch hypothesis put forth by Josephs and colleagues (2006) suggests that when high testosterone individuals are in a low status position, they will seek to regain status. On the other hand, low testosterone individuals are hypothesized to be aversive to high status positions, and therefore are motivated to return to a lower level status.

*Exploratory Hypothesis 2: It was hypothesized that rejection condition would moderate the relationship between baseline testosterone levels and aggressive responding. Participants with high baseline testosterone levels, who are in the rejection condition, were expected to allocate a greater amount of hot sauce to their interaction partner than participants with high baseline testosterone levels, who were in the acceptance condition. Participants with low baseline testosterone levels, who were in the acceptance condition, were expected to allocate a greater amount of hot sauce to their interaction partner than participants with high baseline testosterone levels, who were in the rejection condition.*

**Baseline testosterone and overperceptions of sexual intent.** Testosterone levels play a role in mate-seeking behaviors (Archer, 2006) and testosterone has been shown to quickly increase following a brief interaction with an attractive woman (Perilloux, 2011 dissertation; Roney, Lukaszewski, & Simmons, 2007; Roney, Mahler, & Maestriperi, 2003; Roney, Simmons, & Lukaszewski, 2010). Changes in testosterone during a brief interaction with a woman may therefore act as a neuroendocrine marker of sexual attraction. Additionally, the link between baseline testosterone and mate-seeking behaviors suggests that testosterone levels might predispose some men to pay more attention to potential cues of sexual interest.

There has been very little experimental research that has examined this hypothesis, and the results have been mixed.

Perilloux (2011) had men interact for 10 minutes with a female confederate on a task. The men then rated their perceptions of the confederate's level of interest. Results showed that there was a trend for men with higher baseline testosterone levels to report greater levels of overperceptions of sexual intent as compared to men with low baseline testosterone levels. Another study conducted by van der Meij, Almela, Buunk, Fawcett, and Salvador (2011) measured testosterone levels and then had men and women interact together for five minutes. This interaction was video-taped and third-party raters coded the male participants' behaviors for indications of interest in the woman. They did not find a relationship between baseline testosterone and interest in a female coparticipant. Interest in the woman was operationalized as paying attention to the woman (e.g., asking her questions) rather than as sexual interest in the woman. Given the limited previous research on this topic on which to base hypotheses, the following hypotheses are considered exploratory.

*Exploratory Hypothesis 3: A positive correlation between baseline testosterone level and overperceptions of sexual intent was hypothesized. Participants with higher baseline testosterone levels were expected to perceive greater sexual intent from their interaction partner.*

**Trait aggression and testosterone.** Numerous studies have examined the link between self-reported aggression and testosterone levels (see Mazur & Booth, 1998 for review). This research has produced mixed findings, with some research finding a positive relationship between self-reported aggression and testosterone, and other research not finding a relationship.

*Exploratory Hypothesis 4: A positive correlation between baseline testosterone levels and trait aggression was hypothesized. Participants with higher baseline testosterone levels were expected to report higher levels of trait aggression.*

Table 1

**Overview of Study Hypotheses****Hypotheses with Overperceptions of Sexual Intent as the Dependent Variable**

- 1 **A main effect of alcohol condition.** Participants in the alcohol condition were expected to perceive greater sexual intent from the confederate, than participants in the sober condition.
- 7 **A main effect of past perpetration status.** Participants with a previous history of sexual assault perpetration were expected to perceive greater sexual intent from the confederate than participants without a history of sexual assault perpetration.
- 8 **Two-way interaction between alcohol condition and past perpetration.** Intoxicated participants with a previous history of sexual assault perpetration were expected to perceive greater sexual intent from the confederate than sober perpetrators and intoxicated nonperpetrators. Sober nonperpetrators were expected to perceive the lowest levels of sexual intent from the confederate.

**Hypotheses with Hot Sauce Allocation as the Dependent Variable**

- 2 **A main effect of alcohol condition.** Intoxicated participants were expected to allocate a greater amount of hot sauce than sober participants.
- 3 **A main effect of rejection condition.** Participants in the rejection condition were expected to allocate a greater amount of hot sauce than participants in the acceptance condition.
- 4 **Two-way interaction between rejection condition and alcohol condition.** After being rejected, intoxicated and sober participants were expected to allocate comparable amounts of hot sauce. However, after being accepted, intoxicated participants were expected to allocate a greater amount of hot sauce than sober participants.
- 5 **Two-way interaction between overperceptions of sexual intent and rejection.** Participants who overperceived their interaction partner's level of sexual interest, and were then rejected, were expected to allocate a greater amount of hot sauce than participants who did not overperceive their interaction partner's level of sexual interest, and were then rejected. Participants who overperceived their interactions partner's level of sexual intent, but were not rejected, were expected to allocate the smallest amount of hot sauce, compared to all other groups.
- 6 **A three-way interaction between alcohol condition, overperception of sexual intent and rejection condition.** Intoxicated participants who overperceived the woman's sexual intent and were rejected were expected to allocate the greatest amount of hot sauce to their interaction partner. Intoxicated participants who overperceived the woman's sexual intent and were accepted were expected to allocate the smallest amount of hot sauce to their interaction partner. All other group differences are expected to be consistent with the aforementioned 2-way interactions.
- 9 **A main effect of past perpetration.** Participants who previously perpetrated a sexual assault were expected to allocate a greater amount of hot sauce than nonperpetrators.
- 10 **Two-way interaction between alcohol condition and past perpetration.** Intoxicated perpetrators were expected to allocate a greater amount of hot sauce than intoxicated nonperpetrators, and sober participants.

- 11 **A main effect of trait aggression.** Participants high in trait aggression were expected to allocate greater amounts of hot sauce than participants low in trait aggression.
- 12 **Two-way interaction between alcohol condition and trait aggression.** Intoxicated participants high in trait aggression were expected to allocate greater amounts of hot sauce than sober participants high in trait aggression, or participants low in trait aggression.
- 13 **Three-way interaction between trait aggression, alcohol condition, and rejection condition.** Among participants in the acceptance condition, intoxicated participants high in trait aggression were expected to allocate greater amounts of hot sauce than sober participants high in trait aggression. Among participants in the rejection condition, intoxicated participants were expected to allocate greater amounts of hot sauce than sober participants, independent of trait aggression.
- E1 **A main effect of baseline testosterone level.** Participants with higher baseline testosterone were expected to allocate a greater amount of hot sauce than participants with lower baseline testosterone.
- E2 **Two-way interaction between rejection condition and baseline testosterone levels.** Participants with high baseline testosterone, who were rejected, were expected to allocate a greater amount of hot sauce than participants with high baseline testosterone levels, who were accepted. Participants with low baseline testosterone levels, who were accepted, were expected to allocate a greater amount of hot sauce than participants with high baseline testosterone levels, who were rejected.

#### Hypotheses about Correlations

- 14 **A significant positive correlation between past perpetration status and baseline testosterone levels.**
- E3 **A significant positive correlation between baseline testosterone level and overperceptions of sexual intent.**
- E4 **A significant positive correlation between baseline testosterone level and trait aggression.**
-

## CHAPTER 2

### Method

#### Participants

Participants included 58 single men, ages 21 to 28 from the greater Detroit metropolitan area. 58.6% percent of participants self-identified as Caucasian, 12.1% as African American, 8.6% as Hispanic, 6.9% as Arabic or Middle Eastern, 6.9% as Asian or Pacific Islander, 5.2% as biracial, and 1.7% as Native American or Alaskan Native. Ninety-four percent of participants had some level of college education, and 34.5% had a bachelor's degree or higher. Due to the alcohol administration component of this study, all participants were at least 21 years of age. Participants were on average 24 years of age ( $M = 24.27$ ;  $SD = 2.48$ ). Over the previous 12 months, participants consumed 4-5 drinks on a typical day of drinking. Study procedures and materials were approved by the Wayne State University Institutional Review Board.

#### Procedure for Online Prescreen Survey

**Initial participant recruitment.** Online advertisements for participation in the study were posted on the Wayne State University psychology participant pool SONA system, Craigslist, and the WSU Pipeline advertisement system. Flyers were posted on WSU campus bulletin boards. Business cards and postcards advertising the study were placed in restaurants around the WSU campus and throughout the greater metropolitan Detroit area. Additionally, an e-mail list of currently enrolled male students, ages 21-28, was obtained from the WSU Enrollment Services. Men on this list were e-mailed the study advertisement.

Flyers and advertisements indicated that the study was looking for single men, who were social drinkers and between the ages of 21 and 28, for a research study on initial interactions between men and women. Participants were told that they would be asked to complete an online survey to assess eligibility criteria and entered into a lottery for one of three cash prizes for completing the survey. Psychology students would also earn 1 research credit toward a psychology course for completing the survey. Eligible participants would be invited to the lab to

have a conversation with a woman. One or both interaction partners would be asked to consume alcohol as a part of the lab study, and for completing the lab study, participants would receive \$10 per hour, or one psychology research credit per hour of participation. Finally, advertisements instructed participants to call or e-mail the Social Perception Lab to indicate their interest in participating in the study.

Overall, 579 men were e-mailed the Social Perception Prescreen Survey; 340 (58.7%) consented to completing the online survey and did not have long strings of missing data or similar responses. Below I discuss the procedures for the prescreen survey, and then discuss the sub-sample of participants that were identified based on the eligibility screening data for the lab portion of the study.

**Social perception lab prescreen survey.** Interested individuals were e-mailed the Social Perception Lab Prescreen Survey through the Qualtrics Online Survey System. Participants were told in the email contact that this is a general survey used by the lab to determine the eligibility of individuals to participate in a variety of different studies being conducted at the lab, including the study in which they indicated interest, the Initial Interactions between Men and Women Study. In this email there was a unique identification code, which was used to identify participants on all study materials. Participants were required to enter their identification code as their password to complete the Social Perception Lab Prescreen Survey.

Participants first read the Information Sheet describing the nature of the study (see Appendix A), and after checking a box to indicate their consent to participate, completed the Social Perception Lab Prescreen Survey (see Appendix B). Participant's who wanted to be considered for the lab portion of the study were asked to provide their name, e-mail address, and telephone number so that they could be contacted later for the alcohol administration study. For the current study, participants completed measures of demographic characteristics (e.g., age, ethnicity, education, income), desired characteristics in a dating partner (e.g., ethnicity), taste preferences (e.g., favorite restaurant and food, how much they like spicy, sweet, savory

foods), recent dating and sexual history (e.g., sexual orientation, current relationship status), usual alcohol consumption (e.g., typical and heavy drinking), drinking problems, and a health screening for medications and medical conditions contraindicated with alcohol consumption or salivary testosterone measurement (e.g., blood pressure medication, anti-inflammatory drugs, stimulants). The Social Perception Lab Prescreen Survey also included measures of past sexual assault perpetration and trait aggression, which are described in greater detail below in the **Measures** section.

Participants also completed measures not included in the current study assessing: narcissism, impulsivity, resilience, hostility toward women, forgiveness, revenge, alcohol expectancies, misperception of sexual intent history, attitudes towards casual sex, attachment style, restrictive emotionality, and rejection sensitivity.

**Eligibility criteria for alcohol administration study.** Eligibility criteria for the alcohol administration study was assessed in the Social Perception Lab Prescreen Survey. Participants were required to be 1) single, not dating exclusively or dating but willing to meet someone new, 2) heterosexual, 3) to be between the ages of 21 and 28, and 4) to be interested in meeting a potential dating partner. Participants were excluded if they had not consumed alcohol within the past month, had not consumed at least 4 drinks of alcohol on one occasion in the past year, had a history of alcohol problems (e.g., hospitalized, arrested or treated for alcohol use problems), had a medical condition or were taking medication contraindicated with alcohol use (National Advisory Council on Alcohol Abuse and Alcoholism, 2005).

**Current relationship status.** Participants indicated their current relationship status by selecting one of the following: currently 1) single, not dating exclusively, 2) single, in exclusive dating relationship, 3) engaged, 4) married, 5) divorced, 6) widowed, or 7) other. Participants who answered *single, not exclusively dating* were eligible for the alcohol administration study. Participants who answered *single, in an exclusive dating relationship* were prompted with a follow-up question: "Would you be willing to go on a date with someone else?" 'Exclusively



dating' could have multiple meanings, and this follow up question allowed us to separate out those participants who might only be dating one person at the moment, but were interested in meeting a potential new dating partner. Participants who said that they were *single, in an exclusive dating relationship* and said that they were willing to go on a date with someone else were also eligible for the alcohol administration study. Forty-five men (13.2%) did not meet this criteria.

**Sexual orientation.** Participants were asked "How would you describe your sexual orientation?" Participants indicated their sexual orientation on a 5-point Likert scale with the following response options: 1) exclusively homosexual, 2) primarily homosexual, 3) equally homosexual and heterosexual, 4) primarily heterosexual and 5) exclusively heterosexual. Participants who were primarily or exclusively heterosexual, or equally heterosexual and homosexual, were considered eligible for the alcohol administration study. Four men (1.2%) did not meet this criteria.

**Age.** Participants indicated their date of birth. Participants who were between the ages of 21 and 28 were considered eligible for the alcohol administration study. Fifty-seven men (16.8%) did not meet the age criteria.

**Usual alcohol consumption.** The National Council on Alcohol Abuse and Alcoholism recommended set of alcohol consumption questions were used to assess participants' usual level of alcohol consumption (see Appendix B). Based on these question, participants were excluded from the alcohol administration study for the following reasons: Sixteen (4.7 %) had never drank alcohol in their life; 8 (2.4%) had not drank in the past year; 47 (13.8%) had not drank alcohol in the past 30 days; 43 (12.6%) had not consumed at least 4 drinks on one occasion in the past year; and 29 (8.5%) had been arrested, hospitalized, or treated for alcohol or drug abuse in the past (i.e., signs of having a drinking problem). Thirty-five (10.3%) participants currently had a medical condition contraindicated with alcohol use (e.g., diabetes,

liver disease, etc.) and 34 (10%) were currently taking medications contraindicated with medical use (e.g., antabuse, antibiotics, pain medications, etc.).

**Dating partner ethnicity.** Participants indicated the preferred ethnicity of a potential dating partner. Options included: African American, Arabic or Middle Eastern, Asian or Pacific Islander, Hispanic, Native American or American Indian, or Other. Participants were allowed to select all that apply. Participants were eligible for the alcohol administration study if they indicated that they would be interested in dating an African American or Caucasian woman (see **Confederate characteristics** section for additional information). Forty-two (12.4%) participants indicated that their preferred dating partner would be of an ethnicity other than African American or Caucasian.

Based on the above criteria, 171 (50.3%) of the men who completed the online survey were determined to be eligible for the lab portion of the study.

### **Materials and Procedure for Alcohol Administration Session**

**Participant scheduling.** Eligible participants were contacted via telephone by the research staff to schedule a time to come to the lab to complete the alcohol administration study, referred to as the Initial Interactions between Men and Women study (See Appendix C for Scheduling Script). Participants were reminded that the study concerned initial interactions between men and women, thus the study would involve a 10 minute interaction with a female participant, during which time they would get acquainted. Alcohol is often involved in initial interactions where men and women meet, such as at a bar or party, so the participant, their interaction partner, or both, might be randomly assigned to consume alcohol as a part of the study. If they were assigned to the alcohol condition, then they would consume enough alcohol to elevate their BAL to a .080%, which is the legal limit. Participants in the alcohol condition would need to remain in the lab until their BAL returned to .005% and they could be released on their own. This would take approximately 6 hours from the start of the study. If they could arrange for a ride home with a responsible party, then they could be released when their BAL

reached .03%, which would take approximately 4 hours from the start of the study. Participants were also notified that as a part of the study they would be asked to provide a saliva sample in order to assess how hormones are related to initial interactions between men and women.

The participant and research staff then discussed a mutually agreeable date and start time between 10am and 2pm. Testosterone has a diurnal pattern (Axelsson et al., 2005). The 10am-2pm starting timeframe accommodated this diurnal pattern. Participants were provided with guidelines (both over the phone and in a follow-up email) for how to prepare for participation on the day of the study. Participants were told to: 1) bring a driver's license in order to verify that they were 21 years of age, 2) set aside 6 hours to be in the lab that day, 3) not take any prescription or over the counter medications the day of the study, 4) not eat or drink anything besides water in the 4 hours prior to the start of the study, 5) not give blood or plasma within 3 days prior to participating in the study, 6) not brush their teeth in the hour prior to the start of the study, and 7) not engage in physical activity in the hour prior to the start of the study. The first four guidelines are in concordance with alcohol administration procedures and the last three guidelines are related to salivary testosterone measurement (Goldey & van Anders, 2011).

Of those participants that were eligible for the lab study ( $n = 171$ ), 131 (76.6%) were contacted via telephone. Data collection was completed before the remaining 40 participants could be contacted. Of those that were contacted, 30 (22.9%) were not able to be reached because they had disconnected phone lines or they did not return our phone calls. Of the 101 men that were able to be reached, 10 men (9.9%) indicated on the telephone that they were not interested in completing the alcohol administration study. Of the men who were contacted and were interested in participating ( $n = 91$ ), 9 (9.9%) were unable to be scheduled due to scheduling issues or they provided new information indicating they were no longer eligible (e.g., non-overlapping schedules, confederate knew the participant, indicated they had stopped drinking since survey, indicated they had been arrested for alcohol use since survey, etc.). Of those participants that were scheduled ( $n = 82$ ), 19 men (22.9%) no-showed for their scheduled

time and were unable to be rescheduled, and 5 men were disqualified in the lab: 1 for being high on marijuana, 1 for being older than 28, 1 for eating a full meal immediately prior to arriving at the lab (all participants were asked to not eat in the 4 hours prior to the study), and 2 for weighing over 300 lbs. The final sample size for the alcohol administration study was 58 participants.

**Confederate characteristics.** Eleven African American ( $n = 3$ ) and Caucasian ( $n = 8$ ) women between the ages of 20 and 24 were selected by the PI to be study confederates based on the PI's initial impressions of the woman's attractiveness and sociability during an interview. Participants' ratings confirmed that the confederates were perceived to be attractive, with the median and modal ratings of attractiveness both 6s on a 1 (*not at all*) to 7 (*very*) scale ( $M = 5.41$ ,  $SD = 1.12$ ). All eleven confederates were considered to be somewhat to very attractive, with ratings ranging from 4.40 ( $SD = 1.14$ ) to 7 (no  $SD$  since only one interaction). In order to compare mean levels of attractiveness, two confederates who each had only a single interaction with a participant, were removed from the analysis. Confederates did significantly differ in their mean levels of attractiveness,  $F(56, 7) = 2.30$ ,  $p = .042$ . Two confederates were rated as significantly less attractive than the other confederates, their average attractiveness rating was 4.62 ( $SD = 1.12$ ); whereas the average attractiveness rating of the seven other women (with more than one interaction) was 5.64 ( $SD = 1.02$ ).

Dating relationships are usually intraracial, and the majority of WSU students, and residents of the Detroit metropolitan area, are African American or Caucasian. Therefore, in order to be able to best match participants and confederates based on race and age, college-aged African American and Caucasian women served as confederates in this study. Participants were allowed to specify in the Social Perception Lab Prescreen Survey the desired ethnicity of their dating partners. We matched participants to confederates based on this criteria. If participants indicated that they only dated African American women, then they were paired with an African American woman. If participants indicated that they only dated Caucasian

women, then they were paired with a Caucasian woman. For the participants who specified that they would date either African American or Caucasian women, they were scheduled based on their availability, rather than ethnicity of the confederate. Individuals from other ethnic backgrounds that were interested in dating African American or Caucasian women were also eligible to participate. African American women played the role of the confederate in 13 (22.4%) of the interactions: 5 with African American men, 2 with Arabic or Middle Eastern men, 1 with an Asian or Pacific Islander, 3 with Caucasian men, and 2 with biracial men. Caucasian women played the role of the confederate in 45 (77.6%) of the interactions: 31 with Caucasian men, 5 with Hispanic men, 3 with Asian or Pacific Islander men, 2 with African American men, 2 with Arabic or Middle Eastern men, 1 with a Native American man, and 1 with a biracial man.

**Confederate training.** All confederates received 20 or more hours of training in how to establish consistency in their ability to play the role of Breanna. A full background story for Breanna was developed (see Appendix D) and modified based on feedback from the research staff and dissertation advisor. This background story addresses topics commonly covered during an initial getting acquainted interaction, such as previous and current education, family background, interests, and hobbies. Breanna is 21 years old and is currently attending Wayne State University. She is a pre-med and psychology major, and is still trying to decide which area of study to pursue. She lives near campus, enjoys hanging out with friends in the area, and recently starting running.

In general, the confederates were instructed to be friendly but not to flirt with male participants during their 10 minute interaction. Through numerous practice interactions, confederates were trained to use consistent nonverbal communication. For example, confederates were instructed to sit close to the table so that they could put their hands on the table. This prevented fidgeting and helped to maintain a consistent level of interpersonal distance between the confederate and the participants. Confederates had mock interactions

with each other, which were videotaped and used for training purposes, as well as with male research assistants in the lab.

**Alcohol administration session.** Participants were instructed to go to the 3<sup>rd</sup> floor of the Simon's Building and then call the lab (see Appendix E for Alcohol Administration Script). They waited there for the experimenter. On the walk to the lab, the experimenter notified participants that the female participant had arrived early and was already waiting in the lab. Upon entering the lab, participants were escorted to a separate participant room, adjacent to the room in which the confederate was seated. The door was closed such that participants were unable to see the confederate. This procedure was used in order to prevent participants from seeing and interacting with their interaction partners prior to the 10 minute initial interaction. Meeting in the 3<sup>rd</sup> floor waiting room could have impacted both testosterone levels and initial impressions of interaction partners.

Confederates were in a separate room from participants during all study tasks, with the exception of 1) the 10 minute interaction and 2) when they met again briefly to say goodbye to each other during the debriefing (described below). From their separate and adjacent room to the participants' room, confederates seemingly completed the study procedures in the same manner as the participant. From the view of their participant room, participants could only see the experimenter handing study materials through the door way to the confederate. This made it possible to maintain the guise that confederates were completing all of the study materials. However, confederates only appeared (to the participant) to be drinking alcohol, providing saliva samples, and completing surveys about the interaction. Confederates did not actually complete these tasks.

**Lab health screening.** First, participants were asked to provide driver's license so that the experimenter could ensure that they were 21 years of age (and not older than 28). Then participants were given a breathalyzer to determine that their BAL was at 0.00%. There was 1 participant who did not meet the age criteria and 1 participant who seemed to be under the

influence of marijuana and were removed from the study. Once it was determined that these basic study requirements were met, the experimenter then walked participants and confederates through the informed consent process (Appendix F).

***Informed consent.*** Participants were reminded that the purpose of the study was to examine how hormones and alcohol affect initial interactions between men and women. Participants were informed that the 10 minute interaction would be videotaped so that the interaction could later be coded for verbal and nonverbal communication patterns. Interactions were videotaped using a small webcam located in the corner of the interaction room. This was connected to the PIs computer, and allowed her to watch the interactions as they occurred as an added safety precaution. The videotapes were not analyzed for the current study.

The informed consent explained to participants that after their 10 minute interactions, they would be able to indicate if they did or did not want to exchange numbers with their fellow participant. Participants were reminded that they, their interaction partner, or both, might be randomly assigned to consume alcohol as a part of the study and that they would be asked to provide a single saliva sample in order to assess hormones related to initial interactions between men and women.

***Health screening questionnaire.*** After providing consent to participate in the study, participants were administered The Health Screening Questionnaire (Appendix G) to ensure that they had complied with the study requirements listed above for participation in an alcohol administration study and a study assessing testosterone (e.g., no alcohol in past 12 hours, no eating in past 4 hours, etc.). Other factors that could influence changes in hormones were assessed (e.g., medications that affect T, sexual activity and BMI; Goldey & van Anders, 2011). There was 1 participant who was removed from the study because they ate a large meal immediately prior to their participation time, and 2 participants who were removed for being over 300 pounds. An added question to the prescreening questionnaire allowed us to later screen participants based on weight, in order to avoid this situation again.

**Saliva sample assessing baseline testosterone levels.** Next, a single saliva sample was collected by passive drool into a polystyrene culture tube. Participants drooled passively into a 5ml test tube for 3 minutes. Approximately 2 ml of saliva was collected from each participant. If after 3 minutes, participants did not have approximately 2 ml of saliva, they were given additional time as needed. The experimenter first collected the test tube from participants and then confederates, making sure that participants did not see that confederates' test tubes were empty. This was feasible because the refrigerator where the saliva samples were stored was out of view of participants. Saliva samples were then stored at  $-20^{\circ}$  C until assay using commercially available enzyme immunoassay kits.

**Alcohol administration.** The experimenter then pushed the beverage cart to the space between the participant rooms, so that it was visible to both participants and confederates. The experimenter told participants their alcohol condition and then poured their drinks in front of them. The experimenter always told confederates they were randomly assigned to the alcohol condition and seemingly administered an alcoholic beverage (actually not alcohol, and the confederate never consumed any drinks). Participants in the intoxicated condition received 2.07 ml/kg of bodyweight of 100-proof vodka, in order to produce a goal BAC level of .08%. The vodka was mixed at a 1:3 ratio with cranberry juice and was evenly divided among 3 cups. Participants in the sober condition had their beverage poured from a bottle of cranberry juice and received 3 drinks of equal beverage volume as the alcohol condition. Participants were given 15 minutes to drink their 3 beverages. Afterwards, there was a 5 minute post-drinking absorption period. During this time, they completed the Initial Interactions Survey (Appendix H), which asked participants to list two questions they wanted to ask their interaction partner and what they thought their interaction partner should know about them after their 10 minute conversation together. Participants were allowed to take these forms into the 10 minute interaction with them.

**Part 1: 10 Minute Interaction with Woman.**



**10 minute interaction.** Participants were asked to sit across from each other at a small round table, and in view of a webcam in the corner of the room. Then they were administered a breathalyzer to determine their current BAL. The experimenter told participants that their BAL was .079% in order to standardize participants' expectations about their BAL (told 0.00% for sober participants). The experimenter recorded participants' actual BAL. In order to maintain the guise that confederates consumed alcohol, the experimenter told confederates that her BAL was .080% (actual BAL was 0.00%). The experimenter then gave them brief instructions for the 10 minute conversation. Finally, the experimenter set the timer for ten minutes and left the participants to have their conversation. Again, confederates were instructed to be friendly but not flirtatious during this conversation. When the timer went off, the experimenter returned to the room and instructed the participants to return to their separate rooms.

