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The Effects of Risky Alcohol Use and Type of Hook Up Behaviors on the Relationship Between Hooking Up to Cope and Negative Affect

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**THE EFFECTS OF RISKY ALCOHOL USE AND TYPE OF HOOK UP BEHAVIORS
ON THE RELATIONSHIP BETWEEN HOOKING UP TO COPE AND NEGATIVE
AFFECT**

by

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B.A. May 2011, Augsburg College

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ABSTRACT

THE EFFECTS OF RISKY ALCOHOL USE AND TYPE OF HOOK UP BEHAVIORS ON THE RELATIONSHIP BETWEEN HOOKING UP TO COPE AND NEGATIVE AFFECT

Leah E. Stevens
Old Dominion University, 2018
Director: Dr. James M. Henson

Hook up behaviors are sexual behaviors that participants engage in consensually without the expectation of a romantic commitment, and they occur frequently in the college context and often co-occur with binge drinking. Research indicates that several factors (i.e., alcohol intoxication, type of sexual behavior, specific motives for hooking up, gender) are predictors of negative emotions associated with hook up experiences, such as regret, shame, confusion, and disappointment. The experience of negative emotions due to hook up experiences in addition to using hookups to cope with negative affect are both associated with aspects of poor mental health such as depression and anxiety. Therefore, the present study sought: (1) to examine the relationship between hooking up to cope and negative affect about the most recent hook up experience, (2) to examine the influence of alcohol intoxication on negative affect about the most recent hook up experience, (3) to examine how gender might moderate the effect of the type of sexual behavior on the degree of negative affect for the most recent hookup behavior, and (4) to examine how the relationship between hooking up to cope and negative affect might change based on alcohol use, type of sexual behavior, and gender. Participants were 474 (72% female) uncommitted, heterosexual undergraduate students with at least one hook up in the past 12 months. Findings revealed a positive association between hooking up to cope and negative affect about the most recent hook up experience and that increased intoxication moderated that

association. Compared to women, males reported lower negative affect about the most recent hook up experience. Clinical implications suggest that targeting binge drinking and coping hook up motives as methods for reducing negative emotions related to hook up experiences for men and women. Future research should investigate the mechanisms involved in the relationship between hooking up to cope, risky sexual behaviors, and negative mental health symptoms.

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This thesis is dedicated to my husband, Micah Stevens, for his unwavering belief in my abilities even when I had none.

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CHAPTER I

INTRODUCTION

Binge drinking and sexual activity commonly co-occur on college campuses (Patrick, Maggs, & Lefkowitz, 2014) and binge drinking has been documented as a risk factor for engaging in risky sexual practices (Langer, Warheit, & McDonald, 2001), including unprotected sex with casual partners (Kiene, Barta, Tennen, & Armeli, 2009). Furthermore, college students who report greater alcohol use also report more penetrative hook ups than non-penetrative hook ups (Owen & Fincham, 2011). Hook up behaviors are behaviors in which partners engage in sexually intimate behaviors without an expectation of a romantic relationship, and hook up behaviors are positively correlated with depression and anxiety and negatively correlated with self-esteem and life satisfaction (Bersamin et al., 2014; Fielder, Walsh, Carey, & Carey, 2014).

Researchers have reported mixed findings about the relationships that exist among the motives for hooking up, type of sexual behaviors, alcohol use, and negative affect about the most recent hook up experience (HUE) among college student populations (Cooper, Shapiro, & Powers, 1998; Fielder, et al., 2014; Kenny, Lac, Hummer, & LaBrie, 2014; Townsend & Wasserman, 2011). Specifically, some studies indicate that compared to non-penetrative hook ups, college students engaging in penetrative hook up behaviors experience increased negative affect about the most recent HUE (Owen, Fincham, & Moore, 2011). In contrast, other studies report that this relationship depends on gender (Lewis, Granato, Blayney, Lostutter, & Kilmer, 2012), such that females experience increased negative affect about the most recent HUE for penetrative hook up behaviors, but not males. Similarly, some researchers report that as alcohol use increases, negative affect about a HUE does as well (Owen & Fincham, 2011), whereas other research indicates that as the typical amount of drinks per week increases, negative affect about a

HUE decreases (Lewis et al., 2012). Clearly more research is needed to further elucidate the true relationships among gender, alcohol use, hooking up, and negative affect. I assert that motives for hooking up is one of the most promising constructs to help us reconcile these discrepancies.