**Post-interaction survey.** In their separate room, participants completed the Post-Interaction Survey (see Appendix I), which assessed their thoughts and feelings about the interaction they just had. As a part of this survey, participants indicated their level of interest in trying to exchange numbers with the woman so that they could meet again in the future. As the experimenter handed the survey to participants, the experimenter made a point of mentioning that the last page of the survey was where they should indicate if they wanted to exchange numbers with their interaction partner. After completing the survey, the experimenter then collected the surveys. At this point another breathalyzer was administered. The experimenter then again announced (audible to both) that the participants' BAC was .081% (0.00% in sober condition) and the confederates' BAC was .080%. Again, this procedure standardized participants' perceptions about intoxication levels.

**Rejection manipulation.** Participants were then told that they would be able to see their interaction partner's response to the question about exchanging phone numbers. The experimenter tore the last page from each of their packets, which contained their answers to the question. With the participant's sheet in hand, the experimenter walked into the confederate's

room and handed her the participant's response. Then with the confederate's sheet in hand, the experimenter walked into the participant's room and handed them the confederate's response. The sheet handed to the participant was pre-filled out by the PI to match the rejection condition randomly assigned to the participant prior to their arrival at the lab. Until this point, the research staff was blind to the participant's rejection condition. Participants in the acceptance condition were told that she does want to try to exchange numbers at the end of study, and participants in the rejection condition were told that she does not.

**Post-rejection manipulation survey.** Participants then completed a brief Post Rejection Survey (See Appendix J) to assess their current feelings and perceptions of their interaction partner. After completing the survey, the participants were administered another breathalyzer.

**Part 2: 'Second Study' - Hot Sauce Paradigm.**

At this point, the PI (who had not been visible prior to this point) approached participants and introduced herself. She stood between the two participant rooms in such a way that she could make eye contact with both participants as she stated that she was conducting a separate study on how personality characteristics were related to taste preferences (see Appendix K for the script). She then reminded participants that they had completed questions related to this study as a part of the Social Perception Lab Prescreen Survey, and cited examples of items related to her study (e.g., favorite restaurant, types of foods that they like). She told both participants that she had conferred with a list of eligible participants and noted that Breanna was eligible for the study. The PI asked the confederate if she would be willing to participate in this study and the confederate agreed. The PI apologized to the participant that he was not eligible, but asked for his assistance in setting up the study, which would involve the confederate taste-testing some foods in order to assess her taste preferences. The PI told participants that she needed to be blind to how much food the confederate was consuming, so she was hoping he would be willing to spend two minutes helping her set that study up. Of the 58 participants, only

1 did not immediately agree to help with the second task. With this participant, the PI simply reiterated that it would be very helpful and would only take 2 minutes, and then the participant would complete the debriefing process with the first experimenter. The participant then agreed to help set up this second study.

The participants then completed the Hot Sauce Paradigm procedure, which was based on the previous research design implemented by Lieberman and colleagues (1999). The PI escorted participants back to the room where they had the 10 minute interaction, so that they were no longer in a room adjacent to where the confederate was located, and closed the door so the confederate could not hear the subsequent conversation. On the table in that room was a tray with hot sauce, a bowl of chips, a plastic spoon, a small paper cup filled with water, and an empty small paper cup with a  $\frac{1}{4}$  teaspoon. Participants were then told that participants in the taste-testing study were taste-testing a variety of foods that are salty, sweet and spicy. Participants were told that for the purposes of this study, it was important that the PI did not know how much food the confederate was consuming. The participant could allocate as much or as little hot sauce for the confederate to consume, but whatever amount they gave her, she would have to consume all of it. The PI then told the participant that after he allocated the hot sauce, the other experimenter would come in to get the tray from him, so she (the PI) did not see how much how sauce he allocated. The PI then explained some additional nuances of the task. First, she asked participants to taste the hot sauce using a separate plastic spoon, so that they could have a sense of how the sauce tasted. They were told that the small paper cup filled with water was for them to rinse their mouth out afterward. The experimenter then instructed participants to consult the confederate's response sheet (see Appendix L), containing information about her taste preferences (indicating her dislike of spicy food), and that they could use this information in their decision to allocate the hot sauce. Finally, the experimenter instructed participants to use the  $\frac{1}{4}$  teaspoon to put the hot sauce into the extra empty paper cup, and to write down the number of spoonfuls they allotted (see Appendix M), so that the PI

would know later on how much hot sauce was allocated to Breanna. The PI asked participants if they had any questions, and clarified as needed. Then she set an alarm for 2 minutes, and left the room. After she left, she acted like she was about to go over the informed consent form for the second study with Breanna. After spending a minute and a half in the confederates' room supposedly discussing the informed consent, the PI then went back into her office and out of view of the participant.

After the two minutes were up, the first experimenter came into the room and collected the tray, instructing participants to wait there. When she returned, she would go over the debriefing information with him. The first experimenter took the tray to the confederate's room, and then closed the door. The experimenter then returned to the participant to complete the debriefing and detoxification procedures (if in the alcohol condition). The confederate weighed the hot sauce in the small paper cup on a food scale. The PI then also verified this amount independently afterward.

***Debriefing and detoxification.*** After putting the tray with the hot sauce in the room with the confederate, the first experimenter returned to the room where the participant was waiting and began the debriefing process. In the debriefing, the experimenter asked participants a number of questions to assess participants' perceptions of the study's manipulations, including what drink they consumed, what drink they thought their interaction partner consumed, and their perceptions of the purpose of the study (See Appendix N for Pre-Debriefing Questions). This was done to ascertain if participants had any suspicions about the study, including about their interaction partner and the true nature of the taste-testing study.

After asking participants what they believed the study was examining, the experimenter debriefed participants on the true nature of the study (See Appendix O). Participants were informed that the female participant with whom they interacted was actually a study confederate. As a part of this study, she was instructed to behave in a friendly manner towards them. Participants were informed that the confederate was always seemingly assigned to the

alcohol condition, but in reality, the confederate did not consume any alcohol as a part of the study. In addition, participants were informed that the confederate did not make the decision to give, or not to give, participants their phone number for a future interaction. In reality, participants were randomly assigned to be told that she did or did not want to exchange numbers before they arrived for the study that day. The researcher then went to get the confederate, who apologized to participants for not being able to tell them that she was a part of the study and let them know that it was nice to have had the opportunity to meet them. This procedure was implemented in order to help reduce any potential negative affect experienced by participants that could have arisen from learning about study deceptions. Participants were not told the true nature of the Hot Sauce Paradigm. It was believed that learning that the Hot Sauce Paradigm was a proxy measure of their aggression might cause unnecessary harm to participants.

Afterward, participants completed the Post-Debriefing Questionnaire (see Appendix P) to insure that they understood the nature of the study and to assess their current affective state. Participants rated themselves on a 1 (*not at all*) to 5 (*very much*) scale in terms of how calm, sad, embarrassed, angry and tired they were. Participants indicated that they were very calm ( $M = 4.43$ ,  $SD = .75$ ) and somewhat tired ( $M = 2.40$ ,  $SD = 1.28$ ). Participants indicated that they were *not at all to a little* sad ( $M = 1.36$ ,  $SD = .87$ ), embarrassed ( $M = 1.55$ ,  $SD = .92$ ), and angry ( $M = 1.12$ ,  $SD = .50$ ) about their involvement in the study. The experimenter discussed with participants any of their concerns.

After the debriefing, participants in the sober condition were thanked, compensated \$20 or 2 psychology research credits for being in the lab 2 hours, and then allowed to leave immediately. Participants in the alcohol condition were provided food and water to help them reduce their BAL more quickly. The detoxification room included a couch and a television that participants could use to watch movies. The experimenter or PI also frequently struck up a conversation with participants in order to help pass the time, especially when participants

seemed anxious to leave before their BAL was .005%. Participants who had a responsible party that could pick them up were allowed to leave when their BAL was at .03%. All other participants were required to remain in the lab until their BAL reached .005%. Breathalyzers were administered regularly. Following detoxification, participants were compensated for their time (\$10 per hour in the lab or 1 psychology research credit per hour) and walked out of the building.

## MEASURES

### Predictor Variables

**Past perpetration.** A modified 16-item version of the Sexual Experiences Survey was used to assess sexual aggression (Abbey et al., 2006; Koss, Gidycz, & Wisniewski, 1987). This measure uses behaviorally-specific language to assess a range of sexual activities (e.g., sexual touching; oral, vaginal, and anal intercourse) that happened since age 14 against the woman's wishes through the use of verbal pressure, physical force, or when the woman was too impaired to consent. Response options range from 0 (*never*) to 5 (*five or more times*). Similar versions of this scale have been shown to have good internal reliability ( $\alpha = .89$  for men, Koss & Gidycz, 1985), test-retest reliability, and validity (Koss, Gidycz, & Wisniewski, 1987). Cronbach's alpha for the current study was  $\alpha = .68$ . For the current study, participants' scores were dichotomized to 0 = no history of perpetration, 1 = previous history of perpetration. Sixty-nine percent of participants had no history of perpetration and 31% of participants had a previous history of perpetration.

**Trait aggression.** Participants completed Buss and Perry's (1992) Aggression Questionnaire. Three of the four subscales were used: Physical Aggression (9 items), Verbal Aggression (5 items), and Anger (7 items). The hostility subscale was modified to focus on hostility toward women and was not included in this scale of trait aggression. Response options ranged from 1 (*very unlike me*) to 5 (*very like me*). According to Buss and Perry (1992), there is good internal consistency for each of the following subscales, as well as for the overall

aggression measure (physical aggression  $\alpha = .85$ , verbal aggression  $\alpha = .72$ , anger  $\alpha = .83$ , and overall  $\alpha = .89$ ). As well, there is good test-retest reliability (overall  $\alpha = .80$ ) and the scale demonstrates good discriminant validity. For the current study, a mean was computed across the subscales to form a total trait aggression score. Cronbach's alpha for the current study was  $\alpha = .85$ .

**Baseline testosterone.** All samples were shipped to Dr. Carré at Nipissing University for processing. On the days that the saliva samples were assayed, samples were brought to room temperature and then centrifuged at 3000 rpm. Next, 140  $\mu$ L of standards, controls and samples were pipetted into each appropriate well, followed by 200  $\mu$ L of Enzyme Conjugate into each of the 80 wells (DRG International, Inc.). Microplates were incubated at room temperature for 60 minutes. After incubation, the contents of the microplates were dumped and the microplate was washed using diluted wash solution. 200  $\mu$ L of Substrate Solution was added to each well and incubated for 30 minutes at room temperature. Next, 100  $\mu$ L of Stop Solution was added to each well. Finally, absorbances (optical densities) were determined on a Biotek Epoch plate reader 450 nm. A four parameter regression model was used to fit to the standard curve and sample concentrations were interpolated into this equation to provide sample concentrations in pg/ml.

Samples were run in duplicate and the average of the two samples was used in all analyses. A coefficient of variation was computed for each participant for the baseline saliva measurement period by dividing the average of the two samples by their standard deviation. An average of the coefficients of variation was calculated to get an intraassay coefficient of variation. The intraassay coefficient of variation was 5.23%.

**Overperceptions of sexual intent.** In the post-interaction survey, participants indicated their perceptions of the confederates' sexual intent. Three items (Abbey et al., 2005) were used to form an overperception of sexual intent scale. Participants rated the extent to which they perceived the confederate was 1) sexually attracted to them, 2) interested in having sex with

them and 3) receptive to a sexual come-on from them. Response options ranged from 1 (*no, not at all*) to 7 (*yes, very much*). An average was created of these three items. Correlations among these items range from .69 to .84, and Cronbach's alpha for the scale was  $\alpha = .91$ .

**Hot sauce allocation.** The grams of hot sauce that participants allocated for the confederate to consume as a part of the taste-testing study were used as a behavioral proxy measure of aggressive responding towards the woman. The amount of hot sauce was weighed using a food scale. This weight was transformed in order to remove the weight of the small paper cup which held the hot sauce and in order to create a scale that included a zero point that indicated 0 grams of hot sauce. After subtracting the weight of the small paper cup (2g) from the total weight, the weight of hot sauce allocated ranged from 0 grams to 111 grams,  $M = 14.37$ ,  $SD = 17.83$ . The distribution was positively skewed as a result of a single score; the greatest amount of hot sauce allocated was 111 grams, with the next amount of hot sauce allocated being 58 grams. This outlier was given a value of 60 grams in order to reduce skew and maintain the rank ordering of the distribution. The new mean level of hot sauce allocated was 13.49,  $SD = 13.78$ . The skew value was reduced from 3.36 to 1.88.



## Chapter 3

### RESULTS

#### Initial Data Screening

**Data entry.** Online data were collected through the Qualtrics System, and downloaded directly into an SPSS datafile. The lab data was manually entered by one research assistant and then verified by a second research assistant. The PI resolved any discrepancies in the data file and completed an accuracy check of the entered data. The online data file for participants who completed the lab portion of the study was linked to participants' lab data using their unique identification code.

**Missing data.** Descriptive statistics were conducted and 1.3% of data were missing. For established scales, mean substitution was done at the scale level (Tabachnick & Fidell, 2007). Distributions were examined for skewness, kurtosis, and restriction of range.

**Dummy-coding.** Categorical variables were dummy-coded, with control or baseline groups being coded as 0 and the group of interest being coded as 1 (Cohen, Cohen West & Aiken, 2003). Experimentally manipulated treatment groups were coded as follows: 1 = alcohol, 0 = sober; 1 = rejection, 0 = acceptance. Past perpetration was coded as 1 = past perpetrator and 0 = nonperpetrator.

#### Experimental Manipulations

Participants were administered an alcohol dosage based on weight aimed at raising their BAL to .080% and having participants complete main study tasks while their BAL was ascending. Immediately prior to the 10 minute interaction, participants' mean BAL was .065%,  $SD = .02$ . Participants' mean BAL ten minutes after the 10 minute interaction, and just before the rejection manipulation (25 minutes post-drinking) was .079%,  $SD = .02$ . Participants' mean BAL immediately prior to the hot sauce allocation task was .077%,  $SD = .02$ .

Following the brief initial interaction, participants indicated if they wanted to try to exchange numbers with the confederate. Nine (15.5%) participants indicated that they did not

want to exchange numbers with the confederate. These participants did not significantly differ in their baseline testosterone levels, trait aggression, or past perpetration status from participants who wanted to exchange numbers with the confederate. There was an equal number of men who did not want to exchange numbers in the alcohol condition,  $\chi^2 = 0.95$ ,  $p = .33$ , and in the rejection condition,  $\chi^2 = 1.18$ ,  $p = .28$ . Participants who did not want to exchange numbers did however rate the confederate as significantly less attractive,  $M = 4.00$ ,  $SD = 1.41$  vs.  $M = 5.67$ ,  $SD = .85$ , and perceived less sexual intent on the part of the confederate,  $M = 3.11$ ,  $SD = 1.42$  vs.  $M = 3.93$ ,  $SD = 1.10$ , than did participants who wanted to exchange numbers.

Following the rejection manipulation, participants completed the Positive and Negative Affect Scale (PANAS; Watson, Clark & Tellegen, 1988). The PANAS items were used to assess participants' general mood following the rejection manipulation by indicating "to what extent you feel this way right now" on a 1 (*very slightly or not at all*) to 5 (*extremely*) scale. The rejection manipulation evoked the expected affect. Participants in the rejection condition were significantly less enthusiastic,  $M = 2.97$ ,  $SD = 1.02$ ,  $M = 3.90$ ,  $SD = .94$ ,  $t(56) = -3.59$ ,  $p < .01$ , excited,  $M = 2.41$ ,  $SD = 1.09$ ,  $M = 3.76$ ,  $SD = .95$ ,  $t(56) = -5.02$ ,  $p < .001$ , and happy,  $M = 3.44$ ,  $SD = .83$ ,  $M = 3.91$ ,  $SD = .84$ ,  $t(56) = -2.10$ ,  $p < .05$ , and were significantly more irritable  $M = 1.24$ ,  $SD = .64$ ,  $M = 1.00$ ,  $SD = .02$ ,  $t(56) = 2.01$ ,  $p < .05$ , and marginally more upset  $M = 1.41$ ,  $SD = .87$ ,  $M = 1.07$ ,  $SD = .37$ ,  $t(56) = 1.97$ ,  $p = .054$  than participants in the acceptance condition.

### **Comparisons of Participant Characteristics by Experimental Condition**

Table 2 includes the means and standard deviations for the study background variables based on alcohol condition (intoxicated vs. sober). Independent samples T-tests indicated that there were no significant differences based on alcohol condition in participants' age, baseline testosterone levels, or typical number of drinks consumed on a drinking day. Participants in the sober condition had significantly higher baseline levels of trait aggression compared to participants in the alcohol condition. In order to account for this relationship, trait aggression

was included in all hierarchical multiple regression analyses (on the first step of the model) that also included alcohol condition in the model.

Although the cell  $n$ 's were unequal, there was not a significant difference in number of past perpetrators in the alcohol condition ( $n = 6$ ) compared to the sober condition ( $n = 12$ ), or nonperpetrators in the alcohol condition ( $n = 22$ ) compared to the sober condition ( $n = 18$ ),  $\chi^2 = 2.33$ ,  $p = .12$ . Chi-square analyses revealed that there was an equal proportion of African American, Caucasian, and Other racial backgrounds across the two alcohol conditions,  $\chi^2 = 3.73$ ,  $p = .71$ .

Table 2

*Differences in Participants' Background Characteristics by Alcohol Condition*

Variable	Intoxicated ( $n = 28$ ) Mean (SD)	Sober ( $n = 30$ ) Mean (SD)	$t$ (56)	$p$
Age	24.73 (2.50)	23.85 (2.43)	1.36	.18
Trait aggression	2.16 (.46)	2.52 (.58)	-2.64	.01
Baseline testosterone level *	82.99 (41.22)	76.20 (25.18)	.75	.45
Typical number of drinks per day over the past year	10.73 (5.21)	13.60 (8.03)	-1.60	.12

Note. \*Baseline testosterone level  $df = 55$ .

### Hypothesis Testing

**Overperceptions of sexual intent as the dependent variable.** A 2 x 2 analysis of covariance was used to test for main and interactive effects of alcohol condition and past perpetration history on overperceptions of sexual intent, while controlling for trait aggression. There was a nonsignificant relationship between trait aggression and overperception of sexual intent,  $F(1, 53) = .74$ ,  $p = .39$ .

Following the brief getting acquainted interaction with the confederate, men in the alcohol condition were expected to report that the confederate was more sexually interested in them than men in the sober condition (Hypothesis 1 - H1). This hypothesis was not supported,  $F(1, 53) = .00, p = .96$ . Participants in the alcohol condition,  $M = 3.71, SD = 1.05$ , perceived a similar level of sexual intent from the confederate as sober participants,  $M = 3.89, SD = 1.31$ .

A main effect of past perpetration status on overperceptions of sexual intent was hypothesized (H7). This hypothesis was not supported,  $F(1, 53) = .89, p = .89$ . Past perpetrators perceived a similar level of sexual intent as nonperpetrators,  $M = 3.90, SD = 1.15$  and  $M = 3.59, SD = 1.25$ , respectively.

A two-way interaction between past perpetration and alcohol condition was also hypothesized (H8). This hypothesis was also not supported,  $F(1, 53) = 1.37, p = .25$ .

**Hot sauce allocation as the dependent variable.** Separate hierarchical multiple regression analyses were conducted to assess: 1) how situational characteristics contribute to men's aggression toward women – the second stage of Abbey's model; 2) the role of past perpetration; 3) the role of trait aggression; and finally, 4) the role of testosterone in the etiology of aggressive responding toward women. Continuous variables (e.g., testosterone, trait aggression, overperceptions of sexual intent) were centered using a linear transformation (Tabachnik & Fidell, 2007) in order to reduce issues of multicollinearity in the interaction terms.

Trait aggression was included on the first step of models 1-3 to account for the significant difference in baseline trait aggression between alcohol and sober participants. Trait aggression was a marginal predictor of hot sauce allocation in models 1-3,  $F(1, 56) = 3.05, p = .086$ . Model 4 does not include alcohol condition as a predictor variable, thus trait aggression was not included in the model.

**Model 1.** The first hierarchical multiple regression analysis examined the main and interactive effects of alcohol condition, overperceptions of sexual intent, and rejection condition on hot sauce allocation. This model was specifically examining the second stage of Abbey's

model. Alcohol condition, rejection condition, and overperceptions of sexual intent were entered on the second step. Two-way interactions we examined in the third step of the model. Finally, the 3-way interaction between alcohol condition, overperception of sexual intent, and rejection condition on hot sauce allocation was entered on the third step.

Table 3

*Model 1: Examining Main Effects and Interactions of Alcohol Condition, Overperceptions of Sexual Intent and Rejection Condition on Hot Sauce Allocation*

Variables	B	SE B	$\beta$	$\Delta R^2$
Step 1				.052*
Trait aggression	5.65	3.24	.23*	
Step 2				.075
Alcohol condition	7.24	3.73	.27*	
Rejection condition	-3.29	3.55	-.12	
Overperceptions of sexual intent	.58	1.52	.05	
Step 3				.026
Alcohol condition X overperceptions of sexual intent	3.83	3.22	.20	
Rejection condition X overperceptions of sexual intent	.79	3.20	.05	
Alcohol condition X rejection condition	1.59	7.19	.05	
Step 4				.016
Alcohol condition X overperceptions of sexual intent X rejection condition	6.26	6.51	.23	
				16.8%

Note. \*  $p < .10$ , \*\*  $p < .05$

The main effect of alcohol condition on hot sauce allocation was marginal,  $t = 1.94$ ,  $p = .057$ , providing preliminary support for Hypothesis 2. Hypothesis 3 was not supported; the main effect of rejection condition was nonsignificant. The main effect of overperceptions of sexual

intent on hot sauce allocation was nonsignificant. The two-way and three-way interactions were also nonsignificant.

**Model 2.** The main effects of past perpetration status (H9) and alcohol condition, and their interactive effect (H10), on hot sauce allocation were examined. As in Model 1, there was a marginal main effect of alcohol condition on hot sauce allocation,  $t = 1.85$ ,  $p = .070$ . The main effect of past perpetration and the interaction between alcohol condition and past perpetration were both nonsignificant.

Table 4

*Model 2: Examining Main Effects and Interactions of Past Perpetration and Alcohol Condition, on Hot Sauce Allocation*

Variables	B	SE B	$\beta$	$\Delta R^2$
Step 1				.052*
Trait aggression	5.65	3.24	.23*	
Step 2				.061
Alcohol condition	6.92	3.75	.25*	
Past perpetration	-1.20	3.96	-.04	
Step 3				.007
Alcohol condition X past perpetration	5.32	7.95	.12	
				12.0%

Note. \*  $p < .10$ , \*\*  $p < .05$

**Model 3.** In this model, trait aggression (H11) was entered on the first step, rejection condition and alcohol condition were entered on the second step. All two-way interactions among these variables were entered on the third step of the model, including the hypothesized two-way interaction between alcohol condition and trait aggression (H12). Finally, the hypothesized three-way interaction between trait aggression, alcohol condition, and rejection

condition (H13) was examined on the fourth step of the model. As was found in previous models, trait aggression,  $t = 1.75$ ,  $p = .086$ , and alcohol condition  $t = 1.94$ ,  $p = .057$ , emerged as marginally significant predictors of hot sauce allocation. No other relationships emerged as significant.

Table 5

*Model 3: Examining Main Effects and Interactions of Trait Aggression, Alcohol Condition, and Rejection Condition on Hot Sauce Allocation*

Variables	B	SE B	$\beta$	$\Delta R^2$
Step 1				.052*
Trait aggression	5.65	3.24	.23*	
Step 2				.072
Alcohol condition	7.18	3.70	.26*	
Rejection condition	-3.14	3.50	-.12	
Step 3				.044
Alcohol condition X trait aggression	11.54	7.28	.28	
Rejection condition X trait aggression	-.75	7.08	-.02	
Alcohol condition X rejection condition	.76	7.53	.02	
Step 4				.000
Trait aggression X alcohol condition X rejection condition	2.18	15.43	.04	
				16.8%

Note. \*  $p < .10$ , \*\*  $p < .05$

**Model 4.** The main effects of testosterone level (E1) and rejection condition, and their interactive effect (E2) on hot sauce allocation were examined. There were no significant main effects, but there was a significant interaction between testosterone level and rejection condition,  $t = 2.10$ ,  $p < .05$ . Simple slopes analyses indicated that testosterone predicted hot

Table 6

*Model 4: Examining Main Effects and Interaction of Testosterone and Rejection Condition on Hot Sauce Allocation*

Variables	B	SE B	$\beta$	$\Delta R^2$
Step 1				.034
Testosterone	.07	.06	.16	
Rejection condition	-2.63	3.68	-.10	
Step 2				.074**
Testosterone x rejection condition	.24	.12	.50**	
				10.8%

Note. \*  $p < .10$ , \*\*  $p < .05$

**Figure 1. Two-way Interaction between Rejection Condition and Baseline Testosterone on Hot Sauce Allocation**





sauce allocation when participants were in the rejected condition  $t(54) = 2.18, p < .05$ , but not when participants were in the accepted condition,  $t(54) = -1.12, p = .27$ . This interaction can be seen in Figure 1 above. Low and high testosterone were plotted at 1 standard deviation below (-33.88) and above (33.88) the mean (zero for centered variable). Rejected participants with higher testosterone levels allocated greater hot sauce than rejected participants with lower testosterone levels.

**Correlational hypotheses.** Baseline testosterone levels were hypothesized to be positively correlated with past perpetration status (H14), overperceptions of sexual intent (E3) and trait aggression (E4). A point biserial correlation showed a nonsignificant relationship between baseline testosterone and past perpetration,  $r = -.10, p = .46$ . Pearson product-moment correlations showed nonsignificant relationships between baseline testosterone and overperceptions of sexual intent,  $r = .08, p = .58$ , and trait aggression,  $r = -.03, p = .84$ .