There are 5 types of hook up motives: social-sexual, social-relationship, enhancement, coping, and conformity. Compared to all other hook up motives, hooking up to cope has the strongest relationships with depression, anxiety, stress, and hook up frequency (Kenney et al., 2014).

Further, the relationship between hooking up to cope and individuals' attitudes about their most recent HUE may be moderated by alcohol use, gender, or the type of sexual behavior that occurs. Specifically, previous research has demonstrated that increased alcohol intoxication prior to a HUE was related to increased hooking up to cope motives (Grossbard, Lee, Neighbors, Hendershot, & Larimer, 2007; Orcutt, Cooper, & Garcia, 2005). In addition, men report higher hooking up to cope motives compared to women (Grossbard et al., 2007; Kenney et al., 2014), and individuals who engaged in hook up behaviors that involved vaginal or anal intercourse reported higher hooking up to cope motives compared to hook up behaviors not involving vaginal or anal intercourse (Patrick et al., 2011; Patrick & Maggs, 2010). Additionally, previous research on the predictors of negative affect toward the most recent HUE has demonstrated that key predictors include increased alcohol intoxication (Abbey et al., 2006; Fisher et al., 2012; Orchowski et al., 2012), being a woman (Owen & Fincham, 2011; Paul & Hayes, 2002; Roese et al., 2006), and engaging in vaginal or anal intercourse (Owen & Fincham, 2011; Paul & Hayes, 2002; Roese et al., 2006). However, no published research has examined how the relationship between hooking up to cope and negative affect about the most recent HUE might change (i.e.,

moderate) as a function of these several key predictors: alcohol intoxication, gender, and type of sexual behavior.

Therefore, this research will examine the moderating effects that the type of sexual behavior, alcohol use, and gender might have on the relationship between hooking up to cope and negative affect about the most recent HUE. Because of the elevated incidence rates of hook up behaviors in college populations, this could help clinicians and researchers better understand the sexual situations that could lead to negative mental health outcomes.

Hooking up and Negative Affect about Sexual Experiences

Hooking up is defined as sexually intimate behaviors without a romantic commitment or an expectation of a romantic commitment. Sexually intimate behaviors can include a broad range of activities, such as kissing, heavy petting, mutual masturbation, oral sex, sexual intercourse, and/or anal sex (Garcia & Reiber, 2008; Kenney et al., 2014; Paul & Hayes, 2002). Physical health consequences for hooking up could include sexually transmitted infections (STI's), unintended pregnancy, and sexual assaults (Fielder & Carey, 2010a). In addition to the possible physical health consequences of hooking up, precollege hook up behavior is a predictor for sexual victimization during the early college years as well as being positively correlated with depression in first-year college women (Fielder et al., 2014). Casual sex, or sexual behaviors without a romantic commitment, has been significantly negatively associated with aspects of well-being such as self-esteem, life satisfaction, and psychological well-being as well as significantly positively associated with psychological distress, such as general anxiety, social anxiety, and depressive symptoms (Bersamin et al., 2014).

Feelings of sexual regret, a type of negative affect about a recent HUE, are common in college students; however, women report more worry, regret, and negative affect about sexual

hookups as compared to men (Fisher, Worth, Garcia, & Meredith, 2012; Lewis et al., 2012; Owen, Rhoades, Stanley, & Fincham, 2010; Owen & Fincham, 2011; Townsend & Wasserman, 2011). A study of Canadian college students indicated 72% of men and 78% of women reported feelings of sexual regret following sexual encounters (Fisher et al., 2012). Feelings of sexual regret are positively correlated with risky sexual behaviors, such as the number of penetrative and oral sex partners, particularly with partners one has known for less than 24 hours (Eshbaugh & Gute, 2008).

Hooking up is related to a range of emotional reactions ranging from pleased to disappointed (Owen & Fincham, 2011). Students typically report both positive and negative reactions to hooking up (Glenn & Marquardt, 2001; Owen & Fincham, 2011; Owen et al., 2010). Negative reactions or negative affect about the most recent HUE is an aspect of distress that can include feelings of regret, depression, confusion, shame, and disappointment (Watson, Clark, & Tellegen, 1988). Negative affect about the most recent hook up experience is significantly associated with increased symptoms of depression, loneliness, unwanted but consensual sex, number of partners, and decreased self-esteem (Gentzler & Kerns, 2004; Owen & Fincham, 2011). Lewis and colleagues (2012) found that negative affect after a HUE was related to increased consumption of alcohol during the hook up experience, having vaginal sex, and lower approval of hooking up.