**Follow-up analyses.** In these follow-up analyses, two potential interactions were probed further to see if removing nonsignificant predictors from the models allowed the interactions to emerge as significant. Removing these additional nonsignificant effects may provide additional power to find a significant interactive effect if it exists.

In Model 1 above, the two-way interaction between alcohol condition and overperceptions of sexual intent was nonsignificant ( $\beta = .20$ ) when all other main effects and interactions were entered into the model. In this follow-up analysis, trait aggression was entered on step 1, the main effects of alcohol condition and overperceptions of sexual intent entered on step 2, and the interaction between alcohol condition and overperceptions of sexual intent was entered on step 3. As can be seen in Table 7, this interaction was still nonsignificant.

In Model 2 above, the two-way interaction between trait aggression and alcohol condition was nonsignificant ( $\beta = .28$ ) when main effects and interactions with rejection condition were considered in the model. In this follow-up analysis, trait aggression was entered

on step 1, alcohol condition on step 2, and the interaction between the two variables was entered on step 3. As can be seen in Table 8, the two-way interaction between trait aggression

**Table 7.**

*Follow-up Model 1: Examining Main Effects and Interaction of Alcohol Condition and Overperceptions of Sexual Intent on Hot Sauce Allocation*

Variables	B	SE B	$\beta$	$\Delta R^2$
Step 1				.052*
Trait aggression	5.65	3.24	.23*	
Step 2				.061
Alcohol condition	7.10	3.72	.26*	
Overperceptions of sexual intent	.43	1.51	.04	
Step 3				.026
Alcohol condition X overperceptions of sexual intent	3.90	3.09	.20	
				13.8%

Note. \*  $p < .10$ , \*\*  $p < .05$

**Table 8.**

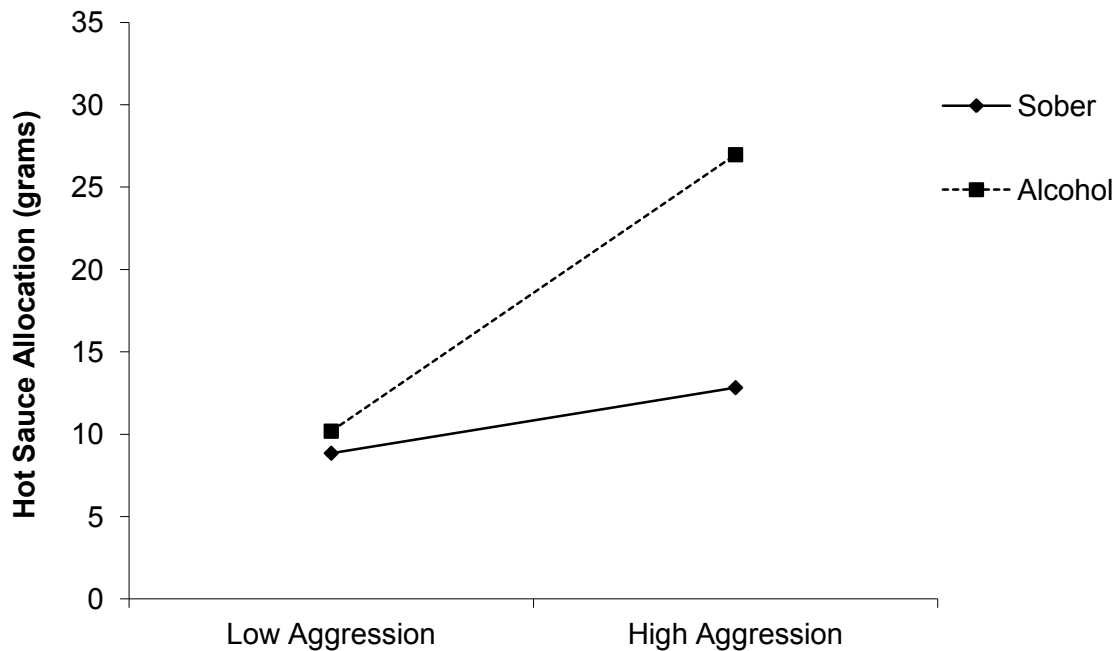
*Follow-up Model 2: Examining Main Effects and Interaction of Trait Aggression and Alcohol Condition on Hot Sauce Allocation*

Variables	B	SE B	$\beta$	$\Delta R^2$
Step 1				.052*
Trait Aggression	5.65	3.24	.23*	
Step 2				.059*
Alcohol Condition	7.06	3.69	.26*	
Step 3				.044*
Trait aggression X alcohol condition	11.55	6.86	.28*	
				15.5%

Note. \*  $p < .10$ , \*\*  $p < .05$

and alcohol condition was marginal in this reduced model,  $t = 1.69$ ,  $p = .098$ . Simple slopes analyses indicated that trait aggression predicted hot sauce allocation when participants were in the drinking condition,  $t(54) = 2.77$ ,  $p < .01$ , but not when participants were in the sober condition,  $t(54) = .87$ ,  $p = .39$ . This interaction can be seen in Figure 2 below. Low and high trait aggression values were plotted at 1 standard deviation below (-0.55) and above (0.55) the mean of the centered trait aggression variable. Intoxicated participants with higher levels of trait aggression allocated great amounts of hot sauce compared to intoxicated participants with lower levels of trait aggression.

**Figure 2. Two-way Interaction between Alcohol Condition and Trait Aggression on Hot Sauce Allocation**



## CHAPTER 4

### DISCUSSION

To the best of my knowledge, the current study is among the first to test both stages of Abbey's (1991; 2002; 2011) model explicating alcohol's role in men's aggression toward women, in a single experimental study. This study provided an initial examination of the process through which alcohol contributes to men's aggression toward women early in an interaction, by encouraging biased perceptions of women's sexual intent, and later in an interaction, by encouraging an aggressive response following a direct refusal. This study design was also novel in its examination of biological, personality, and situation-specific risk factors for aggression toward a woman.

In general, the current study's findings did not provide support for the relationships described in Abbey's model (1991; 2002; 2011). Although many of the hypotheses in this study went unsupported, I view the current study's findings as preliminary, and additional research is needed to further test these relationships. Difficulties recruiting eligible men for the study resulted in a relatively small final sample size ( $n = 58$ ) and fewer than anticipated participants reported having perpetrated a sexual assault since the age of 14. Thus, there was limited power to evaluate hypotheses in general, but more specifically hypotheses associated with past perpetration. There was also a significant difference in trait aggression across the alcohol conditions, despite random assignment. With a larger sample size, these characteristics might have been more evenly distributed across alcohol conditions. There were a few significant and marginal relationships that emerged, which I will discuss in greater detail here. Potential alternative explanations and suggested future research directions are then discussed.

**Trait aggression, alcohol condition, and the two-way interaction.** There was a marginal relationship between trait aggression and hot sauce allocation. This is consistent with Lieberman and colleagues' (1999) finding of a moderate positive correlation between Buss and Perry's (1992) Aggression Questionnaire and hot sauce allocation. Alcohol condition was also

marginally related to hot sauce allocation, after taking into account trait aggression. These findings are consistent with research from the general aggression literature which has demonstrated these main effects using alcohol administration paradigms (Chermack & Giancola 1997; Giancola et al., 2009; Miller et al., 2009).

When just trait aggression, alcohol condition, and their interaction were included in the regression model, the interaction between the two was also marginal. Simple slopes analyses indicated that the slope for alcohol condition was significantly different from zero. As can be seen in Figure 2, participants in the intoxication condition allocated greater amounts of hot sauce when they were high in trait aggression compared to when they were low in trait aggression. This provides preliminary support for hypothesis (H12), which posits that men who are high in trait aggression are at heightened risk for engaging in aggressive behavior when intoxicated (Giancola, 2002). Social norms dictate that it is inappropriate in most situations to be aggressive towards others, and thus individuals high in trait aggression are encouraged to inhibit their aggressive tendencies. Alcohol's pharmacological effects reduce inhibitions and increase arousal, thereby increasing the risk for an aggressive response (Giancola & Zeichner, 1997; Ito et al., 1996).

**Two-way interaction between testosterone and rejection condition.** Although the main effects were not significant, there was a significant two-way interaction between testosterone and rejection condition on hot sauce allocation. As can be seen in Figure 2, rejected participants high in testosterone allocated a greater amount of hot sauce than rejected participants low in testosterone. This is consistent with the mismatch hypothesis put forth by Josephs and colleagues (2006), which suggests that following a change in relative status (win vs. lose in a competition), men are inclined to behave in ways which will restore their previous status. So, high testosterone men who lose their relative status will behave in ways to reassert their dominance. The current study findings are innovative in their application to cross-sex dyadic interactions within a dating context.

Although biopsychosocial models of sexual aggression suggest testosterone is a potential biological risk factor, there has been little research examining how testosterone contributes to aggressive behavior toward women. Josephs and colleagues (2006) have suggested that testosterone may be a unique indicator of individual motives, not captured by other individual difference variables. This dissertation provides some preliminary evidence for this link. However, as is the case that not all intoxicated men are aggressive, not all men high in testosterone are aggressive toward a woman when given the opportunity. Testosterone should be considered as one of many risk factors for men's aggression toward women. Future research should consider baseline testosterone among the nexus of risk factors for perpetrating aggressive behavior towards women.

### **Alternative Explanations for Null Findings**

**Overperceptions of sexual intent.** Participants' alcohol condition was unrelated to their perceptions of the woman's sexual intent. It is possible that alternative measures of sexual interest might be more strongly affected by men's acute alcohol intoxication. It is also possible that a longer interaction would produce stronger ratings.

Sexual assault perpetrators did not significantly differ from nonperpetrators in their overperceptions of the woman's sexual intent. In previous research, Shea (1993) found that perpetrators perceived greater sexual intent from their interaction partners compared to nonperpetrators. Similar to the current study, Abbey and colleagues (2005) did not find significant differences between perpetrators' (rapists and verbal coercers) and nonperpetrators' ratings of the confederate's level of sexual intent. Abbey and colleagues (2005) did however find that rapists were more sexually attracted toward their interaction partners and perceived their own behavior as more sexual toward the confederate than did nonperpetrators. The sample size of perpetrators in the current study was small ( $n = 18$ ), thus it was not possible to make comparisons across different levels of sexually aggressive behavior. It is possible that with a larger sample of perpetrators, these sub-group findings would be replicated.

Given the distribution of past perpetrators across alcohol conditions, it was not surprising that a significant interaction between alcohol condition and past perpetration status on overperceptions of sexual intent was not observed. The PI did not to select participants based on past perpetration status. In the future, the PI would select participants based on their previous perpetration status and assign them to alcohol conditions using a blocked assignment technique. Participant perpetration would be a new study condition and therefore the sample size would need to be doubled to accommodate this additional condition.

### **Aggressive responding.**

**Social rejection.** Social rejection is a well-recognized trigger for interpersonal aggression within the general aggression literature (Buckley et al., 2004, Leary, Twenge, & Quinlivan, 2006) and a sexual rejection from a woman is cited as a proximal trigger for a man to force a woman to engage in unwanted sexual activity (Bushman et al., 2003). The current study provided an initial examination of how rejection from a potential dating partner might serve as a trigger for subsequent aggression toward a woman. There was not a main effect of rejection condition on hot sauce allocation, and current study findings did not support the hypothesis that intoxicated men who believe women are sexually interested in them are more likely to be aggressive following a rejection from the woman.

There are many potential explanations for participants' responses to the experimental rejection and why being rejected might not have increased participants' desire to retaliate using hot sauce allocation. Although participants in the rejection condition were more irritable and more upset after the rejection, the mean levels on these scales suggested that the majority of participants rated themselves as *very slightly or not at all* experiencing these emotions. Therefore, rejection from the woman may not have been at the level of provocation necessary to trigger an aggressive response. It would be valuable for future research to examine the types and strength of rejection that are most relevant to sexual aggression toward women, and if to validate if the triggers are the same or different for physical and sexual aggression. For

example, a face-to-face rejection paradigm could be used. It seems likely that having a woman reject a man to his face would be more upsetting than showing the man a piece of paper that indicates the woman does not want to exchange phone numbers. A public rejection in front of the man's friends, such as what might happen when out at a bar, could be especially provocative. There are many ethical concerns related to utilizing these types of research designs, and researchers need to carefully consider the potential negative effects of rejection on participants, as well as how their aggression affects confederates.

**Past perpetration.** Trait aggression had a marginal main effect on hot sauce allocation, but past sexual assault perpetration was unrelated to hot sauce allocation. Given the greater conceptual overlap, it makes sense that there would be a stronger relationship between a measure of trait level of general aggression and a proxy measure of general aggression behavior. Additionally, trait aggression was a more proximal measure of participants' aggression than sexual assault perpetration history, since it assessed aggressive tendencies at the baseline survey, rather than past perpetration behaviors, which could have occurred at age 14 (14 years earlier for 28 year old participants). Past behaviors of physical or emotional aggression toward women were not measured in this study, thus it was not possible to make a parallel comparison linking past general aggression behavior with hot sauce allocation. Future research combining general aggression and sexual aggression theories and experimental paradigms should assess both past general aggression and sexual aggression behaviors directed toward women.

**Testosterone.** Baseline testosterone levels were unrelated to trait aggression, past sexual assault perpetration, and overperceptions of sexual intent at the bivariate level. Although many studies find moderate relationships between testosterone and trait aggression, some studies have found null effects (see Mazur & Booth, 1998 for review). Two studies (Perilloux, 2011; van der Meij et al., 2011) have examined the links between perceptions of sexual intent and testosterone using dyadic interaction paradigms similar to the one used in this study. Perilloux



found a marginal relationship between baseline testosterone and perceptions of the woman's level of sexual intent, but van der Meij and colleagues did not find this relationship. The current study findings are therefore consistent with the previous research.

Testosterone levels were unrelated to self-reported sexual assault perpetration in this community sample of men. Past research examining testosterone levels in incarcerated rapist samples found mixed support for this relationship (Bain et al., 1987; 1988; Bradford & McLean, 1984; Rada et al., 1976; 1983). Incarcerated rapists most often report perpetrating a physically forced sexual assault; whereas, men in this study did not report any physically forced rape incidents. It is possible that men who perpetrate physically forced sexual assault have heightened baseline levels of testosterone. Future research should consider examining baseline testosterone levels across different types of perpetrators. Future research should also examine how situation-specific changes in testosterone differ between perpetrators and nonperpetrators. It may be the case that perpetrators have similar baseline levels of testosterone to nonperpetrators but show different patterns of change in testosterone levels in response to meeting an attractive woman or situation-specific characteristics of a potential sexual assault situation.

### **Study's Strengths and Limitations**

The current study has both strengths and limitations. There have been relatively few alcohol administration studies conducted that have examined the etiology of aggression toward women (see Abbey & Wegner, 2014 for review), thus this research adds to this small body of research. Only a few experimental studies in the sexual aggression literature have employed dyadic interaction paradigms (Abbey et al., 2005; Shea, 1993). Dyadic interaction paradigms have greater external validity than other experimental stimuli typically used in alcohol administration research with sexual aggression proxies (e.g., vignettes, videotapes, audiotapes). They allow for the assessment of participants' 'heat of the moment' behavioral responses that cannot be

assessed in the same way when making judgments of third-party situations (Abbey & Wegner, 2014).

The laboratory setting is of course different from the typical situation in which men and women meet for the first time. Men and women often meet at a bar or party, where there are many other people present. In the current study, participants consumed alcohol while sitting at a desk, in a separate room from the confederate. Typically men and women would be drinking side-by-side in these situations. Although the current study design has low mundane realism, it is high in experimental realism. Participants' ratings of the confederate and responses to the study materials suggest that they found the dyadic interaction to be engaging and enjoyed their experience. Most participants were visibly surprised when they were told that the woman with whom they interacted was a confederate to the study.

In order to increase the likelihood that male participants would perceive the female confederate as a viable dating partner, the age range was limited to 21 to 28 year olds and participants were asked to indicate the desired ethnicity of their potential dating partner. This information was used to match participants with a confederate of their desired ethnicity. Thus, efforts were made to pair the participant with a woman whom they would find attractive. As we had hoped, the majority of participants did find these women to be attractive and wanted to exchange numbers with them. However, there is considerable variation in the types of women that men find attractive and we were not surprised that not every man was attracted to their specific interaction partner. Confederates played the role of a 21 year old woman who was still trying to figure out her career path, and this may have been less attractive to men who had more established careers.

The use of a confederate afforded us greater experimental control than would be possible if the woman had been an actual fellow participant. However, it is not clear how the use of 11 different confederates impacted experimental control and generalizability. Including women participants could increase the generalizability of the study, but it would also increase the

likelihood that men and women might not find each other attractive. Examining how the natural process of dating rejection unfolds may however provide important insights into what forms of rejection from a woman are most provocative.

In the current study, it is possible that participants perceived the confederate as not interested in them and preemptively rejected her as a way to protect themselves. Participants rated the confederate's level of sexual attractiveness and their perceptions of the confederate's sexual intent towards them at the same time (in the post-interaction survey); thus, it is difficult to determine the causal ordering of these variables. In the online survey portion of this study, participants completed a variety of measures that may shed some light on this hypothesis. For example, individuals who are high in avoidant attachment style or high in rejection sensitivity sometimes preemptively push away close others in an attempt to protect themselves from being hurt. Evaluating these potential mediators is beyond the scope of this dissertation.

Participant recruitment was challenging for this study. As previously mentioned, around 50% of participants who completed the online survey were not eligible for the lab portion of the study. Wayne State University has a nontraditional student body; students are older and more ethnically diverse. Across the sample (college and community men), 27.35% ( $n = 93$ ) of participants were excluded because they were not 21 to 28 years old and wanted to date someone other than a Caucasian or African American woman. Future research using confederates may benefit from including women from more diverse ethnic backgrounds; however, this decision should be dependent upon the ethnic composition of the population under study. Additionally, WSU is a primarily commuter campus, and a large portion of young WSU students live at home with their parents, commute to school, and hold part or full-time employment while going to school full-time. Therefore there is not the same on-campus drinking culture that might be found at other large universities, making it difficult to identify men who fit the alcohol administration eligibility criteria. For these same reasons, some eligible participants were unable (e.g., scheduling conflicts with work or classes) or unwilling (e.g., did not want to

spend 6 hours on campus waiting to be sober enough to drive themselves home) to participate in the lab study. Multiple alternative recruitment methods were used to try to locate interested and eligible men from the larger campus population and from the Detroit metropolitan area. We eventually had great success recruiting participants through an email list of 21 to 28 year old men provided by WSU Enrollment Services and approved by the WSU IRB. Despite these efforts, the final sample size was still small.

### **Future Research Directions**

Main effects of acute alcohol intoxication are most often observed in studies utilizing behaviorally-based outcome measures of aggression. The general aggression literature consistently finds a moderate effect of acute alcohol intoxication on aggressive responding in lab paradigms (see Ito et al., 1996 for meta-analysis) and most employ behavioral measures of aggression (e.g., Taylor aggression paradigm, point serial subtraction task, hot sauce allocation). We have only been able to locate three alcohol administration studies in the sexual aggression literature that have demonstrated a direct effect of acute alcohol intoxication on sexual aggression-relevant outcomes (see Abbey & Wegner, 2014 for review). Each of these studies (Gross, Marx, et al., 1997, 1999, 2001), had participants listen to an audiotape depicting a sexual assault and physically push the stop button on the listening device in order to indicate the point at which they felt that the man on the audiotape should refrain from making any further sexual advances.

These findings highlight the importance of using behavior-based outcome measures when studying these phenomena. There are clear ethical limits to studying sexual aggression behaviors in the laboratory, and the types of proxies that have been developed have been limited in their external validity for important ethical reasons. Technological advances make developing alternative measures such as virtual reality proxy measures more feasible, but these are costly and time consuming to develop and not yet widely accessible. Alternative proxy

measures of sexual aggression are needed and there is much we can learn from the general aggression literature on this topic.

The current study utilized a general aggression proxy measure as the key outcome measure, but considered the relationships within a sexual aggression theoretical framework. There has been limited research on the co-occurrence of physical and sexual aggression, and this research has been primarily correlational in design (Hines & Saudino, 2003; Smith et al., 2003). For example, Hines and Saudino (2003) found that physical aggression perpetration (as measured by the Revised Conflict Tactics Scale, CTS2; Strauss, 1996) was correlated  $r = .54, p < .001$  with sexual aggression perpetration among men. Therefore, some perpetrators use both physical and sexual aggression, while others may only use one type of aggression. The PI has not located an alcohol administration experiment that utilizes both a proxy measure of general and sexual aggression. Additional research is needed to understand the common etiology underlying these aggressive behaviors towards women. Future alcohol administration research could utilize both general and sexual aggression proxy measures in the same study in order to explicate the common and unique risk factors for both types of aggression.

There is a large body of literature that suggests that drinking women are perceived to be more sexually available (Abbey, McAuslan, Ross, & Zawacki, 1999; George, Cue, Lopez, Crowe, & Norris, 1995) than sober women. Confederates in this study were always in the alcohol condition in order to maintain the woman's drinking as a standardized cue of her sexual intent across participants. There have only been a few studies that have examined how acute alcohol intoxication impacts the dyadic interaction between men and women (Abbey, 1987; Abbey et al., 2005; Abbey, Zawacki & McAuslan, 2000). Additional experimental research is needed that examines the independent effects of men's and women's alcohol consumption on situational factors promoting aggression toward women. Unique study designs, such as a speed-dating paradigm, might be needed to collect large amounts of data from dyads. Such a context would also lend itself well to examining dating rejections unobtrusively, assuming not all

of the speed dates result in a match. As a way to have additional experimental control, rejection could also be manipulated outside of the participants' awareness by giving the participants false feedback about their speed dates. After receiving the feedback from their speed dates, a general and/or sexual aggression proxy could be administered, such as the point serial subtraction task or taking part in a virtual reality dating simulation.

Sexual assault perpetrators are likely to have different modus operandi for obtaining unwanted sexual activity from women. Some perpetrators report only using alcohol tactics, only verbal coercion or only physical tactics, while others report using a combination of the three (Tyler, Hoyt & Whitbeck, 1998; Abbey & Jacques-Tiura, 2011). In situations involving alcohol, alcohol is often the tactic reported (e.g., giving the woman drinks in order to increase her incapacitation, or taking advantage of an intoxicated woman; Tyler et al., 1998). So we might expect that for perpetrators with this modus operandi, utilizing a paradigm where participants had the opportunity to give the woman drinks might allow for a more accurate assessment of their willingness to be sexually aggressive toward the woman. Nuanced designs are needed to better assess the different tactics and situations in which sexual aggression occur.

Future research should further explore how changes in testosterone following a brief interaction with a woman are related to sexual attraction and how changes in testosterone following a rejection manipulation are related to decisions to be aggressive toward a woman. Perilloux (2011) had men interact for 10 minutes with a female confederate on a task. The men then rated characteristics of the woman, themselves, and their interaction. Results showed that men whose T concentrations increased during the interaction with the woman also reported greater sexual interest in the woman, rated her as more attractive, and were more likely to have misperceived her level of sexual interest. Van der Meij and colleagues (2011) found that a larger change in T was associated with a greater display of interest and more affiliative behaviors when men interacted with a woman. These studies suggest that fluctuations in T during social interactions with attractive women may be related to increased levels of sexual misperception.

Recent research has demonstrated that an increase in T in response to a social defeat predicts future competitive and aggressive behavior (Mehta & Josephs, 2006; Carré et al., 2009). Men who are rejected by a woman but show an increase in T may be the types of men who continue to pursue a woman despite her refusals. If the reaction to a sexual refusal is an increase in T, it seems likely that sexual arousal and aggression would increase concomitantly, increasing the physiological risk for perpetrating sexual aggression.

### **Conclusion**

This study did not provide support for Abbey's model outlining alcohol's role in sexual aggression. However, given the novelty of this study design, the small sample size, and other limitations of the study design, additional research is needed before any conclusions can be drawn about the hypothesized model. This study did replicate key findings from the general aggression and testosterone literatures. The use of a general aggression proxy outcome measure, instead of a sexual aggression proxy, likely played a role in these differential findings. Additional research is needed that examines how and when rejection from a woman increases the likelihood of a potential perpetrator responding aggressively toward a woman. Baseline and change in testosterone should be considered in future experimental research examining aggressive behavior toward women. Experimental designs examining the etiology of sexual aggression can be informed by the general aggression literature and future research should examine the similarities and differences in risk factors for physical and sexual aggression using experimental designs.

## APPENDIX A

### Research Information Sheet: Social Perception Lab Prescreen Survey

Title of Study: Initial Interactions between Men and Women

Principal Investigator (PI): Rhiana Wegner, M.A.  
Department of Psychology  
313-577-8182

#### Purpose:

You are being asked to be in a research study of initial interactions between men and women because you are a 1) single male, 2) between the ages of 21 and 28, 3) have dated a woman in the past 2 years, and 4) indicated interest in meeting a potential dating partner. This study is being conducted at Wayne State University. The estimated number of participants in this study is 400.

#### Study Procedures:

If you take part in the study, you will be asked to complete a questionnaire that will ask you various questions about your dating and sexual history and the qualities you look for in a potential dating partner. This questionnaire is part of a larger questionnaire used by the Social Perceptions Lab at Wayne State University to prescreen participants for various studies being conducted at the laboratory. Therefore, some topics may seem more or less relevant to the study for which you indicated interest in participation. Topics will include: basic demographic information, personal health information, beliefs about alcohol and alcohol consumption behaviors, food preferences, attitudes toward various topics, personality characteristics, and previous dating and sexual experience, including wanted and unwanted sexual experiences. The questionnaire will take approximately 60 minutes to complete.

#### Benefits

As a participant in this research study, there will be no direct benefit for you; however, information from this study may benefit other people now or in the future.

#### Risks

There is little risk associated with participating in this study. No names will be placed on any questionnaire. If participation in this study arouses any sad thoughts or uncomfortable memories, you can call Common Ground (248-543-2900), the Wayne County Community Mental Health Board (313-224-7000), or the Wayne State Psychology Clinic (313-577-2840). You may also call a friend or counselor of your choice.

#### Costs

There will be no costs to you for participation in this research study.

#### Compensation

For taking part in this study, you will be entered in to a lottery. Three different participants who are entered into this lottery will be randomly selected to receive a \$50 prize. Prize winners will be notified via e-mail at the completion of the study. Wayne State University students completing this survey through the SONA system will also receive 1 credit toward Psychology research participation.



**Confidentiality:**

You will be identified in the research records by a code name or number. The file linking your unique code with your name, phone number and e-mail address will be stored on the PI's password protected computer. Only the PI and research personnel will have access to this information. We will use this information to contact you should you win one of the \$50 prizes in the lottery. This information will also be used to link your prescreen answers with responses you provide when in the Social Perception Lab. All identifying information will be deleted at the completion of the study.

**Voluntary Participation /Withdrawal:**

Taking part in this study is voluntary. You may choose not to take part in this study, or if you decide to take part, you can change your mind later and withdraw from the study. You are free to not answer any questions or withdraw at any time. Your decision will not change any present or future relationships with Wayne State University.

**Questions:**

If you have any questions about this study now or in the future, you may contact Rhiana Wegner or one of her research team members at the following phone number 313-577-8182. If you have questions or concerns about your rights as a research participant, the Chair of the Human Investigation Committee can be contacted at (313) 577-1628. If you are unable to contact the research staff, or if you want to talk to someone other than the research staff, you may also call (313) 577-1628 to ask questions or voice concerns or complaints.

**Participation:**

By checking the box below, you are agreeing to participate in this study.

I have read the above Information Sheet and give my consent to participate in this study

## APPENDIX B

### Social Perception Lab Prescreen Survey

\*Only items included in the dissertation research.

#### Demographic Information

1. Please enter the password included in the email you were sent by the Social Perception Lab research team. \_\_\_\_\_

2. What is your birth date?      \_\_ \_\_ / \_\_ \_\_ / \_\_ \_\_

3. What is your ethnicity?

- |                               |                                      |
|-------------------------------|--------------------------------------|
| 1. African American / Black   | 5. Hispanic                          |
| 2. Arabic or Middle Easterner | 6. Native American / American Indian |
| 3. Asian or Pacific Islander  | 7. Other                             |
| 4. Caucasian / White          |                                      |

4. What is your highest level of education?

1. did not complete high school
2. high school graduate (or GED)
3. some college
4. vocational / technical degree or associate's degree
5. bachelor's degree
6. master's degree
7. professional degree (M.D., D.D.S., J.D., etc.) or doctoral degree ( Ph.D.)

5. What is your annual household income?

1. Less than \$10,000
2. \$10,000-\$19,999
3. \$20,000-\$29,999
4. \$30,000-\$39,999
5. \$40,000-\$49,999
6. \$50,000-\$59,999
7. \$60,000-\$69,999
8. more than \$70,000

6. What is your current occupation? \_\_\_\_\_

7. What is your current relationship status?

1. Single - not dating exclusively
2. Single - in exclusive dating relationship
3. Engaged
4. Married
5. Divorced
6. Widowed
7. Other

#### Personal Health Information

1. Are you currently taking any prescription medications? **Yes No**  
(If yes, ask Question 1a.)
- 1a. What medications are you currently taking?  
\_\_\_\_\_
2. Are you currently taking any of the following medications?
- YES NO a) **Drugs to control diabetes (Insulin):** Humalog, Lispro, Novolog, Aspart, Glulisine, and Levemir, Chlorpropamide (Diabinese), Metformin (Glucophage), Phenformin, or Tolbutamide (Orinase)
- YES NO b) **MAO Inhibitors** (typically used to treat depression): Isocarboxazid (Morplan), Phenelzine (Nardil), Selegiline (Emsam), and Tranylcypromine (Parnate)
- YES NO c) **Antabuse**, (used to treat alcoholism and/or alcohol-related health issues): Disulfiram
- YES NO d) **An Antifungal:** (Antifungal- treat conditions such as athlete's foot, ringworm, and dandruff): Ketoconazole Nizoral, Extina, Xolegal, and Kuric.
- YES NO e) **Antibiotics:** Flagyl, Metronidazole
- YES NO f) **Blood Pressure Medication:** Nifedipine and Verapamil
- YES NO g) **Medication for autoimmune disorders:** Prednisone, Kenalog, Medrol, Celestone, Asmalpred, Methotrexate, and Procarbazine(Matulane)
- YES NO h) **Benzodiazepines** (Used to treat anxiety and aid in relaxation and tension relief): Rohypnol (Flunitrazepam), Ativan (Lorazepam), Xanax Chlordiazepoxide), Versed (Midazolam), and Valium (Diazepam)
- YES NO i) **Prescription Pain medications;**
- Corticosteroids (Pain relief for inflamed areas of the body): Deltastone, Hydeltasol, Solu-Medrol
  - Opioids (Used for temporary relief of pain after surgery): Morphine, Fentanyl, Oxycodone, and Codeine
  - Antidepressants (Adjust levels of neurotransmitters that aid in relaxation): Prozac, Paxil, Zoloft, Elavil, Trofranil, Effexor, and Cymbalta
  - Anticonvulsants (Typically used to treat seizures): Tegretak, Neurontin, and Lyrica
3. Have you ever had:
- a) a heart attack or stroke? **Yes No**
- b) any indication of heart trouble? **Yes No**
- c) high blood pressure? **Yes No**

d)	diabetes?	Yes	No
e)	liver disease?	Yes	No
f)	neurological disorders, such as epilepsy?	Yes	No
g)	gastrointestinal problems, such as peptic ulcer?	Yes	No
h)	pancreatitis?	Yes	No

### Taste Preferences

Please rate how much you like the following types of foods.

response scale: 1 (not at all) 2 (a little) 3 (somewhat) 4 (quite a bit) 5 (very much)

1. Salty
2. Sweet
3. Spicy
4. Savory
5. Sour

6. What is your favorite restaurant? \_\_\_\_\_
7. What is your favorite type of food? (e.g., Italian, Thai, etc.) \_\_\_\_\_
8. What is your favorite food? (e.g., pizza, ice cream, etc.) \_\_\_\_\_

### Desired Characteristics in Potential Dating Partner

1. Please indicate the racial/ethnic backgrounds you would prefer for a potential partner. Check all that are acceptable:

- |                               |                                      |
|-------------------------------|--------------------------------------|
| 1. African American / Black   | 5. Hispanic                          |
| 2. Arabic or Middle Easterner | 6. Native American / American Indian |
| 3. Asian or Pacific Islander  | 7. Other _____                       |
| 4. Caucasian / White          |                                      |

### Recent Dating and Sexual History

*These next questions concern your dating experiences with women. A date can be either planned or spontaneous. Examples include going to a movie, a football game, a party, meeting for lunch, or getting together with some friends. Often a date is planned in advance, but it doesn't have to be. For example you might meet a woman at a party and then decide to go somewhere together.*

1. Have you dated a member of the opposite sex within the past 2 years?
  - a) Yes
  - b) No

*The following questions concern your consensual sexual experiences with women. When the term sexual intercourse is used, we mean penetration of a woman's vagina, no matter how slight, by your penis. Ejaculation is not required. Whenever you see the words "sexual*

*intercourse,” please use this definition. By consensual we mean that both you and the woman wanted to have sex.*

2. Are you a virgin
  1. Yes
  2. No

### **Sexual Assault Perpetration**

*The following questions concern unwanted sexual experiences since you were age 14. We are interested in situations when you were with a woman (or if you are thinking back to when you were a teenager, when you were with a girl about your age). The woman could be anyone, including a friend, date, coworker, girlfriend, wife, or stranger. Sometimes more than one of these questions apply to the same sexual experience. Please answer all that apply even if you have already partially described that event. These are personal questions, but we hope that you will be willing to answer them honestly. Past research shows that many men report having at least one of these experiences.*

*The first set of questions ask about sexual contact. By sexual contact, we mean some type of sexual touching like fondling, kissing, or petting, but not intercourse.*

*Response options for all questions:*

- |          |                       |
|----------|-----------------------|
| 0. never | 3. three times        |
| 1. once  | 4. four times         |
| 2. twice | 5. five or more times |

1. How many times have you had sexual contact with a woman when she didn't want to by overwhelming her with continual arguments and pressure?
2. How many times have you had sexual contact with a woman when she didn't want to by showing your displeasure (sulking, making her feel guilty, swearing, getting angry, or threatening to end the relationship)?
3. How many times have you had sexual contact with a woman when she didn't want to by threatening or using some degree of physical force (twisting her arm, holding her down, grabbing, choking, pinching, keeping her from moving, or physically hurting her)?

*The following questions are about attempted sexual intercourse. By attempted sexual intercourse, we mean when a man tries to insert his penis inside a woman's vagina, but for some reason he does not, so intercourse does not occur.*

4. How many times have you attempted sexual intercourse with a woman when she didn't want to by giving her alcohol or drugs (but intercourse didn't occur)?
5. How many times have you attempted sexual intercourse with a woman who was passed out or too intoxicated to give consent or stop what was happening?
6. How many times have you attempted sexual intercourse with a woman when she didn't want to by threatening or using some degree of physical force (twisting her arm, holding her down, grabbing, choking, pinching, keeping her from moving, or physically hurting her)?

The following questions are about sexual intercourse. By sexual intercourse, we mean penetration of a woman's vagina, no matter how slight, by a man's penis. Ejaculation is not required.

7. How many times have you had sexual intercourse with a woman when she didn't want to by overwhelming her with continual arguments and pressure?
8. How many times have you had sexual intercourse with a woman when she didn't want to by showing your displeasure (sulking, making her feel guilty, swearing, getting angry, or threatening to end the relationship)?
9. How many times have you had sexual intercourse with a woman when she didn't want to by giving her alcohol or drugs?
10. How many times have you had sexual intercourse with a woman when she was passed out or too intoxicated to give consent or stop what was happening?
11. How many times have you had sexual intercourse with a woman when she didn't want to by threatening or using some degree of physical force (twisting her arm, holding her down, grabbing, choking, pinching, keeping her from moving, or physically hurting her)?

*The following questions ask about the sex acts of oral sex, anal sex, or penetration by objects other than a penis. By oral sex, we mean that a man put his penis in a woman's mouth or he penetrated the woman's vagina or anus(butt) with his mouth or tongue. By anal sex, we mean that a man put his penis in a woman's anus (butt). By penetration by an object, we mean that a man put some type of object, for example a stick, bottle or sex toy, in a woman's vagina, anus (butt), or mouth.*

12. How many times have you had sex acts (oral sex, anal sex, or penetration by an object) with a woman when she didn't want to by overwhelming her with continual arguments and pressure?
13. How many times have you had sex acts with a woman when she didn't want to by showing your displeasure (sulking, making her feel guilty, swearing, getting angry, or threatening to end the relationship)?
14. How many times have you had sex acts with a woman when she didn't want to by giving her alcohol or drugs?
15. How many times have you had sex acts with a woman when she was passed out or too intoxicated to give consent or stop what was happening?
16. How many times have you had sex acts with a woman when she didn't want to by threatening or using some degree of physical force (twisting her arm, holding her down, grabbing, choking, pinching, keeping her from moving, or physically hurting her)?

### Current Substance Use

#### Alcohol Consumption (4 items)

NIAAA (2003). Task Force on Recommended Alcohol Questions - National Council on Alcohol Abuse and Alcoholism Recommended Sets of Alcohol Consumption Questions. Retrieved November 7, 2007 from <http://www.niaaa.nih.gov/Resources/ResearchResources/TaskForce.htm>

1a. *People drink alcohol in bars, with meals, in restaurants, at sporting events, at home while watching TV, and in many other places. During the past 12 months, how often did you usually have any kind of drink containing alcohol? By a drink we mean half an ounce of alcohol which would be a 12 ounce can or glass of beer or cooler, a 5 ounce glass of wine, or a drink containing 1 shot of liquor. Please choose the one response below that best describes your alcohol consumption during the past 12 months.*

- Every day (**Go to 2**)  
 5 to 6 times a week (**Go to 2**)  
 3 to 4 times a week (**Go to 2**)  
 twice a week (**Go to 2**)  
 once a week (**Go to 2**)  
 2 to 3 times a month (**Go to 2**)  
 once a month (**Go to 2**)  
 3 to 11 times in the past year (**Go to 2**)  
 1 or 2 times in the past year (**Go to 2**)  
 I did not drink any alcohol in the past year, but I did drink in the past (**Go to 4 and then Next Section**)  
 I never drank any alcohol in my life (**Go to 1b**)

1b. Just to be certain, you have never had a drink containing alcohol in your entire life?

- Yes, I never drank alcohol. (**go to Next Section**)  
 No, I did drink some alcohol. (**Go back to 1 and repeat**)

2. Have you drank alcohol in the past 30 days? Yes    No

3. During the past 12 months, how many alcoholic drinks did you have on a **typical day when you drank** alcohol?

- 25 or more drinks  
 19 to 24 drinks  
 16 to 18 drinks  
 12 to 15 drinks  
 9 to 11 drinks  
 7 to 8 drinks  
 5 to 6 drinks  
 3 to 4 drinks  
 2 drinks  
 1 drink

4. **During the past 12 months**, how often did you have **5 or more drinks** containing any kind of alcohol in a two-hour period? That would be the equivalent of at least 5 12-ounce cans or bottles of beer or coolers, 5 five ounce glasses of wine, 5 drinks each containing one shot of liquor or spirits. Please choose the one response that best describes how often you had that many drinks in a **two-hour** time period.

- Every day
- 5 to 6 days a week
- 3 to 4 days a week
- two days a week
- one day a week
- 2 to 3 days a month
- one day a month
- 3 to 11 days in the past year
- 1 or 2 days in the past year
- 0 days in the past year

5. **During your lifetime**, what is the maximum number of drinks containing alcohol that you drank within a 24-hour period?

- 36 drinks or more
- 24 to 35 drinks
- 18 to 23 drinks
- 12 to 17 drinks
- 8 to 11 drinks
- 5 to 7 drinks
- 4 drinks
- 3 drinks
- 2 drinks
- 1 drink

### Drinking Problems

- |    |  |            |           |
|----|--|------------|-----------|
| 6. | Have you ever been in a hospital because of drinking?                    | <b>Yes</b> | <b>No</b> |
| 7. | Have you ever been arrested for drunk driving or driving after drinking? | <b>Yes</b> | <b>No</b> |
| 8. | Have you ever been treated for alcohol or drug abuse?                    | <b>Yes</b> | <b>No</b> |

### Buss-Perry Aggression Questionnaire

Response scale: 1 very unlike me, 2 somewhat unlike me, 3 neither unlike me nor like me, 4 somewhat like me, 5 very like me

#### Physical Aggression

1. Once in a while I can't control the urge to hit another person.
2. Given enough provocation, I may hit another person.
3. If somebody hits me, I hit back.
4. I get into fights a little more than the average person.
5. If I have to resort to violence to protect my rights, I will.
6. There are people who pushed me so far that we came to blows.
7. I can think of no good reason for ever hitting a person. [reverse-scored]
8. I have threatened people I know.
9. I have become so mad that I have broken things.

#### Verbal Aggression

10. I tell my friends openly when I disagree with them.
11. I often find myself disagreeing with people.
12. When people annoy me, I may tell them what I think of them.



13. I can't help getting into arguments when people disagree with me.
14. My friends say that I'm somewhat argumentative.

#### Anger

15. I flare up quickly but get over it quickly.
16. When frustrated, I let my irritation show.
17. I sometimes feel like a powder keg ready to explode.
18. I am an even-tempered person. [reverse-scored]
19. Some of my friends think I'm a hothead.
20. Sometimes I fly off the handle for no good reason.
21. I have trouble controlling my temper.

## APPENDIX C

### Participant Scheduling Script

Answering Machine Message: Hi, this message is for (name of participant). This is (*your name*) from the Social Perception Lab at Wayne State. Based on our prescreen data, we've determined you're eligible to participate in the Initial Interactions between Men and Women lab-based study. For participating in the lab-based study, you will be compensated 10 dollars or 1 research credit per hour of participation. If you are interested in more information please give us a call at 313-577-8182.

Hi, may I speak to (*name of participant*)? My name is (*your name*) from the Social Perception Lab at Wayne State. I'm calling because you recently filled out the Social Perception Lab Prescreen Survey. Completing that survey allowed us to determine that you were eligible for the Initial Interactions between Men and Women Study. We're calling today to see if you would like to participate in this study. As a part of your participation you would be asked to come to the Social Perception Lab. Would you be interested in participating in this study?

IF NO, SAY: Okay, thank you for your time.

IF YES CONTINUE BELOW:

Okay, great! Let me tell you a little more about our study. We're interested in how men and women get to know each other when they first meet. So, male and female participants in the study will have a 10 minute conversation to get to know each other. Often when people first meet they are at a bar or party where people might be drinking, so we're also interested in how alcohol is related to initial interactions between men and women. So as a part of this study, you or your interaction partner may be asked to consume an alcoholic beverage. Additionally, we are interested in how hormones impact an initial interaction between a man and a woman. So everyone will be asked to provide saliva samples before the interaction in order to measure their hormones.

If they ask what made them eligible: Because your responses indicated that you were a social drinker.

If they ask about the saliva samples: Providing saliva samples is painless and simply involved drooling in to a test tube. Participants go to separate rooms to provide these samples, so you will not be asked to provide these samples in front of your interaction partner.

The amount of time the study takes depends on whether or not you drink alcohol during the study. The study may take anywhere between 2 and a half hours to 6 hours, depending on if you are randomly assigned to consume alcohol. If you consume alcohol you will drink enough alcohol to get your blood alcohol level to .08%, the legal limit. If you can arrange for a ride home, you will be allowed to leave the lab once your blood alcohol level is back down to .03%. If you drive yourself, you will need to stay in the lab until your blood alcohol level is back to .005%. We don't know until the study begins what you will drink. So it is best to plan on spending 6 hours with us that day, unless you can arrange for a responsible party to pick you up and drive you home, in which case you should plan on spending about 4 hours with us.

If they ask more questions about the participation time/alcohol: The study will take approximately 2.5 hours if sober, 4 hours if leaving at .03 with a designate driver, or 6 hours if leaving at .005 because they are driving themselves home. Those are however approximate times. Everyone metabolizes alcohol at a different rate, so it may take more or less time. You should however make sure you can be in the lab for at least 6 hours.

For each hour of participation, we can offer you 1 psychology research participation credit, \$10 cash, or a combination of both. So for example, if you prefer just cash, then you could make \$25 to \$60, depending on if you were asked to drink during the study.

Do you have any questions about the study? Ok, then let's find a day and time when you are available.

*Schedule a time that fits with the schedules of the research staff of the appropriate race.*

Great. We're located in the Simons Building on Woodward near Warren. Do you know where that is?

If participant doesn't know how to get to the Simons Building, give directions. It is located on the corner of Woodward and Hancock. We are right next to the new Green Space on the corner of Woodward and Warren. Just head South on Woodward from the corner of Woodward and Warren. We are the only building on the block. The building has "Leonard N. Simons" in big, green letters above the door. Recommend parking in front of the building at the meters.

When you get to the Simons Building, take the elevator to the 3<sup>rd</sup> floor. When you get to the 3<sup>rd</sup> floor, the waiting room will be the first door on the left. You need to let us know that you're in the waiting room, so use the telephone to call us. Our extension is 7-8182. Then we'll come to get you.

Because the study has to do with eating and drinking, there are a few guidelines we would like you to follow before the study. We will send you an e-mail with this information the day before you are scheduled to be in the lab.

- 1) Please bring your I.D. with you to the study.
- 2) Please make sure that you can be at the lab for the potential 6 hours that the study might take.
- 3) Please don't take any prescription or over the counter medications the day of the study.
- 4) Please don't drink any alcoholic beverages 24 hours prior to the start of the study.
- 5) Please try not to eat or drink anything besides water in the 4 hours prior to the start of the study.
- 6) Please don't give blood or plasma within 3 days before the study.
- 7) Please do not brush your teeth in the hour prior to the start of the study
- 8) Please do not engage in physical activity in the hour prior to the start of the study.

Any questions about that?

Great, we look forward to seeing you on *(date)* at *(time)* at the Simons Building. If you need to contact us before your appointment, you can reach us at (313) 577-8182.

*Enter the time of the scheduled session in to the Lab Schedule. Mark that you have contacted and scheduled the participant on the Contact Form.*

## APPENDIX D

### Confederate Background Story

Breanna Marie Williams is a 21 year old Sophomore attending Wayne State University. Her birthday is in September. She was born in Detroit, but grew up in Southfield. She graduated from Southfield-Lathrup High School. Breanna was on the track team but hasn't run much since. She also was on Student Council on the social committee where she helped plan homecoming and prom (school colors are red and white).

### School and work

Breanna is a Sophomore at WSU. She's technically been here long enough to be a Junior, but her financial aid fell through one semester, so she was only able to go part-time that semester and it put her behind in credits. She is interested in Pre-Med and Psychology but hasn't declared her major yet. She was avoiding following in her mom's footsteps (nurse), but she really likes to help people and she really liked her biology class. Recently, she's been taking more Psych classes to see if maybe she could see herself pursuing a career in psychology.

Spring/Summer Semester:

- **Philosophy 1010**-Intro to Philosophical systems: Intro to Philosophy and main schools of philosophical thought. Plato, Aristotle, Augustine, Aquinas, Decartes, Hume, Kant, Hegel, Nietzsche, Mill, James, Russel. Mondays/Wednesday 8:45-10:20 am
- **Health Psychology**: Clinical, Social, Developmental, Biopsychosocial theory and research on the relationship of psychological and behavioral factors to physical health and wellbeing. Tuesday/Thursday 10:40-12:30 pm

Fall Semester Courses:

**Social Psychology** Tues/Thurs 9:35-11:25 am

**Developmental Psychology** Tues/Thurs 1:25-3:15 pm

**Political Science-2000 Intro to Urban Studies**, 4 credits Monday/Wednesday 9:35-11:25 am

**Sociology-Soc 2000, Understanding Human Society**, 3 credits Saturday 12-3pm

She chose to go to WSU because she received a scholarship to go here from WSU. It helps out a lot. She likes WSU because it is in the city, not isolated like many schools. So there's more to do than just school-related activities. She disliked the commute to school her first year, so she moved near campus after the first semester. She likes being able to leave the house just a few minutes before her class starts, and being able to go home to eat or hang out between classes. When she lived in Southfield and commuted, she thought it was really hard to meet people at school because there's not much of a social scene at Wayne. But now that she lives near campus, she's been able to meet some other students. She lives on campus with a friend from high school (Jenna).

Breanna works at Forever 21 at Fairlane Mall. She started working there in high school when she was 17 (4 years ago). She worked more in high school than she does now. Now she works Tuesdays and Thursdays 5 to close, about 12 hours per week. She likes working there because of the flexible hours, and the discount.

### Interests/leisure time

Some days she gets coffee and studies at Biggby. In the summer, she likes to go to festivals in Detroit and out in the suburbs.

She started to run again a few months ago. She usually runs about 2 miles a few times per week. A lot of the time she runs on the treadmill at the campus fitness center. She's planning to

try to run the 5k at the Turkey Trot downtown this year. She doesn't watch TV very often, but still likes watching cartoons and the Discovery Channel. Also, she's always up for watch re-runs of The Simpsons, Keenen & Kel, and All That! She likes a variety of music, including Gotye, Foster the People, Katy Perry, Nikki Minaj, and Rihanna. She really likes movies. Her favorite movie theater is the AMC Soutfield, mostly because that's where she always went growing up. Movies she likes a lot include Grease, Dirty Dancing, Hangover I and II, Rush Hour, The Help, and basically any kind of romantic comedy. Her favorite actresses are Angeline Jolie and Halle Berry and her favorite actors are Brad Pitt, Denzel Washington, George Clooney, and Will Smith.

Her favorite foods include hamburgers, pizza, and most fast food. She knows that she eats too much fast food, and is trying to cut down. Her mom is a good cook, and she goes home at least once a week for dinner. She loves Pizza Papalis in Greektown. She also likes Sushi, so she goes to Wasabi near campus frequently.

### Family

Her mother (Mary Williams) is 48 years old, and works as a nurse at Henry Ford Hospital in Detroit. Breanna likes her mother, but thinks she's a little overbearing, and doesn't want to admit that Breanna is an adult. Her mom's nosiness contributed to Breanna's moving downtown 2 and 1/2 years ago. Breanna's father (James) is 52 and is an engineer at Ford in Dearborn. He travels a lot for his work, and spends half of his time on the road. Breanna thinks her father has a good sense of humor.

Breanna has one brother (Marcus) who is 18 years old. He started going to Wesleyan in Bloomington, Illionois which is about 2 ½ hours south-west of Chicago. He is an education major and will get a minor in coaching. He volunteered for PAL, a football league, in highschool and hopes to be a PE teacher and coach at a highschool when he's done. He is playing on the defensive line on the football team. Go Titans! They play teams like Alma College and Hope College, so when they're playing in Michigan she tries to go to his games. She and her brother are very close, and talk at least once a week on the phone.

### Future Plans

Breanna would like to leave Michigan after she graduates from Wayne. She would like to move to Chicago because it's a bigger city with more going on. She would miss her family and friends, but she also has family in Chicago. Her Aunt Rosie, Uncle Bill, and cousin John live there. Her cousin is her age, and he says it's a very cool place to live.

She would like to get married some day and have children, but thinks that's still a while away. She thinks 2 children is a good number because she thinks she's very close to her brother in part because there's just the 2 of them. She also thinks that 2-3 years between kids is a good spacing so that they can be friends.

## APPENDIX E

### Alcohol Administration Script

#### Greeting

Participants will be instructed how to get to the 3rd Floor waiting room of the Simon's Building. Once there, they will be instructed to call the lab phone in order to be let the experimenter know of their arrival. If they are early or set up is not complete, ask them to wait. When ready, go up to 3<sup>rd</sup> Floor to get them.

Say: **HELLO**, and ask: **ARE YOU HERE FOR THE STUDY ON INITIAL INTERACTIONS BETWEEN MEN AND WOMEN?** Verify his name. Then say: I'M \_\_\_\_\_. I'LL BE CONDUCTING THE EXPERIMENT TODAY. PLEASE FOLLOW ME TO THE LAB.