Hooking up as a Coping Mechanism

Coping refers to how people deal with information and emotion under difficult situations and includes efforts to regulate situations involving harm, threat, or challenge (Monat & Lazarus, 1991; Spielberger, 2004). Folkman & Lazarus (1988) argue that coping involves a deployment of attention, which refers to activities that avert attention from the area of distress and can be a

component of avoidant strategies. For example, if performed in moderation, exercising can be a positive avoidant strategy because it reduces negative emotions while also making the person feel better physically. However, avoidant strategies can also be maladaptive, especially if taken to an extreme. Such strategies are called escape-avoidance and include activities such as eating, consuming alcohol, smoking, or having sex (Folkman & Lazarus, 1998). Escape-avoidance is associated with increased symptoms of depression and anxiety (Folkman & Lazarus, 1998).

There are two important components for health-related outcomes such as casual sexual behaviors: valence of reinforcement and source of motivation (Clark & Zimmerman, 1990; Cooper et al., 1998; Cox & Klinger, 1988). Valence of reinforcement describes the mechanism for the individual to pursue incentives, either to avoid a negative outcome or pursue a positive one (Cox & Klinger, 1988). The source of the motivation describes if the behavior is internally or externally derived. Behaviors that are internally derived are either self-focused, self-directed, or self-controlled. Conversely, externally derived behaviors are socially focused and/or controlled (Cooper et al., 1998).

The valence of reinforcement and the source of motivation can be crossed to create four main categories for sexual behavior motives. Generally, negative internally derived motives are called coping motives, negative socially derived motives are called conformity motives, positive internally derived motives are called enhancement motives, and positive socially derived motives are called social motives (Cooper, 1994; Cooper et al, 1998; Kenney et al., 2014). However, some researchers have suggested that the social motive should be split into two components (Kenney et al., 2014): social-sexual and social-relationship. The social-sexual motive includes hook up motives related to having increased opportunities for hook ups and the social-relationship motives include hook up motives related to using the hook up to find a relationship.

Hook up motives have been linked to mental health outcomes such as depression, anxiety, and stress, as well as hooking up approval and hook up behavior (Kenney et al., 2014). All of the hook up motives are positively associated with hook up frequency, and all of the hook up motives except conformity are positively associated with hook up approval. The social-sexual, coping, and conformity motives are positively associated with depression, but the social-relationship and enhancement motives are not (Kenney et al., 2014). All of the hook up motives are also positively associated with anxiety except for the enhancement motive, and only the coping and conformity motives are positively associated with stress (Kenney et al., 2014). However, the coping motive for sexual behavior is the motive of interest for the current study because among the five hook up motives, the coping motive has the strongest positive relationships with depression, anxiety, stress, and hooking up frequency (Kenney et al., 2014). Coping motives for hooking up are considered negative because they are used to help individuals avoid a negative emotion and are internal or self-derived (Cooper et al., 1998). Those that engage in sexual coping motives use sex to escape, avoid, or minimize negative emotions, such as depression or loneliness.

Hook up motives are central to the understanding of how HUEs relate to emotional reactions; however, as a newer construct, research has been conducted using many different scales measuring hooking up to cope and each scale's operationalization of hooking up to cope differs. Cooper, Shapiro, and Powers (1998) introduced a reliable and valid measure for sex motive scales including a sexual coping motive. However, this measure only includes motives for having vaginal sex and not the full range of hook up behaviors, such as kissing, heavy petting, mutual masturbation, oral sex, or anal sex. Therefore, Kenney and colleagues (2014) introduced a new measure to specifically assess hook up motives. To date, there has been a lack

of research on the relationship between hooking up to cope and negative affect about the most recent HUE using the Kenney measure.

Different motives for having vaginal sex are associated with distinctive patterns of risky behavior (Cooper et al., 1998). Coping motives for hooking up have been linked with depression, anxiety, stress, hooking up approval, hooking up behavior (Kenney et al., 2014), an increased number of sexual partners, increased amount of risky sexual practices (Cooper et al., 1998), and a decreased rate of contraception use (Patrick, Maggs, Cooper, & Lee, 2011). Negative reactions or negative affect about the most recent HUE is an aspect of distress that can include feelings of regret, depression, confusion, shame, and disappointment (Watson, Clark, & Tellegen, 1988). Research has indicated that participants high in negative emotionality tend to seek comfort or relief by drinking or having sex with risky partners in an effort to alleviate their distress more often compared to participants with low negative emotionality (Cooper, 2010). Therefore, based on previous research findings:

Hypothesis 1. Participants that report higher hooking up to cope motives will be associated with higher levels of negative affect about their most recent HUE after controlling for gender and hook up frequency.