**WOULD YOU LIKE TO TAKE THE ELEVATOR OR STAIRS?**

On the way down say: **YOUR INTERACTION PARTNER GOT HERE EARLY. SO SHE'S ALREADY IN THE LAB GETTING STARTED ON SOME OF THE INITIAL MATERIALS.**

When you get to the lab, escort the participant into their participant room. Close the lab door behind you. Direct them to sit down at the desk.

#### Identification

Say: **FIRST OF ALL, MAY I SEE YOUR ID?** Record participant's age on the Breathalyzer Administration Form. \*\*If not between 21 and 28 exclude from the study.\*\*

Say: **OKAY THANKS.**

**Name Tag: CAN I HAVE YOU PLEASE PUT YOUR FIRST NAME ON THAT NAME TAG AND PUT IT ON? THANKS**

#### Driving

Now ask: **CAN YOU TELL ME HOW YOU GOT HERE TODAY?** Record this on the Breathalyzer Administration Form. Note if subject drove himself or if he is having a friend pick him up.

#### **BREATHALYZER**

**NEXT SAY: NOW I NEED TO GIVE YOU A BREATHALYZER TEST TO BE SURE THAT THERE ISN'T ANY ALCOHOL IN YOUR BLOOD. WE DO THIS WITH EVERYBODY.**

If the subject assures you he hasn't had any alcohol, just say: We give this test to everyone as a part of our standardized procedures.

**LET ME EXPLAIN QUICKLY HOW THIS WILL WORK. I'LL HAVE YOU TAKE A DEEP BREATH, HOLD IT AND BLOW STEADILY INTO THE MOUTHPIECE FOR AS LONG AS YOU CAN. THE BREATHALYZER WILL 'CLICK' WHEN IT IS DONE TAKING THE MEASUREMENT. MAKE SURE YOU CONTINUE TO BREATHE INTO THE MOUTHPIECE UNTIL IT 'CLICKS' OR UNTIL I TELL YOU TO STOP. ALSO, PLEASE DO NOT TOUCH THE BREATHALYZER DEVICE. DOING SO MAY AFFECT THE MEASUREMENT. ANY QUESTIONS?**

Unwrap a mouthpiece (make sure your fingers don't actually touch the mouthpiece and insert it into the breathalyzer long end first, this will turn the breathalyzer on). Wait for the breathalyzer to warm up. If the display screen reads SET at any time, push the SET button. It will run a blank test automatically, the screen will read BLNK. When the test is finished, the screen should read "0.00". When the breathalyzer is ready for the sample, the screen will read TEST.

**HOLD THE BREATHALYZER OUT FOR THE MALE PARTICIPANT, BUT DO NOT LET HIM HOLD IT. SAY: OKAY, TAKE A DEEP BREATH, HOLD IT AND BLOW STEADILY INTO THE MOUTHPIECE FOR AS LONG AS YOU CAN, OR UNTIL I TELL YOU TO STOP.**

The subject's BAL will flash on screen (it should be zero; if not get Rhiana so she can get them rescheduled). Record this BAL on the Breathalyzer Administration Form as Initial BAL.

Press the SET button. If you need another look at the subject's final reading, press the RECALL button. Otherwise, press the red button with the breathalyzer over the garbage. This will eject the mouthpiece into the garbage and turn off the machine.

**NOW SAY: OK, YOUR B.A.L. IS ZERO, JUST WHAT WE EXPECT IT TO BE.**

### **Water # 1**

**YOU'LL BE ASKED TO PROVIDE A SALIVA SAMPLE IN A LITTLE BIT. I'D LIKE YOU TO RINSE YOUR MOUTH OUT BEFORE YOU PROVIDE THIS SAMPLE. PLEASE SWISH THIS WATER AROUND IN YOUR MOUTH A LITTLE BIT AND THEN SWALLOW.** Hand them the cup of water. Make sure they drink it all. Then throw away the cup.

### **MOVE PERSONAL BELONGINGS**

Ask them if you can take their belongings and put them in the locked office. Say, **CAN I PLEASE PLACE YOUR THINGS IN THIS LOCKED ROOM SO THAT THEY ARE OUT OF THE WAY, IN A SAFE LOCATION? ALSO, CAN YOU PLEASE LEAVE YOUR CELL PHONE WITH YOUR THINGS.** Help them place belongings in Rhiana's Office.

Next, knock on the confederate's door. Say: **THANKS FOR WAITING. NOW I WILL WALK YOU BOTH THROUGH THE INFORMED CONSENT FORM. OKAY, BREANNA AND \_\_\_\_\_ (Participant Name), I'LL BE STANDING HERE TODAY, BETWEEN YOUR ROOMS, SO THAT I SEE AND TALK TO YOU BOTH AT THE SAME TIME. WE WILL BE KEEPING YOU IN SEPARATE ROOMS TODAY UNTIL YOU HAVE YOUR 10 MINTUE INTERACTION.**

### **Consent Form**

Hand 2 copies to the participant and 2 to the confederate. Say: **THERE ARE TWO COPIES, ONE FOR YOU TO TAKE WITH YOU AT THE END OF THE STUDY AND ANOTHER FOR OUR OWN RECORDS. PLEASE INITIAL ON THE BOTTOM OF EACH PAGE OF BOTH COPIES AS I WALK YOU THROUGH THE CONSENT FORM. PLEASE READ THROUGH IT YOURSELF AND ASK ANY QUESTIONS YOU MIGHT HAVE.**

**SO, YOU SHOULD KNOW FROM OUR STUDY ADVERTISEMENT THAT WE ARE INTERESTED IN INITIAL INTERACTIONS BETWEEN MEN AND WOMEN. SO AS A PART OF THE STUDY TODAY, YOU TWO WILL HAVE A 10-MINUTE CONVERSATION TO GET**



**ACQUAINTED WITH EACH OTHER. MEN AND WOMEN OFTEN FIRST MEET EACH OTHER AFTER THEY HAVE BEEN DRINKING AT A PARTY, A BAR, OR SOMEWHERE ELSE. SO WE WILL BE KEEPING YOU IN SEPARATE ROOMS UNTIL THIS 10-MINUTE INTERACTION. AT THE END OF THIS INTERACTION, YOU WILL BE GIVEN AN OPPORTUNITY TO LET US KNOW IF YOU WANT TO EXCHANGE PHONE NUMBERS WITH YOUR INTERACTION PARTNER AT THE END OF THE STUDY, SO YOU CAN TALK TOGETHER AGAIN IN THE FUTURE.**

**THIS INTERACTION WILL BE VIDEOTAPED. WE MAY USE THIS VIDEO IN THE FUTURE TO EXAMINE DIFFERENCES ACROSS PARTICIPANTS IN CONVERSATION TOPICS AND STYLES.**

**BEYOND THE GETTING ACQUAINTED CONVERSATION, YOU WILL ALSO COMPLETE A VARIETY OF QUESTIONNAIRES TODAY ASKING YOU ABOUT YOUR EXPERIENCES IN THE STUDY.**

**WE ARE INTERESTED IN HOW ALCOHOL IS RELATED TO INITIAL INTERACTIONS BETWEEN MEN AND WOMEN. THEREFORE AS A PART OF THIS STUDY YOU MAY BE ASKED TO CONSUME ALCOHOL. PARTICIPANTS ARE RANDOMLY ASSIGNED TO EITHER DRINK ALCOHOL OR NOT. IF YOU ARE IN THE ALCOHOL CONDITION, YOU WILL DRINK 3 STANDARD DRINKS OF VODKA AND CRANBERRY JUICE, WHICH WILL RAISE YOUR BAL TO APPROXIMATELY .08%. IF YOU ARE IN THE SOBER CONDITION, YOU WILL DRINK 3 STANDARD DRINKS OF CRANBERRY JUICE. THROUGHOUT THIS STUDY WE WILL BE ADMINISTERING BREATHALYZERS TO ASSESS YOUR BAL.**

**DO YOU HAVE ANY QUESTIONS? OKAY, THEN INITIAL AT THE BOTTOM OF THE PAGE FOR BOTH COPIES. THEN PLEASE TURN THE PAGE.**

**OKAY, IF YOU CONSUME ALCOHOL, YOU WILL BE REQUIRED TO STAY IN THE LAB UNTIL YOUR BAL IS .005% OR BELOW. FOR MOST PEOPLE, THIS WILL TAKE 4 HOURS, BUT IT MAY TAKE LONGER DEPENDING ON THE PERSON. IF YOU HAVE A RIDE, THEN YOU WILL BE ABLE TO LEAVE WHEN YOUR BAL IS AT .03% OR BELOW.**

**HAVE YOU BOTH CLEARED YOUR SCHEDULES SO THAT YOU CAN BE HERE FOR THE FULL POSSIBLE 6 HOURS THAT THIS STUDY MIGHT TAKE? If they cannot be here the full time, then we have to reschedule them. Bring them to Rhiana to reschedule. **OKAY, GREAT.****

**FINALLY, WE ARE ALSO INTERESTED IN HOW HORMONES ARE RELATED TO INITIAL INTERACTIONS BETWEEN MEN AND WOMEN, SO WE WILL BE ASSESSING THOSE AS WELL TODAY. TO ASSESS EACH OF YOUR HORMONES, WE WILL BE HAVING YOU PROVIDE A SALIVA SAMPLE IN A FEW MINUTES.**

**THERE IS MINIMAL RISK ASSOCIATED WITH YOUR PARTICIPATION TODAY. IT IS COMMON TO EXPERIENCE DRY MOUTH WHEN PROVIDING SALIVA SAMPLES. SO WE WILL BE PROVIDING YOU WITH CUPS OF WATER AT VARIOUS POINTS THROUGHOUT THE EXPERIMENT.**

**FOR YOUR PARTICIPATION TODAY YOU WILL BE COMPENSATED WITH EITHER CASH OR RESEARCH CREDIT. YOU MAY HAVE WHICHEVER YOU CHOOSE. IF YOU CHOOSE THE CASH OPTION, YOU WILL RECEIVE \$10 PER HOUR OF PARTICIPATION. IF YOU CHOOSE THE RESEARCH CREDIT OPTION, YOU WILL RECEIVE 1 RESEARCH CREDIT**

**FOR EACH HOUR OF PARTICIPATION. WE WILL HANDLE THIS AT THE END OF THE STUDY.**

**DO YOU HAVE ANY QUESTIONS RIGHT NOW? OKAY, THEN INITIAL AT THE BOTTOM OF THE PAGE FOR BOTH COPIES. THEN PLEASE TURN THE PAGE.**

**WE HAVE TAKEN MULTIPLE STEPS TO ENSURE YOUR CONFIDENTIALITY. YOU WILL BE IDENTIFIED ON ALL STUDY MATERIALS USING ONLY AN IDENTIFICATION CODE. ANY MATERIALS WE HAVE CONTAINING PERSONAL INFORMATION WILL BE DELETED WHEN THE STUDY IS COMPLETED. THE VIDEOTAPES OF YOUR INTERACTION TODAY WILL BE DESTROYED ONCE THEY HAVE BEEN CODED AND VERIFIED. AS WELL, YOUR SALIVA SAMPLE WILL BE IDENTIFIED WITH ONLY YOUR UNIQUE IDENTIFICATION CODE. ONCE THEY HAVE BEEN ANALYZED, THEY WILL BE DESTROYED.**

**YOUR PARTICIPATION TODAY IS VOLUNTARY. SO YOU MAY CHOOSE TO TERMINATE YOU PARTICIPATION AT ANY TIME. WE ARE HOWEVER REQUIRED TO KEEP YOU HERE UNTIL YOUR BAL IS BELOW .005% AND THEN YOU CAN BE RELEASED.**

**IF YOU HAVE ANY QUESTIONS ABOUT THE STUDY, NUMBERS ARE PROVIDED SO THAT YOU CAN CONTACT THE HIC OR THE PI OF THE STUDY.**

**DO YOU HAVE ANY QUESTIONS RIGHT NOW? OKAY, THEN INITIAL AT THE BOTTOM OF THE PAGE FOR BOTH COPIES. THEN PLEASE TURN THE PAGE.**

**OKAY, THEN, IF YOU AGREE TO PARTICIPATE, THEN PLEASE SIGN AND DATE THE CONSENT FORM ON THE LAST PAGE. DON'T FORGET TO INITIAL AT THE BOTTOM OF THE PAGE AS WELL. PLEASE DO THIS FOR BOTH COPIES. I WILL ALSO SIGN THEM.**

While they're signing, fill in your name and the date and sign your copy of the form. After the participants sign, take their signed copies of the Consent Form. Say: **I'LL HOLD ONTO THESE COPIES UNTIL THE END OF THE STUDY. THEN I WILL GIVE YOU YOUR COPY BACK.**

### **Health Screening Questionnaire**

**Ask: OKAY, FIRST I'D LIKE YOU TO LOOK OVER THIS HEALTH SCREENING QUESTIONNAIRE. THIS QUESTIONNAIRE INCLUDES YOUR ANSWERS TO SOME OF THE QUESTIONS YOU COMPLETED FROM THE SOCIAL PERCEPTION LAB PRESREEN SURVEY. PLEASE READ OVER THESE RESPONSES AND LET US KNOW IF ANYTHING HAS CHANGED SINCE COMPLETING THE PRESREEN SURVEY. ONCE YOU HAVE VERIFIED THOSE RESPONSES, PLEASE COMPLETE THE BACK SIDE WHICH ASKS ABOUT SOME OF YOUR BEHAVIORS OVER THE PAST 24 HOURS.**

Collect and Check: Has Anything Changed? Did they eat a large meal right before they came in? Are they on medications? If anything has changed, say: **I NOTICED THAT YOU INDICATED THAT SOMETHING CHANGED. YOU HAVE LISTED HERE \_\_\_\_\_.**  
Probe to make sure you understand what changed.

- **Reschedule Criteria:**
  - If they cannot stay for the full 6 hours the study might take.
  - If they ate a large meal right before they came in
  - If they gave blood or plasma in the past 3 days

- **Get them rescheduled with Rhiana**
- Exclusion Criteria:
  - Have not drunk in past 30 days
  - Have not drunk at least 4 drinks on one occasion in past year
  - If they have been in the hospital because of drinking
  - If they have been arrested for drunk driving
  - If they have been treated for alcohol abuse
  - If they are taking any of the prescription or over-the-counter medications on the Medications Contraindicated with Alcohol List.
- Say: **I'M SORRY, BUT YOU ARE NO LONGER ELIGIBLE FOR PARTICIPATION IN THIS STUDY. I APOLOGIZE FOR TAKING UP YOUR TIME. IN ORDER TO COMPENSATE YOU FOR YOUR TIME, WE WILL GRANT YOU A HALF CREDIT OF RESEARCH PARTICIPATION CREDIT OR YOU CAN CHOOSE TO TAKE \$10.**
  - If they ask WHY, say: I'm sorry but I can only tell you that you are now ineligible to participate in this study. If you have further questions you can talk to the PI of the study by calling 577-8182.
- Notify Rhiana about the situation.

If nothing has changed say: **OKAY GREAT, EVERYTHING LOOKS IN ORDER THEN. NEXT I'LL HAVE YOU STEP ON THE SCALE SO THAT I CAN GET YOUR WEIGHT.** Have participant step on scale. Record this on the Breathalyzer Administration Form.

### Baseline Saliva Sample

Put on medical gloves. Take cap off of test tube and then explain to participant: **OKAY, SO NEXT YOU WILL BE PROVIDING A SALIVA SAMPLE. GIVING A SALIVA SAMPLE IS VERY EASY. BASICALLY, I HAVE A COLLECTION TUBE HERE. WHEN I TELL YOU TO BEGIN, YOU'LL SIMPLY DROOL INTO THE COLLECTION TUBE. SOME PEOPLE LET THE SALIVA POOL IN THEIR MOUTH FIRST AND THEN USE THEIR TONGUES TO PUSH THE SALIVA INTO THE TEST TUBE. OTHERS JUST CONSTANTLY USE THEIR TONGUES TO PUSH THE SALIVA INTO THE TEST TUBE.**

**I'LL BE TIMING YOU, AND WE'LL DO THIS FOR EXACTLY 3 MINUTES. AT THE END OF 3 MINUTES, I'LL SAY 'STOP' AND YOU'LL HAND THE TEST TUBE TO ME. DO YOU HAVE ANY QUESTIONS? OKAY, THEN READY?** Give participant and confederate the test tubes. **SWALLOW THE SALIVA IN YOUR MOUTH FIRST.** Make sure swallow. Then say, **BEGIN.** Start the timer. Note the time on the clock and record this on the Breathalyzer Administration Form.

At 3 minutes, say, **STOP PLEASE. THANK YOU. CAN YOU SHOW ME YOUR TEST TUBES?** Is there at least 2ml? If not, then say **WE'RE GOING TO NEED A BIT MORE SALIVA. I'M GOING TO SET THE TIMER FOR AN ADDITIONAL 2 MINUTES.** Set timer. **OKAY, BEGIN.**

When finished, say: **OKAY, PLEASE PUT THE CAPS ON YOUR TEST TUBES.** Collect the participant's first, then the confederates, then place in refrigerator. \*\*Write down the duration of saliva collection\*\* Record this on the Breathalyzer Administration Form.

Say, **WE'D LIKE TO CONTINUE TO KEEP YOU HYDRATED, SO PLEASE DRINK THIS WATER.** Hand water cup #2. Make sure they finish the water.

**NEXT, I WILL SET YOU UP WITH THE BEVERAGES YOU ARE GOING TO CONSUME TODAY.** Pull up the drink cart.

### **Beverage Administration**

Pull up the beverage cart to between their participant rooms.

Say: **NOW WE'LL MOVE ON TO THE DRINKING PHASE OF THE EXPERIMENT. PRIOR TO YOUR ARRIVAL AT THE LAB, WE CONSULTED OUR RANDOMIZATION TABLE AND \_\_\_\_\_(participant name), YOU WERE RANDOMLY ASSIGNED TO BE IN THE \_\_\_\_\_ CONDITION. BREANNA, YOU WERE RANDOMLY ASSIGNED TO BE IN THE ALCOHOL CONDITION.**

### **Initial Interactions Survey**

Say: **WHILE I PREPARE BOTH OF YOUR DRINKS FOR YOU, I WOULD LIKE YOU EACH TO FILL OUT THIS SURVEY.** Hand them the Initial Interactions Survey.

Begin pouring drinks for Breanna.

1. Take the small graduated cylinder. Use your thumb to mark the line on small cylinder that corresponds to the alcohol dose from your Face Sheet.
2. Pour vodka to that line. Pour the vodka from the small graduated cylinder into the pitcher.
3. Now use your thumb to mark the line on the large cylinder that corresponds to the cranberry juice amount. Pour cranberry juice to that line. Pour the cranberry juice from the small cylinder into the pitcher.
4. Mix the drink in the pitcher, then pour equal amounts into the 3 cups.

Say: **OKAY, YOU'LL HAVE THREE 5-MINUTE PERIODS TO CONSUME THESE. THIS MEANS ONE DRINK EVERY FIVE MINUTES. I'LL SET THE TIMER AND I'LL LET YOU KNOW HOW MUCH TIME YOU HAVE LEFT TO CONSUME YOUR DRINKS. PLEASE TRY TO SPACE YOUR CONSUMPTION OUT EVENLY OVER THE FULL FIFTEEN MINUTES, WITH ONE DRINK EVERY FIVE MINUTES.**

Write down the current time to indicate when they started their beverages. Record this on the Breathalyzer Administration Form.

MINUTES 0-5: Watch participant's drinking. Encourage him to slow down or speed up his drinking as needed.

MINUTES 6-10: Tell the participant to begin consumption of second beverage.

MINUTES 11-15: Tell the participant to begin consumption of third beverage.

Check to make sure they drank everything and then throw away the cups. If they took longer than 15 minutes, note this on the Breathalyzer Administration Form

**OKAY, SO NOW I'M GOING TO HAVE YOU WAIT 5 MINUTES SO WE CAN LET YOUR BODY ABSORB THE ALCOHOL. IF YOU LIKE YOU CAN CHOOSE ONE OF THESE**

**GAMES TO PLAY AS YOU PASS THE TIME.** Set timer for 5 minutes. Hand them paper handouts of games.

After the 5 minutes are up, **OKAY, NOW I WILL TAKE YOU BOTH TO THE INTERACTION ROOM SO YOU CAN HAVE THAT 10 MINUTE INTERACTION I PREVIOUSLY MENTIONED. PLEASE BRING YOUR INITIAL INTERACTIONS SURVEY WITH YOU. YOU MAY USE IT DURING THE INTERACTION.** Escort the participant to the Interaction Room and indicate again where they should sit (Breanna on the right and the participant on the left from the camera); across the table from and directly facing the confederate.

### Introduce Participants

**BREANNA, THIS IS \_\_\_\_\_, \_\_\_\_\_, THIS IS BREANNA.**

### Breathalyzer Administration

Next say: **NOW I NEED TO GIVE YOU BOTH ANOTHER BREATHALYZER TEST. FIRST, I WOULD LIKE YOU TO SWISH THIS WATER AROUND YOUR MOUTH AND THEN SWALLOW.**

**THEN, JUST LIKE LAST TIME, TAKE A DEEP BREATH, HOLD IT AND BLOW STEADILY INTO THE MOUTHPIECE FOR AS LONG AS YOU CAN, OR UNTIL I TELL YOU TO STOP.** Always start with the confederate on the left and the go to the participant. Hand each a cup of water to rinse their mouths. Then administer the breathalyzer. Make sure that the participant does not see the confederate's actual BAL! Write their current BAL on their Breathalyzer Administration Form.

Say: **OKAY, BREANNA, YOUR BAL IS .08%.**

**Confederate says: YEAH, I'M PRETTY BUZZED.**

\_\_\_\_\_(insert participant name) **YOUR BAL IS .079% (not their actual BAL).**

### 10 Minute Interaction with Confederate

Say: **SO NOW I WOULD LIKE TO GIVE YOU TWO SOME TIME TO HAVE A CONVERSATION AND GET ACQUAINTED WITH EACH OTHER. I'LL GIVE YOU TEN MINUTES TO TALK ABOUT WHATEVER YOU LIKE. IF YOU RUN OUT OF THINGS TO TALK ABOUT, YOU CAN REFER TO YOUR INITIAL INTERACTIONS SURVEY FOR POTENTIAL TOPICS OF CONVERSATION. ANY QUESTIONS?**

**OKAY, SO, I WILL START THE CAMERA, AND THEN SET THIS TIMER FOR 10 MINUTES. I WILL RETURN WHEN THE TIME IS UP.**

Turn the timer on. Rhiana will turn the camera on from her office and adjust so they fit the screen.

Say: **OKAY, THEN I WILL SEE YOU IN TEN MINUTES.**

Walk out and close the door behind you.

Return when the timer goes off.

Say: **OKAY THEN. SO NEXT I WILL HAVE YOU BOTH HEAD BACK TO YOUR RESPECTIVE ROOMS TO FILL OUT A FEW MORE QUESTIONNAIRES.**

Collect the games and Initial Interactions Survey. Hand then the Post-Interaction Survey.

### **Post Interaction Survey**

When participant returns after the brief interaction, he will first complete the Post-Interaction Survey. Say, **NEXT WE WOULD LIKE TO GET YOUR THOUGHTS AND FEELINGS ABOUT THE INTERACTION YOU JUST HAD WITH EACH OTHER. I'LL GIVE YOU 8 MINUTES TO COMPLETE THE SURVEY AND THIS SHORT FORM INDICATING IF YOU WOULD LIKE TO TRY TO EXCHANGE NUMBERS AT THE END OF THE STUDY. THEN I WILL RETURN TO ADMINISTER ANOTHER BREATHALYZER.** Give the participant the survey. Set the timer to 8 minutes and then leave the room.

When the timer goes off, Say, **OKAY, WERE YOU ABLE TO COMPLETE THE SURVEY?** If they did not, say **OKAY, TAKE A FEW MORE MINUTES TO FINISH THAT UP.** Take the survey from the participant and confederate once they have finished.

### **Breathalyzer Administration**

Next say: **NOW I NEED TO GIVE YOU BOTH ANOTHER BREATHALYZER TEST. THEN, JUST LIKE LAST TIME, TAKE A DEEP BREATH, HOLD IT AND BLOW STEADILY INTO THE MOUTHPIECE FOR AS LONG AS YOU CAN, OR UNTIL I TELL YOU TO STOP.** Record their actual BAL.

Say: **OKAY, \_\_\_\_\_(insert participant name), YOUR BAL IS CURRENTLY .081%. BREANNA, YOUR BAL IS .082%.**

### **Rejection Manipulation**

**OKAY. ON THE SHORT FORM YOU JUST COMPLETED, YOU WERE BOTH GIVEN THE OPTION TO INDICATE IF YOU WANTED TO TRY TO EXCHANGE NUMBERS WITH EACH OTHER. I'M NOW GOING TO SHOW YOU YOUR PARTNER'S RESPONSE.** Hand each their partner's form.

### **Post-Rejection Manipulation Survey**

**NEXT, WE'D LIKE TO ASK YOU SOME QUESTIONS ABOUT HOW YOU'RE FEELING RIGHT NOW. HERE IS A BRIEF QUESTIONNAIRE. I WILL GIVE YOU 8 MINUTES TO COMPLETE IT AND THEN I WILL ADMINISTER ANOTHER BREATHLYZER.** Hand the survey to the participant and then set the timer to eight minutes.

**\*\* Go get Rhiana to let her know it is time for the Hot Sauce Allocation task\*\***

After the 8 minutes have passed, return to participants. **WERE YOU ABLE TO COMPLETE THE QUESTIONNAIRE?** If not, say **YOU CAN FINISH THIS UP AFTER YOU COMPLETE ANOTHER BREATHALYZER TEST.** Proceed with administering the breathalyzer. If they had time to finish, say **GREAT, I'LL TAKE THAT FROM YOU.**

### **Breathalyzer Administration**

Next say: **NOW I NEED TO GIVE YOU BOTH ANOTHER BREATHALYZER TEST. THEN, JUST LIKE LAST TIME, TAKE A DEEP BREATH, HOLD IT AND BLOW STEADILY INTO**

THE MOUTHPIECE FOR AS LONG AS YOU CAN, OR UNTIL I TELL YOU TO STOP.  
RECORD THEIR ACTUAL BAL.

Say: OKAY, \_\_\_\_\_(insert participant name), your BAL is still at .081%. BREANNA,  
YOUR BAL IS .082%.

Hot Sauce Allocation Task (See Appendices K, L and M)

Debriefing (See Appendices N, O, and P)

## APPENDIX F

### Behavioral Research Informed Consent

Title of Study: Initial Interactions Between Men and Women

Principal Investigator (PI): Rhiana Wegner, M.A.  
Psychology  
313-577-8182

#### Purpose

You are being asked to be in a research study of the effects of hormones and alcohol on the relationship initiation process because you are a 1) single male, 2) between the ages of 21 and 28, 3) have dated a woman in the past 2 years, and 4) indicated interest in meeting a potential dating partner. This study is being conducted at Wayne State University. The estimated number of study participants to be enrolled at Wayne State University and the Detroit Metropolitan Area is 80. **Please read this form and ask any questions you may have before agreeing to be in the study.**

In this research study, you will interact briefly with a woman who also contacted the laboratory to participate in this study. As a part of this study, we are interested in understanding how different types of beverages affect the relationship initiation process. Therefore, you and your partner will be asked to drink beverages, some of which may contain alcohol. We are also interested in how hormones relate to the relationship initiation process. Therefore you will be asked to provide one saliva sample.

#### Study Procedures

If you agree to take part in this research study, you will be asked to have a 10 minute conversation with a female participant. This interaction will be recorded on videotape so that we may later examine certain characteristics of the interaction, such as conversation style. Throughout the study, you will be asked to complete a number of questionnaires that will assess your perceptions and feelings toward your interaction partner and your interaction experience. After the interaction, you and your partner will be given the option to indicate your level of interest in seeing each other again in the future. The entire study will take between 2 and 6 hours depending on whether or not you drink alcohol, and if you drink alcohol, how quickly it leaves your bloodstream.

You and your interaction partner will each be asked to consume beverages which may or may not contain alcohol. If you drink alcohol, it will be in the form of vodka and a mixer in a dosage equivalent to approximately 3 standard drinks, which is expected to bring your blood alcohol level to 0.08%. It may be the case that you are assigned to drink alcohol and your partner is assigned to not drink alcohol, or vice versa. In order to monitor your blood alcohol level, you will be administered breathalyzer tests periodically throughout the study.

Prior to coming to the laboratory, you were asked several questions designed to insure that if you consumed alcohol there would be no more than minimal risk involved. If you consume alcohol today, you will be required to remain in the lab until your BAL has reached .005% and you can be released. If you are driven home by a responsible party, then you may leave when your BAL reaches .03%. Although this BAL indicates a relatively unimpaired state, you should not operate any machinery, such as a motor vehicle, or any potentially dangerous home appliances, such as a stove, until tomorrow. In addition, you should remain in the presence of



another person until tomorrow in case unforeseen complications arise. If you are not picked up by someone else, then you will remain in the laboratory until your blood alcohol level returns to 0.005%. For most people, this should take about three and a half hours, but it may take longer, depending on your metabolism. You are free to quit participating at any point, but for your safety, you must remain in the laboratory until alcohol is no longer in your bloodstream.

In the lab today, we will be assessing hormone levels in both you and your interaction partner. We will ask you to provide one saliva sample. Providing a saliva sample is a relatively painless process which involves passively drooling in to a test tube for three minutes. Sample collection will take place in a small private room away from your interaction partner. Your partner will provide saliva samples in a similar room adjacent to the one you will be in. Therefore, you will not be asked to provide saliva samples in front of your interaction partner.

### **Benefits**

As a participant in this research study, there may be no direct benefit for you; however, information from this study may benefit other people now or in the future.

### **Risks**

If you consume alcohol, it will be in a quantity to which you are accustomed and you will remain in the laboratory until its effects wear off. There is a possible risk of vomiting associated with alcohol consumption. If participation in this study arouses any sad thoughts or uncomfortable memories, you can call Common Ground (248-543-2900), the Wayne County Community Mental Health Board (313-224-7000), or the Wayne State Psychology Clinic (313-577-2840). You may also call a friend or counselor of your choice. There are very minimal risks associated with the collection and storage of saliva samples. You may experience dry mouth after providing multiple saliva samples. Finally, because we have collected identifying information from you and will be videotaping your interaction today, there is the potential risk for breach of confidentiality.

### **Study Costs**

Participation in this study will be of no cost to you.

### **Compensation**

For taking part in this research study, you will be paid for your time and inconvenience. Participants will receive \$10 dollars cash for each hour of participation in the study. All participants who choose to receive cash for their participation will be paid at least \$20 for completing the study. If you would prefer to receive research participation credit, you will receive 1 hour of research credit for every hour spent in the study. In that case, you will receive a minimum of 2 credits toward research participation for completing the study.

### **Research Related Injuries**

In the event that this research related activity results in an injury, treatment will be made available including first aid, emergency treatment, and follow-up care as needed. Care for such will be billed in the ordinary manner to you or your insurance company. No reimbursement, compensation, or free medical care is offered by Wayne State University. If you think that you have suffered a research related injury, contact the PI right away at 313-577-8182.

### **Confidentiality**

All information collected about you during the course of this study will be kept confidential to the extent permitted by law. Numerous precautions will be taken to insure that your response cannot be associated with you, although there is always a slight risk that confidentiality could be breached. To maintain your confidentiality, your answers will be combined with those of

everyone else who participates in the study. No identifying information is part of the computer file. When the results of this research are published or discussed in conferences, no information will be included that would reveal your identity. This consent form will be kept in a locked file and when the study is completed all identifying information will be destroyed. You will be identified in the research records by a code name or number. Information that identifies you personally will not be released without your written permission. However, the study sponsor, the Institutional Review Board (IRB) at Wayne State University, or federal agencies with appropriate regulatory oversight [e.g., Food and Drug Administration (FDA), Office for Human Research Protections (OHRP), Office of Civil Rights (OCR), etc.] may review your records.

Videotape recordings of your 10 minute interaction will be used for research purposes only. In order to minimize the likelihood of a breach of confidentiality, only the PI and research personnel will have access to these videotapes. The videotapes will be stored in a locked file drawer in the PIs office. The videotape and coded transcripts will have no identifying information. Your consent form will be kept separate from any other study materials so that there will be no way to link any identifying information to your oral or written responses. Videotapes will be destroyed once coding of the data is complete.

The saliva samples you provide will not include any identifying information. They will be stored until they can be analyzed, and then any remaining specimens will be destroyed.

### **Voluntary Participation/Withdrawal**

Taking part in this study is voluntary. You have the right to choose not to take part in this study. You are free to only answer questions that you want to answer. You are free to withdraw from participation in this study at any time. Your decisions will not change any present or future relationship with Wayne State University or its affiliates, or other services you are entitled to receive.

The PI may stop your participation in this study without your consent. The PI will make the decision and let you know if it is not possible for you to continue. The decision that is made is to protect your health and safety, or because you did not follow the instructions to take part in the study

### **Questions**

If you have any questions about this study now or in the future, you may contact Rhiana Wegner or one of her research team members at the following phone number 313-577-8182. If you have questions or concerns about your rights as a research participant, the Chair of the Institutional Review Board can be contacted at (313) 577-1628. If you are unable to contact the research staff, or if you want to talk to someone other than the research staff, you may also call (313) 577-1628 to ask questions or voice concerns or complaints.

### Consent to Participate in a Research Study

To voluntarily agree to take part in this study, you must sign on the line below. If you choose to take part in this study you may withdraw at any time. You are not giving up any of your legal rights by signing this form. Your signature below indicates that you have read, or had read to you, this entire consent form, including the risks and benefits, and have had all of your questions answered. You will be given a copy of this consent form.

\_\_\_\_\_  
Signature of Participant

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed name of participant

\_\_\_\_\_  
Time

\_\_\_\_\_  
Signature of person obtaining consent

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed name of person obtaining consent

\_\_\_\_\_  
Time

## APPENDIX G

## Health Screening Questionnaire

**PART A. For the Social Perception Lab Prescreen Survey you answered the following questions in the following ways. Please review your answers and let the experimenter know if any of your answers have changed.**

- 1a. Have you drank alcohol in the past 30 days? **Yes No**
- 1b. Think back over the past year. What was the most that you drank in one day?  
\_\_\_\_\_ **drinks**
- 1c. Have you ever been in a hospital because of drinking? **Yes No**
- 1d. Have you ever been arrested for drunk driving or driving after drinking?  
**Yes No**
- 1e. Have you ever been treated for alcohol or drug abuse? **Yes No**
- 1f. Are you currently taking any prescription medications? **Yes No**
- 1g. What prescription medications are you taking now?

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2. **Today, would you answer these questions in the exact same way?** **Yes No**  
If NO, what has changed since you completed the Social Perception Lab Prescreen Survey?

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**PART B. The following questions ask about your behaviors over the past 24 hours. Please be as open and honest as you can in your answers.**

3. Yes No **Have you taken any over the counter medicines (from the drug store or grocery store) in the past 24 hours?**

If YES, What medication did you take? \_\_\_\_\_  
What time did you take it? \_\_\_\_\_

4. Yes No **Can you remain in the lab the full 6 hours this study might take?**

5. Yes No **Have you ate or drank anything besides water in the past 4 hours?**

If YES, What did you consume? \_\_\_\_\_  
What time did you consume it? \_\_\_\_\_

6. Yes No **Have you given blood or plasma within the past 3 days?**

7. Yes No **Did you brush your teeth in the last hour?**
8. Yes No **Have you engaged in any exercise in the last hour?**
9. \_\_\_\_\_ **How many hours of sleep did you get last night?**
10. Yes No **Have you engage in any sexual activity (e.g., sexual intercourse, masturbation, etc.) in the past 24 hours?**

## APPENDIX H

## Initial Interactions Survey

This scale consists of a number of words and phrases that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you feel this way right now.

Use the following scale to record your answers:

1	2	3	4	5
Very slightly or not at all	A little	Moderately	Quite a bit	Extremely
_____ interested	_____ distressed	_____ excited	_____ upset	
_____ strong	_____ guilty	_____ scared	_____ hostile	
_____ enthusiastic	_____ proud	_____ irritable	_____ alert	
_____ ashamed	_____ inspired	_____ nervous	_____ determined	
_____ attentive	_____ jittery	_____ happy	_____ afraid	

Next, I'd like you to think of 2 questions you would like to ask your interaction partner. You will be able to refer to these during your 10 minute interaction later.

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Is there anything you think your interaction partner should definitely know about you by the end of the 10 minute interaction?

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What do you consider to be some of your 'best qualities' as a potential dating partner?

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## APPENDIX I

## Post-Interaction Survey

We are interested in your thoughts and feelings toward your interaction partner now, after your 10 minute conversation. Please consider your recent 10 minute conversation with your interaction partner when responding. **Based on your 10 minute conversation, please rate your interaction partner on the following characteristics.**

	Not at all						Very
	1	2	3	4	5	6	7
1. Assertive	1	2	3	4	5	6	7
2. Attractive	1	2	3	4	5	6	7
3. Cheerful	1	2	3	4	5	6	7
4. Confident	1	2	3	4	5	6	7
5. Dominant	1	2	3	4	5	6	7
6. Flirtatious	1	2	3	4	5	6	7
7. Friendly	1	2	3	4	5	6	7
8. Honest	1	2	3	4	5	6	7
9. Kind	1	2	3	4	5	6	7
10. Likable	1	2	3	4	5	6	7
11. Outgoing	1	2	3	4	5	6	7
12. Proper	1	2	3	4	5	6	7
13. Respectable	1	2	3	4	5	6	7
14. Romantic	1	2	3	4	5	6	7
15. Seductive	1	2	3	4	5	6	7
16. Sexy	1	2	3	4	5	6	7
17. Sincere	1	2	3	4	5	6	7
18. Uninhibited	1	2	3	4	5	6	7
19. Warm	1	2	3	4	5	6	7
20. Wholesome	1	2	3	4	5	6	7

**This scale consists of a number of words and phrases that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you feel this way right now.**

Use the following scale to record your answers:

1	2	3	4	5
Very slightly or not at all	A little	Moderately	Quite a bit	Extremely

_____ interested	_____ distressed	_____ excited	_____ upset
_____ strong	_____ guilty	_____ scared	_____ hostile
_____ enthusiastic	_____ proud	_____ irritable	_____ alert
_____ ashamed	_____ inspired	_____ nervous	_____ determined
_____ attentive	_____ jittery	_____ happy	_____ afraid

**These next questions ask about your thoughts and feelings toward your interaction partner.**

1. Would you be interested in becoming friends with your partner?

1	2	3	4	5	6	7
No, not at all						Yes, very much

2. Are you sexually attracted to your partner?

1	2	3	4	5	6	7
No, not at all						Yes, very much

3a. Would you be interested in dating your partner?

1	2	3	4	5	6	7
No, not at all						Yes, very much

4. To what extent would you be receptive to a sexual come-on made by your partner?

1	2	3	4	5	6	7
No, not at all						Yes, very much

5. Would you be interested in having sex with your partner?

1	2	3	4	5	6	7
No, not at all						Yes, very much



**These next questions ask about how you behaved toward your interaction partner.**

1a. What specific things did you say or do to let your interaction partner know that you are interested in dating her? Please list as many examples as you can recall.

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1b. What specific things did you say or do to let your interaction partner know that you are not interested in dating her? Please list as many examples as you can recall.

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2. To what extent do you think that you 'came on' to your partner in a sexual way?

1	2	3	4	5	6	7
Not at all						Very much

3. To what extent do you think that you flirted with your partner?

1	2	3	4	5	6	7
Not at all						Very much

4. To what extent did you behave in a sexual manner?

1	2	3	4	5	6	7
Not at all						Very much

5. To what extent did you feel free to be yourself?

1	2	3	4	5	6	7
Not at all						Very much

6. How much did you share about yourself with your partner?

1	2	3	4	5	6	7
Very little						A lot

7. How vulnerable did you feel with your partner?

1	2	3	4	5	6	7
Not at all						Very much

8. How comfortable did you feel with your partner?

1	2	3	4	5	6	7
Not at all						Very much

9. How close did you feel to your partner?

1	2	3	4	5	6	7
Not at all						Very much

Did anything strange or awkward happen between you and your interaction partner that might have 'put you off'? If so, please describe below.

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**These next questions ask about how you think your interaction partner thinks or feels about you now that she knows a little bit more about you.**

1. How interested is your interaction partner in becoming your friend?

1	2	3	4	5	6	7
No, not at all						Yes, very much

2. How sexually attracted is your interaction partner to you?

1	2	3	4	5	6	7
No, not at all						Yes, very much

3. How interested is your interaction partner in dating you?

1	2	3	4	5	6	7
No, not at all						Yes, very much

4. How receptive do you think your interaction partner would be to a sexual come-on made by you?

1	2	3	4	5	6	7
No, not at all						Yes, very much

5. How interested do you think your interaction partner would be in having sex with you?

1	2	3	4	5	6	7
No, not at all						Yes, very much

**These next questions ask about how your interaction partner behaved toward you.**

1a. What specific things did she say or do to let you know that she is interested in dating you? Please list as many examples as you can recall.

_____	_____	_____
_____	_____	_____
_____	_____	_____

1b. What specific things did she say or do to let you know that she is not interested in dating you? Please list as many examples as you can recall.

_____	_____	_____
_____	_____	_____
_____	_____	_____

2. To what extent do you think that your partner 'came on' to you in a sexual way?

1	2	3	4	5	6	7
Not at all						Very much

3. To what extent do you think that your partner flirted with you?

1	2	3	4	5	6	7
Not at all						Very much

4. To what extent did your partner behave in a sexual manner?

1	2	3	4	5	6	7
Not at all						Very much

5. To what extent do you think your partner felt free to be herself?

1	2	3	4	5	6	7
Not at all						Very much

6. How much do you think your partner shared about herself with you?

1	2	3	4	5	6	7
Very little						A lot

7. How vulnerable do you think your partner felt?

1	2	3	4	5	6	7
Not at all						Very much

8. How comfortable do you think your partner felt?

1 2 3 4 5 6 7  
Not at all Very much

9. How close to you do you think your partner felt?

1 2 3 4 5 6 7  
Not at all Very much

**You now have the option to decide if you would like to exchange numbers with your partner so that you can try to meet up again in the future. If both you and your interaction partner indicate that you would like to exchange numbers, then we will set up a time for you to do so at the end of the study.**

Please explain here your rationale for your decision to exchange numbers with your interaction partner:

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**Please circle your decision below. This information will be given to your interaction partner.**

Would you like to exchange numbers with your interaction partner?

YES

NO

## APPENDIX J

## Post-Rejection Manipulation Survey

We are interested in your thoughts and feelings toward your interaction partner based on the feedback you received from them about your interaction today. Please answer as best as you can based on the feedback you received from your interaction partner.

Please rate your interaction partner on the following characteristics. We realize this may be a difficult task, but please answer each question to the best of your ability.

	Not at all						Very
	1	2	3	4	5	6	7
1. Assertive	1	2	3	4	5	6	7
2. Attractive	1	2	3	4	5	6	7
3. Cheerful	1	2	3	4	5	6	7
4. Confident	1	2	3	4	5	6	7
5. Dominant	1	2	3	4	5	6	7
6. Flirtatious	1	2	3	4	5	6	7
7. Friendly	1	2	3	4	5	6	7
8. Honest	1	2	3	4	5	6	7
9. Kind	1	2	3	4	5	6	7
10. Likable	1	2	3	4	5	6	7
11. Outgoing	1	2	3	4	5	6	7
12. Proper	1	2	3	4	5	6	7
13. Respectable	1	2	3	4	5	6	7
14. Romantic	1	2	3	4	5	6	7
15. Seductive	1	2	3	4	5	6	7
16. Sexy	1	2	3	4	5	6	7
17. Sincere	1	2	3	4	5	6	7
18. Uninhibited	1	2	3	4	5	6	7
19. Warm	1	2	3	4	5	6	7
20. Wholesome	1	2	3	4	5	6	7

**This scale consists of a number of words and phrases that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you feel this way right now.**

Use the following scale to record your answers:

1	2	3	4	5
Very slightly or not at all	A little	Moderately	Quite a bit	Extremely

_____ interested	_____ distressed	_____ excited	_____ upset
_____ strong	_____ guilty	_____ scared	_____ hostile
_____ enthusiastic	_____ proud	_____ irritable	_____ alert
_____ ashamed	_____ inspired	_____ nervous	_____ determined
_____ attentive	_____ jittery	_____ happy	_____ afraid

31. Did your interaction partner want to exchange numbers with you?

YES            NO

32. Have you ever received feedback from a woman like the feedback you received from your interaction partner today?

YES            NO

33. Now that you have this feedback, what would you say to her if you could?

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**These next questions ask about how you think your interaction partner thinks or feels about you now that she knows a little bit more about you.**

34. How interested is your interaction partner in becoming your friend?

1	2	3	4	5	6	7
No, not at all						Yes, very much





44. To what extent do you feel like she treated you unfairly?

1	2	3	4	5
Not at all	A Little	Somewhat	Quite a Bit	Very Much

45. To what extent do you feel like honestly portrayed her level of interest in you?

1	2	3	4	5
Not at all	A Little	Somewhat	Quite a Bit	Very Much

46. To what extent do you feel like you learned how to interact with women differently based on this experience?

1	2	3	4	5
Not at all	A Little	Somewhat	Quite a Bit	Very Much

47. Looking back over this interaction, is there anything you wish you would have done differently?

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48. If you were to tell your guy friends about your interaction with this woman today, what would you tell them? How would you describe this woman to them?

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## APPENDIX K

### Hot Sauce Allocation Script

PI WALKS UP TO EXPERIMENTER, WHO IS WRITING DOWN THE LAST BAL MEASUREMENT FOLLOWING THE POST INTERACTION FEEDBACK SURVEY.

PI SAYS TO EXPERIMENTER: **HI, IS IT ALRIGHT IF I TALK WITH YOUR PARTICIPANTS FOR A MINUTE?**

EXPERIMENTER: **YEAH, DEFINITELY**

DIRECT ATTENTION AT PARTICIPANTS. **HI, MY NAME IS RHIANA, I TALKED WITH YOU BOTH ON THE PHONE EARLIER. I'M TALKING TO YOU NOW BECAUSE YOU HAVE COMPLETED THE MAIN COMPONENTS OF THIS STUDY AND SO I WANTED TO TALK WITH YOU ABOUT A SEPARATE STUDY I AM CONDUCTING ON TASTE PREFERENCES AND HOW THEY RELATE TO CERTAIN PERSONALITY CHARACTERISTICS. AS A PART OF THE SOCIAL PERCEPTION LAB PRESCREEN SURVEY, YOU BOTH COMPLETED A VARIETY OF QUESTIONS THAT ASSESSED YOUR TASTE PREFERENCES, SUCH AS WHAT IS YOUR FAVORITE RESTAURANT AND FAVORITE KIND OF FOOD. DOES THAT SOUND FAMILIAR? LOOK TO PARTICIPANTS FOR RECOGNITION.**

**SO, I WAS LOOKING AT MY LIST OF ELIGIBLE PARTICIPANTS FOR THAT STUDY AND BREANNA, YOU ARE ELIGIBLE FOR MY STUDY. WOULD YOU BE WILLING TO PARTICIPATE TODAY WHILE YOU ARE WAITING TO BE RELEASED?**

CONFEDERATE: **YEAH, SURE!**

PI: **GREAT, THANK YOU!**

PI THEN TURNS TO PARTICIPANT TO AND SAYS: **\_(NAME)\_, I'M SORRY YOU WEREN'T ELIGIBLE, BUT I WAS WONDERING IF YOU MIGHT BE WILLING TO HELP ME SET UP THE STUDY MATERIALS? I NEED TO HAVE AN UNBIASED PERSPECTIVE TOWARD BREANNA, SO I NEED TO BE BLIND TO BREANNA'S SPECIFIC TASTE PREFERENCES AND THE QUANTITY OF THE FOOD SHE WILL BE CONSUMING TODAY. WOULD YOU BE WILLING TO HELP? IT WILL ONLY TAKE 2 MINUTES TO GET SET UP.**

PARTICIPANT AGREES

**GREAT! THANKS! PI TURNS TO BREANNA. PLEASE JUST STAY HERE FOR A MOMENT AND THEN I WILL BE BACK TO GO OVER THE INFORMED CONSENT WITH YOU.**

PI TURNS TO PARTICIPANT. **JUST FOLLOW ME THIS WAY THEN.** PI TAKES PARTICIPANT BACK TO THE INTERACTION ROOM WHERE THE TASTE-TESTING TRAY IS WAITING. PI CLOSES DOOR BEHIND THEM.

**OKAY, AS A PART OF THIS STUDY, PARTICIPANTS TASTE-TEST A VARIETY OF FOODS. SOME PARTICIPANTS TASTE-TEST PRETZELS, OTHERS TASTE-TEST FROSTING. BREANNA IS GOING TO BE TASTE-TESTING HOT SAUCE TODAY. WHAT I WOULD LIKE FOR YOU TO DO, IS TO ALLOCATE AS MUCH OR AS LITTLE HOT SAUCE AS YOU WANT FOR BREANNA TO CONSUME WITH THE CHIPS PROVIDED. SHE WILL HAVE TO EAT**

ALL OF THE HOT SAUCE THAT YOU ALLOCATE TO HER. AFTER YOU ARE DONE ALLOCATING THE HOT SAUCE, THE OTHER EXPERIMENTER WILL COME IN AND COLLECT THE TRAY FROM YOU AND TAKE IT TO BREANNA. THIS WILL INSURE THAT I DO NOT SEE HOW MUCH HOT SAUCE YOU ALLOCATED FOR BREANNA.

THERE ARE A COUPLE OF INTERMEDIARY STEPS THAT I WILL EXPLAIN TO YOU NOW. FIRST, I SUGGEST THAT YOU TASTE THE HOT SAUCE YOURSELF, USING THIS PLASTIC SPOON, SO THAT YOU CAN GET A SENSE OF HOW IT TASTES. AFTER YOU TASTE IT YOURSELF, I'D LIKE YOU TO COMPLETE THIS *TASTE TEST EVALUATION SHEET* (HOT SAUCE ALLOCATION SHEET APPENDIX M) AND RATE THE HOT SAUCE ON THESE FIVE CHARACTERISTICS HERE. PI POINTS TO SHEET.

WHEN YOU ARE DONE DOING THAT, PLEASE LOOK IN THE ENVELOPE. IN THE ENVELOPE ARE BREANNA'S RESPONSES TO THE TASTE PREFERENCES QUESTIONS FROM THE PRESCREEN SURVEY. YOU WOULD HAVE COMPLETED THESE QUESTIONS TOO WHEN YOU COMPLETED THE PRESCREEN SURVEY. I HAVEN'T LOOKED AT HER PREFERENCES. YOU SHOULD TAKE A LOOK AT THEM WHEN I LEAVE AND USE IT IN YOUR DECISION FOR HOW MUCH HOT SAUCE TO GIVE HER. WHEN YOU ARE DONE, YOU CAN PUT THE SHEET BACK INTO THE ENVELOPE.

OKAY, SO ONCE YOU HAVE LOOKED AT HER TASTE PREFERENCES, USE THIS QUARTER TEASPOON TO ALLOCATE THE HOT SAUCE INTO THIS DIXIE CUP. PI DEMONSTRATES HOW TO DO THIS. AGAIN, SHE WILL HAVE TO CONSUME ALL OF THE HOT SAUCE THAT YOU GIVE HER. WHEN YOU ARE DONE WITH THAT, WILL YOU PLEASE WRITE DOWN THE NUMBER OF SPOONFULS YOU GAVE HER. I WON'T KNOW AHEAD OF TIME HOW MANY SPOONFULS YOU GAVE HER, BUT THIS WAY I CAN KNOW LATER ON HOW MUCH SHE CONSUMED.

ANY QUESTIONS? PI ANSWERS ANY QUESTIONS.

I WILL SET THE TIMER THEN TO 2 MINUTES, SO THE EXPERIMENTER WILL KNOW WHEN TO COME IN AND COLLECT THE TRAY. IF YOU NEED MORE TIME, PLEASE JUST LET THE EXPERIMENTER KNOW WHEN SHE COMES INTO THE ROOM. AFTER SHE COLLECTS THE TRAY FROM YOU SHE WILL RETURN TO DEBRIEF YOU ON THE OTHER STUDY, SO JUST TAKE A SEAT IN HERE. THANKS AGAIN FOR HELPING ME OUT WITH THIS.

PI SETS TIMER AND CLOSSES DOOR. THEN SAYS LOUDLY **OKAY, LET'S GET STARTED ON THE INFORMED CONSENT FORM** IN ORDER TO MAINTAIN THE GUISE THAT SHE IS GOING THROUGH STUDY PROCEDURES FOR THE TASTE-TESTING STUDY WITH BREANNA. AFTER A MINUTE IN BREANNA'S ROOM, THE PI HEADS BACK TO HER OFFICE AND THEN CLOSSES THE DOOR.

AFTER THE TWO MINUTES ARE UP, THE EXPERIMENTER GOES INTO THE INTERACTION ROOM, COLLECTS THE TRAY, AND TAKES IT INTO BREANNA'S ROOM. THEN SHE CLOSSES THE DOOR TO BREANNA'S ROOM, AND RETURNS TO THE PARTICIPANT WAITING IN THE INTERACTION ROOM. SHE THEN COMPLETES THE DEBRIEFING PROCEDURE.

## APPENDIX L

## Taste Preferences

Participant: Breanna Williams

Participant Responses:

Response Options:

Not at all			Somewhat			Very Much
1	2	3	4	5	6	7

1. Salty 62. Sweet 73. Spicy 14. Savory 35. Sour 36. What is your favorite restaurant? Red Lobster7. What is your favorite type of food? (e.g., Italian, Thai, etc.) Italian8. What is your favorite food? (e.g., pizza, ice cream, etc.) Fettuccine Alfredo

**APPENDIX M****Hot Sauce Allocation Sheet**

What food will the participant taste test today?    Hot Sauce        Pretzels        Frosting

Please rate your own perceptions of the food on the following dimensions. You may wish to taste the food yourself before you answer the following questions.

Not at all				Somewhat			Very Much
1	2	3	4	5	6	7	

1. Salty \_\_\_\_\_

2. Sweet \_\_\_\_\_

3. Spicy \_\_\_\_\_

4. Savory \_\_\_\_\_

5. Sour \_\_\_\_\_

6. How much was allocated for the participant to consume?

\_\_\_\_\_ (# of spoonfuls or # of items)

**APPENDIX N**

**Pre-Debriefing Survey**

1. What beverage did you drink today?

Vodka/Cran\_\_\_\_\_ Cranberry Juice\_\_\_\_\_ Wasn't sure\_\_\_\_\_

2. What beverage did your partner drink today?

Vodka/Cran\_\_\_\_\_ Cranberry Juice\_\_\_\_\_ Wasn't sure\_\_\_\_\_

3. What do you think the study was looking at today?

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4. Was anything you did in the lab today related to something else you did in the lab today?

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5. Did anything happen today that made you upset or uncomfortable? Was anything confusing?

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6. Is there anything else you would like to bring to our attention today? Any comments or concerns?

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## APPENDIX O

### Debriefing Script

Say: **OKAY FIRST I'D LIKE TO ASK YOU SOME QUESTIONS ABOUT SOME OF THE THINGS YOU DID TODAY DURING THE STUDY. PLEASE JUST ANSWER AS HONESTLY AS YOU CAN.** Go through the Pre-Debriefing Questions with them. Fill in their answers and make notes of anything interesting, surprising, etc. that the participant says. It is okay to ask them for additional information if you think they might be suspicious about the study or might truly know what the study was getting at.

After completing this, read through the following Debriefing Script.

Experimenter 1: **WE REALLY APPRECIATE THAT YOU WERE WILLING TO PARTICIPATE IN THE STUDY TODAY. NOW THAT YOU HAVE FINISHED, WE CAN TELL YOU A LITTLE MORE ABOUT THE STUDY. SPECIFICALLY, WE'RE INTERESTED IN LOOKING AT THE INTERACTIONS BETWEEN WOMEN AND MEN, AND THE FIRST IMPRESSIONS THAT ARE FORMED BASED ON THOSE INTERACTIONS. THAT'S WHY YOUR SURVEYS CONTAINED MANY QUESTIONS ABOUT YOUR IMPRESSIONS OF EACH OTHER.**

**WE ARE ALSO INTERESTED IN HOW HORMONES ARE RELATED TO ASPECTS OF THE INITIAL INTERACTION PROCESS. WE COLLECTED A SALIVA SAMPLE FROM YOU TODAY WHICH WE WILL ANALYZE FOR THE HORMONE TESTOSTERONE. TESTOSTERONE IS A HORMONE TYPICALLY FOUND IN HIGHER CONCENTRATIONS AMONG MEN. WE WANTED TO SEE HOW IT WAS RELATED TO YOUR BEHAVIORS TODAY.**

**IF A MAN AND WOMEN MET FOR THE FIRST TIME AT A BAR, CLUB, RESTAURANT, OR SOMEPLACE LIKE THAT, THERE IS A CHANCE THAT THEY MIGHT BE DRINKING ALCOHOL. SO WE WANTED TO EXAMINE HOW INITIAL INTERACTIONS BETWEEN MEN AND WOMEN MIGHT BE INFLUENCED BY ONE OR BOTH OF THE INDIVIDUALS ALCOHOL CONSUMPTION. SO, AS WE TOLD YOU IN THE CONSENT FORM HALF OF THE PARTICIPANTS WERE RANDOMLY ASSIGNED TO DRINK AN ALCOHOL AND HALF WERE RANDOMLY ASSIGNED TO DRINK CRANBERRY JUICE. MORE SPECIFICALLY WE WANTED TO EXAMINE HOW DRINKING ALCOHOL OR DRINKING CRANBERRY JUICE WAS RELATED TO HOW PARTICIPANT'S RATED THEIR INTERACTION PARTNERS BEFORE AND AFTER THE INTERACTION.**

Experimenter 1: **THERE WERE A FEW ASPECTS OF THE STUDY WHICH WERE DIFFERENT FROM WHAT WE ORIGINALLY TOLD YOU.**

**FIRST, TODAY YOU WERE TOLD THAT YOU WOULD DRINK \_\_\_\_\_ (INSERT DRINK CONDITION). YOU CONSUMED THE BEVERAGE THAT WE TOLD YOU THAT YOU WERE CONSUMING. YOUR INTERACTION PARTNER HOWEVER DID NOT DRINK ALCOHOL. SOMETIMES PEOPLE VIEW OTHERS WHO ARE DRINKING ALCOHOL DIFFERENTLY THAN OTHERS WHO ARE NOT DRINKING ALCOHOL. SO IN ORDER TO SEE HOW MEN DIFFER IN THEIR VIEWS OF WOMEN WHO DRINK DURING AN INITIAL INTERACTION, WE TELL ALL OF THE MALE PARTICIPANTS THAT THEIR FEMALE INTERACTION PARTNER DRANK ALCOHOL.**

**THIS BRINGS US TO THE NEXT ASPECT OF THE STUDY WE NEED TO EXPLAIN TO YOU IN FURTHER DETAIL. THE WOMAN YOU INTERACTED WITH TODAY IS ACTUALLY**

**PART OF OUR RESEARCH TEAM, AND NOT A PARTICIPANT LIKE YOU. SHE WAS TRAINED TO TAKE ON THE PERSONA OF BREANNA AND TO ANSWER QUESTIONS BASED ON THIS PERSONA. BY HAVING PARTICIPANTS INTERACT WITH A WOMAN WHO HAS THE SAME CHARACTERISTICS, WE ARE ABLE TO MORE SPECIFICALLY EXAMINE HOW MEN DIFFER IN THEIR INTERACTIONS WITH ESSENTIALLY THE 'SAME TYPE' OF WOMAN.**

**AS WELL, THE STUDY CONFEDERATE DID NOT ACTUALLY INDICATE HER OWN LEVEL OF INTEREST IN TRYING TO EXCHANGE NUMBERS WITH YOU. THE ANSWER PROVIDED ON THE FORM WAS DETERMINED BEFORE YOU ARRIVED AT THE LAB TODAY. HALF OF THE PARTICIPANTS ARE RANDOMLY ASSIGNED TO BE TOLD THAT SHE DID NOT WANT TO EXCHANGE NUMBERS AND HALF WERE TOLD THAT SHE DID WANT TO EXCHANGE NUMBERS. NO PHONE NUMBERS WILL ACTUALLY BE EXCHANGED AS A PART OF THIS STUDY.**

**WE'RE SORRY THAT WE COULDN'T TELL YOU THESE THINGS AT THE BEGINNING, BUT IT WOULD HAVE RUINED THE STUDY. WOULD YOU LIKE TO TALK WITH THE STUDY CONFEDERATE WHO ACTED AS YOUR INTERACTION PARTNER TODAY?**

Experimenter 1: **LET ME GO GET THE CONFEDERATE SO SHE CAN SAY GOODBYE.** Go get the confederate.

Confederate: **I ENJOYED OUR CONVERSATION, AND I'M GLAD WE MET. I'M SORRY I COULDN'T BE COMPLETELY STRAIGHTFORWARD. I HOPE YOU CAN UNDERSTAND WHY I COULDN'T TELL YOU I'M PART OF THE RESEARCH TEAM. IT WAS NICE MEETING YOU, BYE.**

Confederate leaves the lab at this point.

Experimenter 1: **IT'S VERY IMPORTANT THAT YOU DON'T DISCUSS THIS EXPERIMENT WITH OTHERS SINCE THEY MAY PARTICIPATE IN THE STUDY AT SOME TIME. AS YOU CAN SEE NOW THAT YOU'VE PARTICIPATED, IT'S CRUCIAL THAT PEOPLE DON'T BRING ANY EXPECTATIONS ABOUT THE STUDY WITH THEM. THE CONDITIONS OF THE STUDY ALSO VARY FOR DIFFERENT PARTICIPANTS. FOR EXAMPLE, SOME PEOPLE DRINK ALCOHOL, WHEREAS OTHERS DO NOT. SOME PARTICIPANTS ARE LED TO BELIEVE THE WOMAN WANTS TO EXCHANGE NUMBERS AND OTHERS ARE TOLD SHE DOES NOT. SO WHAT HAPPENED WITH YOU TODAY MAY OR MAY NOT HAPPEN WITH ANOTHER PERSON WHO PARTICIPATES IN THE STUDY. SO WE WOULD LIKE TO ASK YOU TO PLEASE NOT DISCUSS THIS STUDY WITH ANYONE, ESPECIALLY ANYONE YOU THINK WHO MIGHT BE INTERESTING IN PARTICIPATING IN THE FUTURE. WE'D LIKE YOU TO SIGN THIS FORM TO INDICATE THAT YOU HAVE AGREED TO NOT TELL OTHERS ABOUT WHAT YOU DID IN THE LAB TODAY. ASK THEM TO SIGN THE FORM. THANKS, WE REALLY APPRECIATE YOUR HELP.**

**\*\*If participant received alcohol\*\***

Experimenter 1: **OKAY, SO SINCE YOU RECEIVED ALCOHOL, YOU WILL NEED TO REMAIN HERE UNTIL THE ALCOHOL IS OUT OF YOUR SYSTEM.**

- If Drove Themselves, say: **SINCE YOU DROVE YOURSELF TO THE LAB TODAY, YOU WILL NEED TO REMAIN HERE UNTIL YOU BAL REACHES .005.**



- If Someone Else Drove Them, say: **SINCE YOU HAVE A RIDE HOME, YOU WILL NEED TO STAY IN THE LAB UNTIL YOUR BAL REACHES .03 AND THEN YOU WILL BE ABLE TO LEAVE.**

IF THEY WANT TO KNOW HOW LONG THAT WILL BE, USE THE FOLLOWING INFORMATION BELOW TO ESTIMATE HOW LONG IT WILL TAKE FROM THEIR CURRENT BAL.

ALCOHOL METABOLIZES AT APPROXIMATELY 0.015 GM% PER HOUR. IT WILL TAKE APPROXIMATELY \_\_\_\_\_(FILL IN FROM CHART BELOW) FOR YOU TO REACH ZERO.

B.A.L. →	TIME TO ZERO
0.0075 →	½ HOUR
0.015 →	1 HOUR
0.0225 →	1½ HOURS
0.03 →	2 HOURS
0.0375 →	2 1/2 HOURS
0.045 →	3 HOURS
0.0525 →	3 1/2 HOURS
0.06 →	4 HOURS

**IN THE MEANTIME, YOU CAN STAY IN HERE. YOU SHOULD KEEP TRYING TO EAT AND DRINK LOTS OF WATER. THIS WILL HELP YOU GET YOUR BAL DOWN MORE QUICKLY. LET ME SHOW YOU WHAT SNACKS WE HAVE. WOULD YOU LIKE A HOT POCKET? WE HAVE CHEESE OR PEPPERONI.** Show them the snacks and offer them one of the Hot Pockets or other more substantial snacks. Encourage them to eat as many of the smaller snacks (e.g., chips, crackers and cheese packs, candy bars) as they want.

**USE THE DESK OR COUCH IF YOU'D LIKE. DID YOU BRING ANY HOMEWORK OR READING MATERIALS? WE ALSO HAVE SOME VIDEOS AND MAGAZINES. ALSO, FEEL FREE TO PLAY SOME VIDEOGAMES IF YOU LIKE.**

Experimenter should administer a breathalyzer test at least every 30 minutes until the participant's BAL has returned to .005. As they get closer to .005, administer breathalyzers more frequently. Both the experimenter and participant sign the Breathalyzer Sheet when finished.

Once they get down to .005 or .03 (ride), say: **OKAY, YOUR BAL HAS NOW REACHED \_\_\_\_\_(FILL IN WITH .005 OR .03), WE CAN NOW RELEASE YOU.**

Experimenter 1: **FIRST, WE'D LIKE YOU TO EVALUATE THE STUDY. YOUR FEEDBACK IS VERY IMPORTANT TO US. ALSO, THERE ARE A NUMBER OF FOLLOW-UP QUESTIONS WE WANT TO ASK YOU TO MAKE SURE YOU FULLY UNDERSTAND THE ASPECTS OF THE STUDY YOU PARTICIPATED IN TODAY. I'LL GIVE YOU A FEW MINUTES ALONE TO ANSWER THE QUESTIONS.** Leave the participant with the Post-Debriefing Survey for 5 minutes.

Experimenter returns to the interaction room with:

1. Participant's Breathalyzer Documentation
2. Participant's Consent Form
3. 2 Compensation Forms

Collect the Post-Debriefing Survey from participant. Say, **IS IT ALL RIGHT IF I GLANCE THROUGH THIS TO SEE IF I CAN ANSWER ANY OF YOUR QUESTIONS OR CONCERNS?** If okay, then look at his answers, address concerns, and direct participant to telephone numbers we have provided for is they want to talk to someone about this experience.

**NEXT, PLEASE COMPLETE THE COMPENSATION VERIFICATION FORM TO INDICATE THAT YOU HAVE RECEIVED PAYMENT FOR YOUR PARTICIPATION TODAY. VERIFY HOW LONG THEY HAVE BEEN IN THE LAB, AND WRITE IN THE CORRECT PAYMENT AMOUNT ON THE COMPENSATION FORM.**

- If they choose the research participation route, say: **WE WILL POST YOUR RESEARCH CREDITS WITHIN THE NEXT 24 HOURS.**

**OKAY, FINALLY, I WOULD LIKE YOU TO SIGN THIS BEVERAGE ADMINISTRATION FORM TO INDICATE THAT YOU HAVE VERIFIED THAT WE ARE RELEASING YOU AT A \_\_\_\_\_ (.005 OR .03) BAL.**

- IF THEY ARE GETTING A RIDE AND BEING RELEASED AT .03, SAY: **SINCE YOUR BAL IS AT .03, WE WANT TO REMIND YOU THAT IT WILL TAKE APPROXIMATELY 2 HOURS BEFORE YOUR BAL IS BACK TO ZERO.**

REMIND THE PARTICIPANT THE IMPORTANCE OF NOT TELLING OTHERS ABOUT THE NATURE OF THE STUDY. HAND THEM THEIR CONSENT FORM AND THANK THEM AGAIN FOR THEIR TIME. SHOW THEM OUT OF THE BUILDING.

**\*\*\*If participant did not receive alcohol\*\*\***

Experimenter 1: **FIRST, WE'D LIKE YOU TO EVALUATE THE STUDY. YOUR FEEDBACK IS VERY IMPORTANT TO US. ALSO, THERE ARE A NUMBER OF FOLLOW-UP QUESTIONS WE WANT TO ASK YOU TO MAKE SURE YOU FULLY UNDERSTAND THE ASPECTS OF THE STUDY YOU PARTICIPATED IN TODAY. I'LL GIVE YOU A FEW MINUTES ALONE TO ANSWER THE QUESTIONS.** Leave the participant with the Post-Debriefing Survey for 5 minutes.

Experimenter returns to the interaction room with:

1. Participant's Breathalyzer Documentation
2. Participant's Consent Form
3. 2 Compensation Forms

Collect the Post-Debriefing Survey from participant. Say, **IS IT ALL RIGHT IF I GLANCE THROUGH THIS TO SEE IF I CAN ANSWER ANY OF YOUR QUESTIONS OR CONCERNS?** If okay, then look at his answers, address concerns, and direct participant to telephone numbers we have provided for is they want to talk to someone about this experience.

**NEXT, PLEASE COMPLETE THE COMPENSATION VERIFICATION FORM TO INDICATE THAT YOU HAVE RECEIVED PAYMENT FOR YOUR PARTICIPATION TODAY. VERIFY HOW LONG THEY HAVE BEEN IN THE LAB, AND WRITE IN THE CORRECT PAYMENT AMOUNT ON THE COMPENSATION FORM.**

- If they choose the research participation route, say: **WE WILL POST YOUR RESEARCH CREDITS WITHIN THE NEXT 24 HOURS.**

**OKAY, FINALLY, I WOULD LIKE YOU TO SIGN THIS BEVERAGE ADMINISTRATION FORM TO INDICATE THAT YOU HAVE VERIFIED THAT WE ARE RELEASING YOU AT A 0.00 BAL.**

REMIND THE PARTICIPANT THE IMPORTANCE OF NOT TELLING OTHERS ABOUT THE NATURE OF THE STUDY. HAND THEM THEIR CONSENT FORM AND THANK THEM AGAIN FOR THEIR TIME. SHOW THEM OUT OF THE BUILDING.

## APPENDIX P

## Post-Debriefing Survey

The following questions are to see if you understand what happened during today's study.

1. T F The woman I interacted with today was a part of the research team, and not a fellow participant.
2. T F The woman did not make the decision to exchange numbers with me or not. The decision was predetermined by the research staff, and had nothing to do with my interaction with the woman today.
3. T F The woman I interacted with today did not drink alcohol.
4. T F The beverage I drank today was exactly the drink I was told I would consume.

We would like to know how you are feeling now after having completed the study and having been debriefed on the true nature of the study. Please rate the extent to which you feel each of the following emotions now.

		Not at all				Very Much
5.	calm	1	2	3	4	5
6.	sad	1	2	3	4	5
7.	embarrassed	1	2	3	4	5
8.	angry	1	2	3	4	5
9.	tired	1	2	3	4	5

10. How do you feel about having participated in this research project?

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11. Is there anything that you would like the researchers who developed this study to know?

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## APPENDIX Q

## Confederates' Post-Interaction Survey

We are interested in your thoughts and feelings toward your interaction partner now, after your 10 minute conversation. Many of these questions will be familiar to you. Please consider your recent 10 minute conversation with your interaction partner when responding to the items this time. Based on your 10 minute conversation, please rate your interaction partner on the following characteristics.

	Not at all						Very
	1	2	3	4	5	6	7
1. Assertive	1	2	3	4	5	6	7
2. Attractive	1	2	3	4	5	6	7
3. Cheerful	1	2	3	4	5	6	7
4. Confident	1	2	3	4	5	6	7
5. Dominant	1	2	3	4	5	6	7
6. Flirtatious	1	2	3	4	5	6	7
7. Friendly	1	2	3	4	5	6	7
8. Honest	1	2	3	4	5	6	7
9. Kind	1	2	3	4	5	6	7
10. Likable	1	2	3	4	5	6	7
11. Outgoing	1	2	3	4	5	6	7
12. Proper	1	2	3	4	5	6	7
13. Respectable	1	2	3	4	5	6	7
14. Romantic	1	2	3	4	5	6	7
15. Seductive	1	2	3	4	5	6	7
16. Sexy	1	2	3	4	5	6	7
17. Sincere	1	2	3	4	5	6	7
18. Uninhibited	1	2	3	4	5	6	7
19. Warm	1	2	3	4	5	6	7
20. Wholesome	1	2	3	4	5	6	7

These next questions ask about your thoughts and feelings toward your interaction partner now that you know him a little bit better.

1. Would you be interested in becoming friends with your partner?

1 2 3 4 5 6 7  
No, not at all Yes, very much

2. Are you sexually attracted to your partner?

1 2 3 4 5 6 7  
No, not at all Yes, very much

3a. Would you be interested in dating your partner?

1 2 3 4 5 6 7  
No, not at all Yes, very much

**These next questions ask about how you behaved toward your interaction partner.**

1a. What specific things did you say or do to let your interaction partner know that you are interested in dating him? Please list as many examples as you can recall.

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1b. What specific things did you say or do to let your interaction partner know that you are not interested in dating him? Please list as many examples as you can recall.

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2. To what extent do you think that you 'came on' to your partner in a sexual way?

1 2 3 4 5 6 7  
Not at all Very much

3. To what extent do you think that you flirted with your partner?

1 2 3 4 5 6 7  
Not at all Very much

4. To what extent did you behave in a sexual manner?

1 2 3 4 5 6 7  
Not at all Very much

5. How comfortable did you feel with your partner?

1 2 3 4 5 6 7  
Not at all Very much

Did anything strange or awkward happen between you and your interaction partner? If so, please describe below.

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**These next questions ask about how you think your interaction partner thinks or feels about you now that he knows a little bit more about you.**

1. How interested is your interaction partner in becoming your friend?

1 2 3 4 5 6 7  
No, not at all Yes, very much

2. How sexually attracted is your interaction partner to you?

1 2 3 4 5 6 7  
No, not at all Yes, very much

3. How interested is your interaction partner in dating you?

1 2 3 4 5 6 7  
No, not at all Yes, very much

4. How receptive do you think your interaction partner would be to a sexual come-on made by you?

1 2 3 4 5 6 7  
No, not at all Yes, very much

5. How interested do you think your interaction partner would be in having sex with you?

1 2 3 4 5 6 7  
No, not at all Yes, very much

**These next questions ask about how your interaction partner behaved toward you.**

1a. What specific things did he say or do to let you know that he is interested in dating you?  
Please list as many examples as you can recall.

_____	_____	_____
_____	_____	_____
_____	_____	_____

1b. What specific things did he say or do to let you know that he is not interested in dating you?  
Please list as many examples as you can recall.

_____	_____	_____
_____	_____	_____
_____	_____	_____

2. To what extent do you think that your partner 'came on' to you in a sexual way?

1	2	3	4	5	6	7
Not at all						Very much

3. To what extent do you think that your partner flirted with you?

1	2	3	4	5	6	7
Not at all						Very much

4. To what extent did your partner behave in a sexual manner?

1	2	3	4	5	6	7
Not at all						Very much

5. To what extent do you think your partner felt free to be herself?

1	2	3	4	5	6	7
Not at all						Very much

6. How much do you think you partner shared about himself with you?

1	2	3	4	5	6	7
Very little						A lot

7. How vulnerable do you think your partner felt?

1	2	3	4	5	6	7
Not at all						Very much



8. How comfortable do you think your partner felt?

1 2 3 4 5 6 7  
Not at all Very much

9. How close to you do you think your partner felt?

1 2 3 4 5 6 7  
Not at all Very much

Please include any other things that occurred during the interaction that you think the PI might want to know.

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10. How much do you (not Breanna) have in common with your partner?

1 2 3 4 5 6 7  
Very A  
little lot

11. To what extent did your partner compliment your physical appearance?

1 2 3 4 5 6 7  
Not Very  
at all

12. To what extent did you partner touch you during the session?

Zero times One time Two or three times More than three times

13. To what extent did your partner talk about sexual topics (including dating)?

1 2 3 4 5 6 7  
Not Very  
at all much

14. To what extent was your behavior in this session consistent with your behavior in past sessions?

1	2	3	4	5	6	7
Not at all						Very

NOTES: \_\_\_\_\_

15. Did your partner talk about what he drank?

\_\_\_\_\_ No  
 \_\_\_\_\_ Yes: \_\_\_\_\_

16. Did your partner express any suspicions or concerns about the study?

\_\_\_\_\_ No  
 \_\_\_\_\_ Yes: \_\_\_\_\_

17. Did anything else unusual happen during the conversation?

\_\_\_\_\_ No  
 \_\_\_\_\_ Yes: \_\_\_\_\_

18. Did anything else unusual happen during the session?

\_\_\_\_\_ No  
 \_\_\_\_\_ Yes: \_\_\_\_\_

19. What was your partner told that he drank?                      Vodka/Cranberry      Cranberry

## REFERENCES

- Abbey, A. (1982). Sex difference in attributions for friendly behavior: Do males misperceive females' friendliness? *Journal of Personality and Social Psychology*, 42, 830-838. doi: 10.1037//0022-3514.42.5.830
- Abbey, A. (1991). Acquaintance rape and alcohol consumption on college campuses: How are they linked? *Journal of American College Health*, 39, 165-169.  
doi:10.1080/07448481.1991.9936229
- Abbey, A. (2002). Alcohol-related sexual assault: A common problem among college students. *Journal of Studies on Alcohol, Supplement No. 14*, 118-128. doi: 10.1111/j.1530-0277.2002.tb02576.x
- Abbey, A. (2011). Alcohol's role in sexual violence perpetration: Theoretical explanations, existing evidence, and directions for future research. *Drug and Alcohol Review*, 30, 489-489. doi: 10.1111/j.1465-3362.2011.00296.x
- Abbey, A., Buck, P.O., Zawacki, T., & Saenz, C. (2003). Alcohol's effects on perceptions of a potential date rape. *Journal of Studies on Alcohol*, 64, 669-677. doi: 10.1177/0886260503253301
- Abbey, A., Jacques-Tiura, A.J., & LeBreton, J. (2011). Risk factors for sexual aggression in young men: An expansion of the confluence model. *Aggressive Behavior*, 37, 450-464. doi: 10.1177/0886260510390955
- Abbey, A., McAuslan, P., & Ross, L.T. (1998). Sexual assault perpetration by college men: The role of alcohol, misperception of sexual intent, and sexual beliefs and experiences. *Journal of Social and Clinical Psychology*, 17, 167-195. doi: 10.1521/jscp.1998.17.2.167
- Abbey, A., McAuslan, P., Ross, L.T., & Zawacki, T. (1999). Alcohol expectancies regarding sex, aggression, and sexual vulnerability: Reliability and validity assessment. *Journal of Addictive Behaviors*, 13(3), 174-182.
- Abbey, A., Parkhill, M.R., BeShears, R., Clinton-Sherrod, A.M., & Zawacki, T. (2006). Cross-

- sectional predictors of sexual assault perpetration in a community sample of single African American and Caucasian men. *Aggressive Behavior*, 32, 54-67. doi: 10.1002/ab.20107
- Abbey, A., Parkhill, M.R., Jacques-Tiura, A.J., & Saenz, C. (2009). Alcohol's role in men's use of coercion to obtain unprotected sex. *Substance Use and Misuse*, 44, 1328-1348. doi: 10.1080/10826080902961419
- Abbey, A. Ross, L. T., McDuffie, D., & McAuslan, P. (1996). Alcohol and dating risk factors for sexual assault among college women. *Psychology of Women Quarterly*, 20, 147-169. doi: 10.1111/j.1471-6402.1996.tb00669.x
- Abbey, A. & Wegner, R. (in press). Using experimental paradigms to examine alcohol's role in men's sexual aggression: Opportunities and challenges in proxy development. *Violence Against Women*.
- Abbey, A., Wegner, R., Woerner, J., Pegram, S., Pierce, J. (2014). Review of survey and experimental research that examine the relationship between alcohol consumption and men's sexual aggression perpetration. *Trauma, Violence, & Abuse*. doi:10.1177/1524838014521031
- Abbey, A., Zawacki, T., & Buck, P.O. (2005). The effects of past sexual assault perpetration and alcohol consumption on men's reactions to women's mixed signals. *Journal of Social and Clinical Psychology*, 24, 129-155. doi: 10.1521/jscp.24.2.129.62273
- Abbey, A., Zawacki, T., Buck, P. O., Clinton, A. M., & McAuslan, P. (2001). Alcohol and sexual assault. *Alcohol Health & Research World*, 25, 43-51. PMID: 11496965
- Abbey, A., Zawacki, T., & McAuslan, P. (2000). Alcohol's effects on sexual perception. *Journal of Studies on Alcohol*, 61, 688-697. PMID: 11022808
- Abroms, B.D., Fillmore, M.T., & Marcuzinski, C.A. (2003). Alcohol-induced impairment of behavioral control: Effects on the alteration and suppression of prepotent responses. *Journal of Studies on Alcohol*, 64, 687-695. PMID: 14572191

- Aiken, L.S. & West, S.G. (1991) *Multiple regression: Testing and interpreting interactions*, Thousand Oaks, CA: Sage.
- Archer, J. (2006). Testosterone and human aggression: An evaluation of the challenge hypothesis. *Neuroscience and Behavioral Reviews*, 30, 319-345. doi: 10.1016/j.neubiorev.2004.12.007
- Bailey, D. S. & Taylor, S.P. (1991). Effects of alcohol and aggressive disposition on human physical aggression. *Journal of Research in Personality*, 25, 334-342. doi: 10.1016/0092-6566(91)90024-K
- Bain, J., Langevin, R., Dickey, R., Ben-Aron, M. (1987). Sex hormones in murderers and assaulters. *Behavioral Sciences & the Law*, 5, 95-101. doi: 10.1002/bsl.2370050109
- Bain, J., Langevin, R., Dickey, R., Hucker, S., & Wright, P. (1988). Hormones in sexually aggressive men: 1. Baseline values for eight hormones, 2. The ACTH Test. *Research & Treatment*, 1, 63-78. doi: 10.1177/107906328800100106
- Bernat, J.A, Calhoun, K.S., & Stolp, S. Sexually aggressive men's response to a date rape analogue: Alcohol as a disinhibiting cue. *The Journal of Sex Research*, 35, 341-348. doi: 10.1080/00224499809551952
- Bradford, J.M.W. & McLean, D. (1984). Sexual offenders, violence, and testosterone: A clinical study. *Canadian Journal of Psychiatry*, 29, 335- 343. doi: 10.1111/j.1749-6632.1988.tb50862.x
- Black, M.C., Basile, K.C., Breiding, M.J., Smith, S.G, Walters, M.L., Merrick, M.T., Chen, J., & Stevens.,M.R. (2011). *The national intimate partner and sexual violence survey*. Atlanta, GA: Centers for Disease Control and Prevention.
- Bondurant, B., & Donat, P. L. N. (1999). Perceptions of women's sexual interest and acquaintance rape: The role of sexual overperception and affective attitudes. *Psychology of Women Quarterly*, 23, 691-705. doi: 10.1111/j.1471-6402.1999.tb00392.x
- Buckley, K.E., Winkel, R.E., & Leary, M.R. (2004). Reactions to acceptance and rejection:

- Effects of level and sequence of relational evaluation. *Journal of Experimental Social Psychology*, 40, 14-28. doi: 10.1016/S0022-1031(03)00064-7
- Bureau of Justice Statistics. (1995). Violence against women: Estimates from the redesigned survey. Washington, DC: U.S. Department of Justice.
- Bushman, B.J., & Baumeister, R.F. (2002). Does self-love or self-hate lead to violence? *Journal of Research in Personality*, 36, 543-545. doi: 10.1016/S0092-6566(02)00502-0
- Bushman, B.J., & Cooper, H.M. (1990). Effects of alcohol on human aggression: An integrative research review. *Psychological Bulletin*, 107, 341-354. doi: 10.1037/0033-2909.107.3.341
- Buss, A. H., & Perry, M. (1992). The Aggression Questionnaire. *Journal of Personality and Social Psychology*, 63, 452-459. doi:10.1037/0022-3514.63.3.452
- Campbell, R., Dworkin, E., & Cabral, G. (2009). An ecological model of the impact of sexual assault on women's mental health. *Trauma, Violence & Abuse*, 10, 225-46. doi: 10.1177/1524838009334456
- Carré, J.M., Putnam S.K. & McCormick C.M. (2009). Testosterone responses to competition predict future aggressive behavior at a cost to reward in men. *Psychoneuroendocrinology*, 34, 561-570. doi: 10.1016/j.psyneuen.2008.10.018
- Carré, J.M., & McCormick, C.M. (2008). Aggressive behavior and change in salivary testosterone concentrations predict willingness to engage in competitive task. *Hormones and Behavior*, 54, 403-409. doi: 10.1016/j.yhbeh.2008.04.008
- Cherek, D., (1981). Effects of smoking different doses of nicotine on human aggressive behavior. *Psychopharmacology*, 75, 339-349.
- Chermack, S.T. & Giancola, P.R. (1997). The relation between alcohol and aggression: An integrated biopsychosocial conceptualization. *Clinical Psychology Review*, 17, 621-649. doi: 10.1016/S0272-7358(97)00038-X
- Curtin, J.J., & Fairchild, B.A. (2003). Alcohol and cognitive control: Implications for regulation of

- behavior during response conflict. *Journal of Abnormal Psychology*, 112, 424-436. doi: 10.1037/0021-843X.112.3.424
- Dabbs, J.M., Carr, T.S., Frady, R.L., & Riad, J.K. (1995). Testosterone, crime, and misbehavior among 692 male prison inmates. *Personality and Individual Differences*, 18, 627-633. doi: 10.1016/0191-8869(94)00177-T
- Dabbs, J.M., Frady, R.L., Carr., T.S., & Besch, N.F. (1987). Saliva testosterone and criminal violence in young adult prison inmates. *Psychosomatic Medicine*, 49, 174-182. PMID: 3575604
- Dabbs, J.M., Jurkovic, G.J., & Frady, R.L. (1991). Salivary testosterone and cortisol among late adolescent male offenders. *Journal of Abnormal Child Psychology*, 19, 469-478. doi: 10.1007/BF00919089
- Edmondson, C.B., & Conger, J.C. (1995). The impact of mode of presentation on gender differences in social perception. *Sex Roles*, 32, 169-183. doi: 10.1007/BF01544787
- Ellis, L. (1991). A synthesized (biosocial) theory of rape. *Journal of Consulting and Clinical Psychology*, 59, 631-642. doi: 10.1037//0022-006X.59.5.631
- Ellison, P. T. (2001). *On fertile ground: A natural history of reproduction*. Cambridge, MA: Harvard University Press.
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G\*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 41, 1149-1160. doi: 10.3758/BRM.41.4.1149
- Finn, P. R., Justus, A., Mazas, C., & Steinmetz, J.E. (1999). Working memory, executive processes and the effects of alcohol on Go/No-Go learning: Testing a model of behavioral regulation and impulsivity. *Psychopharmacology*, 146, 465-472. doi: 10.1007/PL00005492
- George, W.H., Cue, K.L., Lopez, P.A., Crowe, L.C., & Norris, J. (1995). Self-reported alcohol expectancies and postdrinking sexual inferences about women. *Journal of Applied*

*Social Psychology*, 25, 164-186.

George, W.H., Derman, K., & Nochajski, T. (1989). Expectancy set, self-reported expectancies, and predispositional traits: Predicting interest in violence and erotica. *Journal of Studies in Alcohol*, 50, 514-551. PMID: 2586107

George, W.H., Stoner, S.A., Norrris, J., Lopez, P.A., & Lehman, G.L. (2000). Alcohol expectancies and sexuality: A self-fulfilling prophecy analysis of dyadic perceptions and behavior. *Journal of Studies on Alcohol*, 61, 168-176. PMID: 10627112

Giancola, P.R. (2002). Alcohol-related aggression in men and woman: the influence of dispositional aggressivity. *Journal of Studies on Alcohol*, 63, 696-708.

Doi: 10.1097/01.ALC.0000030842.77279.C4

Giancola, P.R. (2004). Executive function and alcohol-related aggression. *Journal of Abnormal Psychology*, 113, 541-545. doi: 10.1037/0021-843X.113.4.541

Giancola, P.R., Josephs, R.A., Dewall, N. Gunn, R.L (2009). Applying the attention-allocation model to the explanation of alcohol-related aggression: Implications for prevention. *Substance Use & Misuse*, 44, 1263-1279. doi:10.1080/10826080902960049.

Giancola, P.R. & Zeichner, A. (1997). The biphasic effects of alcohol on human physical aggression. *Journal of Abnormal Psychology*, 106, 598-607.

doi:10.1037/0021-843X.106.4.598

Gidycz, C.A., Warkentin, J.B., & Orchowski, L.M. (2007). Predictors of perpetration of verbal, physical and sexual violence: A prospective analysis of college men. *Psychology of Men & Masculinity*, 8, 79-94. doi: 10.1037/1524-9220.8.2.79

Goldey, K. L., & van Anders, S. M. (2011). Sexy thoughts: Effects of sexual cognitions on testosterone, cortisol, and arousal in women. *Hormones & Behavior*. 59, 754-764. doi: 10.1016/j.yhbeh.2010.12.005

Gross, A.M., Bennett, T., Sloan, L., Marx, B.P., & Juergens, J. (2001). The impact of alcohol and alcohol expectancies on male perception of female sexual arousal in a date rape



- analog. *Experimental and Clinical Psychopharmacology*, 9, 380-388. doi: 10.1037/1064-1297.9.4.380
- Hines, D.A., & Suadino, K.J. (2003). Gender differences in psychological, physical, and sexual aggression among college students using the revised Conflict Tactics Scales. *Violence & Victims*, 18, 197-217. doi: 10.1891/vivi.2003.18.2.197.
- Ito, T.A., Miller, N., Pollock, V.E. (1996). Alcohol and aggression: A meta-analysis on the moderating effects of inhibitory cues, triggering events, and self-focused attention. *Psychological Bulletin*, 120, 60-82. doi:10.1037/0033-2909.120.1.60
- Jacques-Tiura, A. J., Abbey, A., Parkhill, M. R., & Zawacki, T. (2007). Why do some men misperceive women's sexual intentions more frequently than others do? An application of the confluence model. *Personality and Social Psychology Bulletin*, 33, 1467-1480. doi:10.1177/0146167207306281
- Johnson, J.D., Noel, N.E., & Sutter-Hernandez, J. (2000). Alcohol and male acceptance of sexual aggression: The role of perceptual ambiguity. *Journal of Applied Social Psychology*, 30, 1186-1200. doi: 10.1111/j.1559-1816.2000.tb02516.x
- Josephs, R.A., Sellers, J.G., Newman, M.L., & Mehta, P.H. (2006). The mismatch effect: When testosterone and status are at odds. *Journal of Personality and Social Psychology*, 90, 999-1013. Doi: 10.1037/0022-3514.90.6.999
- Kilpatrick, D.G., Resnick, H.S., Ruggiero, K.J., Conoscenti, L.M., & McCauley, J. (2007). *Drug-facilitated, incapacitated, and forcible rape: A national study* (NIJ 219181). Washington DC: U.S. Department of Justice.
- Koss, M.P., Gidycz, C.A., & Wisniewski, N. (1987). The scope of rape: Incidence and prevalence of sexual aggression and victimization in a national sample of higher education students. *Journal of Consulting and Clinical Psychology*, 55, 162-170. doi: 10.1037//0022-006X.55.2.162
- Kowalski, R. M. (1993). Inferring sexual interest from behavioral cues: Effects of gender and

- sexually relevant attitudes. *Sex Roles*, 29, 13-36. doi:10.1007/BF00289994
- Leary, M.R., Twenge, J.M., Quinlivan, E. (2006). Interpersonal rejection as a determinant of anger and aggression. *Personality & Social Psychology Review*, 10, 111-132. doi: 10.1207/s15327957pspr1002\_2
- Lieberman, J.D. Soloman, S., Greenberg, J. McGregor, H.A. (1999). A hot new way to measure aggression: Hot Sauce Allocation. *Aggressive Behavior*, 25, 331-348. doi: 10.1002/(SICI)1098-2337(1999)25:5<331::AID-AB2>3.0.CO;2-1
- Marx, B.P., & Gross, A.M. (1995). Date rape: An analysis of two contextual variables. *Behavior Modification*, 19, 451-463. doi: 10.1177/01454455950194003
- Marx, B.P., Gross, A.M., & Adams, H.E. (1999). The effect of alcohol on the responses of sexually coercive and noncoercive men to an experimental rape analogue. *Sexual Abuse: Journal of Research and Treatment*, 11, 131-145. doi: 10.1007/BF02658843
- Mazur, A., & Booth, A., (2008). Testosterone and dominance in men. *Behavioral & Brain Science*, 21, 353-397. doi: 10.1017/S0140525X98321226.
- Mehta P.H., & Josephs R.A. (2006). Testosterone change after losing predicts the decision to compete again. *Hormones & Behavior*, 50, 684–692. doi: 10.1016/j.yhbeh.2006.07.001
- Mehta, P.H., Jones, A.C., & Josephs, R.A. (2008). The social endocrinology of dominance: Basal testosterone predicts cortisol changes and behavior following victory and defeat. *Journal of Personality and Social Psychology*, 94, 1078-1093. Doi: 10.1037/0022-3514.94.6.1078
- Miller, C.A., Parrott, D.J., Giancola, P.R. (2009). Agreeableness and alcohol-related aggression: The mediating effect of trait aggressivity. *Experimental and Clinical Psychopharmacology*, 17, 445-455. Doi: 10.1037/a0017727
- Muehlenhard, C. L. & Linton, M. A. (1987). Date rape and sexual aggression in dating situations: Incidence and risk factors. *Journal of Counseling Psychology*, 34, 186-196. doi: 10.1037//0022-0167.34.2.186

- National Advisory Council on Alcohol Abuse and Alcoholism. (2005). Recommended council guidelines on ethyl alcohol administration in human experimentation, Revised May 2005.
- Noel., N.E., Maisto, S.A., Johnson, J.D., & Jackson, L.A. (2009). The effects of alcohol and cue salience on young men's acceptance of sexual aggression. *Addictive Behaviors*, *34*, 386-394. doi: 10.1016/j.addbeh.2008.11.016
- Noel., N.E., Maisto, S.A., Johnson, J.D., Jackson, L.A., Goings, C.D., & Hagman, B.T. (2008). Development and validation of videotaped scenarios: A method for targeting specific participant groups. *Journal of Interpersonal Violence*, *23*, 419-436. doi: 10.1177/0886260507312941
- Norris, J., Davis, K.C., George, W.H., Martell, J., & Heiman, J.R. (2002). Alcohol's direct and indirect effects on men's self-reported sexual aggression likelihood. *Journal of Studies on Alcohol*, *63*, 688-695. PMID:12529069
- Norris, J., George, W.H., Davis, K.C., Martell, J., & Leonesio, R.J. (1999). Alcohol and hypermasculinity as determinants of men's empathic responses to violent pornography. *Journal of Interpersonal Violence*, *14*, 683-700. doi: 10.1177/088626099014007001
- Ouellete, J.A., & Wood, W. (1998). Habit and intention in everyday life: The multiple processes by which past behavior predicts future behavior. *Psychological Bulletin*, *124*, 54-74. doi: 10.1037/0033-2909.124.1.54
- Parrott, D.J., & Giancola, P.R. (2004). A further examination of the relationship between trait anger and alcohol-related aggression: The role of anger control. *Alcoholism: Clinical and Experimental Research*, *28*, 855-864. doi: 10.1097/01.ALC.0000128226.92708.21
- Parrott, D.J., & Zeichner, A. (2002). Effects of alcohol and trait anger on physical aggression in men. *Journal of Studies on Alcohol*, *9*, 196-204. PMID: 12033696
- Perilloux, C. J. (2011). Sexual misperception: Individual differences and context effects (Doctoral dissertation). Available from ProQuest Dissertations and Theses database.
- Peterson, J.B., Rothfleisch, J., Zelazo, P.D., & Pihl, P.O. (1990). Acute alcohol intoxication and

- cognitive functioning. *Journal of Studies on Alcohol*, 51, 114-122. PMID: 2308348
- Rada, R.T., Laws, D.R., & Kellner, R. (1976). Plasma testosterone levels in the rapist. *Psychosomatic Medicine*, 38, 257-268. PMID: 940905
- Rada, R.T. (1983). Plasma androgens in violent and nonviolent sex offenders. *Bulletin of the American Academy of Psychiatry & the Law*, 11, 149-158. PMID: 6616080
- Resnick, H.S., Acierno, R. & Kilpatrick, D.G. (1997). Health impact of interpersonal violence 2: Medical and mental health outcomes. *Behavioral Medicine*, 23, 65-78. doi: 10.1080/08964289709596730
- Roney, J. R., Lukaszewski, A. W., & Simmons, Z. L. (2007). Rapid endocrine responses of young men to social interactions with young women. *Hormones & Behavior*, 52, 326-333. doi: 10.1016/j.yhbeh.2007.05.008
- Roney, J. R., Mahler, S.V., & Maestriperi, D. (2003). Behavioral and hormonal responses of men to brief interactions with women. *Evolution and Human Behavior*, 24, 365-375. doi: 10.1016/S1090-5138(03)00053-9
- Roney, J.R., Simmons, Z.L., & Lukaszewski, A.W. (2010). Androgen gene receptor sequence and basal cortisol concentrations predict men's hormonal responses to potential mates. *Proceedings of the Royal Society B*, 277, 57-63. doi: 10.1098/rspb.2009.1538
- Sellers, J.G., Mehl, M.R., & Josephs, R.A. (2007). Hormones and personality: Testosterone as a marker of individual differences. *Journal of Research in Personality*, 41, 126-138. doi: 10.1016/j.jrp.2006.02.2004
- Shea, M. E. C. (1993). The effects of selective evaluation on the perception of female cues in sexual coercive and noncoercive males. *Archives of Sexual Behavior*, 22, 415-433. doi: 10.1007/BF01542557
- Slatcher, R.B., Mehta, P.H., Josephs, R.A. (2011). Testosterone and self-reported dominance interact to influence human mating behavior. *Social Psychological and Personality Science*, 2, 531-539. doi: 10.1177/1948550611400099

- Smith, P.H., White, J.W., & Holland, L.J. (2003). A longitudinal perspective on dating violence among adolescent and college-age women. *American Journal of Public Health, 93*, 1104-1109. doi: 10.2105/AJPH.93.7.1104
- Soler, H., Vinayak, P., & Quadagno, D. (2000) Biosocial aspects of domestic violence. *Psychoneuroendocrinology, 25*, 721-739. doi: 10.1016/S0306-4530(00)00022-6
- Steele, C.M., & Josephs, R.A. (1990). Alcohol myopia: Its prized and dangerous effects. *American Psychologist, 45*, 921-933. doi:10.1037//0003-066X.45.8.921
- Straus, M.A., Hamby, S.L., Bony-McCoy, S. & Sugarman, D.B. (1996). The revised Conflict Tactics Scales (CTS2): Development and preliminary psychometric data. *Journal of Family Issues, 17*, 283-316.
- Taylor, S. (1967). Aggressive behavior and physiological arousal as a function of provocation and the tendency to inhibit aggression. *Journal of Personality, 35*, 297-310.
- Taylor, S.P., & Chermack, S.T. (1993). Alcohol, drugs, and human physical aggression. *Journal of Studies on Alcohol, Supplement No. 11*, 78-88.
- Testa, M. (2002). The impact of men's alcohol consumption on perpetration of sexual aggression. *Clinical Psychology Review, 22*, 1239-1263. doi: 10.1016/S0272-7358(02)00204-0
- Tjaden, P., & Thoennes, N. (1998). Prevalence, incidence, and consequences of violence against women: Findings from the national violence against women survey (NCJ 172837). Washington DC: U.S. Department of Justice.
- Twenge, J.M., Baumeister, R.F., Tice, D.M., & Stucke, T.S (2001). If you can't join them, beat them: Effects of social exclusion on aggressive behavior. *Journal of Personality and Social Psychology, 81*, 1058-1069. doi:10.1037//0022-3514.81.6.1058
- Tyler, K.A., Hoyt, D.R., & Whitbeck, L.B. (1998). Coercive sexual strategies. *Violence & Victims, 13*, 47-61.
- van der Meij, L., Almela, M., Buunk, A.P., Fawcett, T.W., & Salvador, A. (2011) Men with

elevated testosterone levels show more affiliative behaviours during interactions with women. *Proceedings of the Royal Society*, 279, 202-208. doi: 10.1098/rspb.2011.0764

White, J.W., & Smith, P.H. (2004). Sexual assault perpetration and re-perpetration: From adolescence to young adulthood. *Criminal Justice and Behavior*, 31, 182-202. doi: 10.1177/0093854803261342

Willan, V. J., & Pollard, P. (2003). Likelihood of acquaintance rape as a function of males' sexual expectations, disappointment, and adherence to rape-conducive attitudes. *Journal of Social and Personal Relationships*, 20, 637-661. doi: 10.1177/02654075030205004

**ABSTRACT****THE EFFECTS OF MEN'S ACUTE ALCOHOL INTOXICATION, OVERPERCEPTION OF SEXUAL INTENT, INTERPERSONAL REJECTION AND TESTOSTERONE ON AGGRESSION TOWARD WOMEN**

by

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This study was designed to assess Abbey's (1991; 2002; 2011) model, which posits that acute alcohol intoxication increases the likelihood of sexual aggression at two stages of a cross-sex interaction. Early on, the cognitive impairments induced by alcohol encourage a potential perpetrator to overperceive a woman's level of sexual intent. Later, if the man's sexual advances are rejected, intoxication encourages an aggressive response. This research expands on the previous literature by examining: 1) both stages of Abbey's model in a single study, 2) rejection from a woman as a potential trigger for aggression, and 3) behavioral (past sexual assault perpetration), personality (trait aggression) and physiological (testosterone) risk factors for aggression as moderators of the hypothesized relationships. Participants completed an online survey assessing background variables and eligibility criteria for the alcohol administration lab study. The lab study included a baseline salivary testosterone measurement, alcohol administration (alcohol vs. sober conditions), a dyadic interaction with a woman (confederate), assessment of participant's perceptions of the woman's level of sexual intent, a manipulated rejection from the woman (reject vs. accept), and a behavioral measure of aggression toward the woman (hot sauce allocation paradigm). Fifty-eight heterosexual single men, ages 21 to 28, completed the online survey and lab study. Acute alcohol intoxication, past perpetration and testosterone were unrelated to participants' overperceptions of the woman's

level of sexual intent. Acute alcohol intoxication and trait aggression were marginally related to aggression toward the woman. Rejection condition and testosterone were not independently related to aggression, but worked together synergistically; rejected participants high in testosterone responded more aggressively toward the woman. Overall, this study did not provide support for Abbey's model. However, given the novelty of this study design and the small sample size, additional research is needed before any conclusions can be drawn. This study replicated key findings from the general aggression and testosterone literatures. Additional research is needed that examines how and when rejection from a woman increases the likelihood of directed aggression toward the woman. Future research should consider baseline and change in testosterone as potential physiological risk factors for aggression toward women.



### **AUTOBIOGRAPHICAL STATEMENT**

Rhiana Wegner majored in Social Health Psychology and minored in Statistical Methods as a doctoral student at Wayne State University under the direction of Dr. Antonia Abbey. Her primary program of research has focused on elucidating the risk factors for sexual assault perpetration and victimization, with a specific focus on explicating alcohol's role in men's sexual aggression toward women. She is interested in patterns of sexual assault perpetration over time, how sexual assault incidents differ based on the victim-perpetrator relationship, the proximal role of misperceptions of sexual intent in sexual assault perpetration, and perpetrators' attempts to justify their sexually aggressive behaviors. She will continue to expand on this program of research and gain additional training in alcohol intervention research next year as a postdoctoral trainee at the University of Washington.