Alcohol Use

Alcohol Myopia Theory. Alcohol myopia theory predicts an increased likelihood of sexual risk behaviors when individuals use alcohol (Davis, Hendershot, George, Norris, & Heiman, 2007). Alcohol myopia refers to alcohol's ability to impair perceptual and cognitive function, which causes excessive social behaviors indirectly by facilitating the drinker's access to more salient, immediate cues while blocking peripheral cues. Alcohol myopia occurs during situations that cause inhibition conflict, a situation in which a response is brought about by

immediate cues and is inhibited by peripheral cues (Steele & Josephs, 1990). For example, when a person is sober and sexual behavior cues are elicited (salient cues), the person is able to access the idea that the sexual behavior could lead to any number of negative consequences (peripheral cues) and then is able to inhibit the sexual behavior. However, in situations where alcohol is involved, the peripheral cues are unable to be accessed and the sexual behavior occurs. Thus, alcohol can lead to unwanted or unsafe sexual behavior by blocking the inhibition conflict. In addition, according to alcohol myopia theory, the amount of drinks consumed will affect the behavior. Increasing alcohol consumption will increase the myopia, which leads to more of the peripheral cues being blocked. This will lead to more excessive sexual behaviors (Steele & Josephs, 1990).

Many studies have found a positive link between alcohol use and risky sexual behavior (Abbey, Saenz, Buck, Parkhill, & Hayman, 2006; LaBrie, Hummer, Ghaidarov, Lac, & Kenney, 2014; Orchowski, Mastroleo, & Borsari, 2012), especially among college student populations. In a study of first-semester college women, Fielder & Carey (2010b) found that drinking before hooking up occurred 64% of the time and 51% of participants reported that alcohol was their reason for hooking up with their most recent hookup partner. Another study that included male participants found similar results, such that 60.9% of students reported drinking before their most recent hook up and 65.4% of those drinking were engaging in heavy episodic drinking (Lewis et al., 2012).

College students also reported that they would have been less likely to engage in sexual activity had alcohol not been involved (LaBrie et al., 2014). In addition, alcohol has also been positively associated with regretted sex (Fisher et al., 2012; Orchowski et al., 2012; Owen et al., 2010) and negative emotional reactions about the HUE (Owen & Fincham, 2011). Lewis and

colleagues (2012) found that the number of drinks prior to a HUE significantly predicted an increase in negative affect about the HUE. Additionally, Owen and Fincham (2011) found that frequency of consuming alcohol prior to HUEs predicted increased feelings of negative affect about the most recent HUE. Therefore, based on previous research and theory:

Hypothesis 2. Heavier alcohol use before hooking up will be associated with higher negative affect about the most recent HUE after controlling for gender and hook up frequency.

Psychological escape model. McKirnan, Ostrow, & Hope (1996) developed a psychological escape model for risky sexual behaviors. This cognitive escape model posits risky sexual behavior is a consequence of impaired decision-making or is the inability to regulate one's cognitive restraint. McKirnan et al. propose that some individuals engage in sexual behavior because coping with stress or negative emotions is unpleasant. Rather than struggle with those unpleasant feelings, these individuals seek to escape from self-awareness through sexual activity. This is essentially the same concept as hooking up to cope.

However, this model adds to the concept of engaging in sexual activities to cope with stress. This model posits that in addition to hooking up to cope, one must also engage in substance use to experience cognitive disengagement. Cognitive disengagement is the escape of self-awareness that is associated with decreased cognitive restraint. Cognitive disengagement is similar to alcohol myopia in that it leads to impairment in decision-making, in this case sexual decision making. However, according to this model, one must be hooking up to cope and engaging in substance use, such as alcohol intoxication, in order to achieve cognitive disengagement. Rational decision-making and the engagement of cognitively restrained behaviors should occur where decisions match the individuals' values and intentions. However,

when sexual behaviors occur that are in conflict with the individual's sexual standards due to cognitive disengagement, dissonance occurs (McKirnan et al., 1996).

Dissonance between an action and a cognition creates psychological discomfort (Festinger, 1962). Psychological discomfort in relation to cognitive dissonance has been described as feeling upset, regretful, depressed, confused, disappointed, and ashamed (Bonniot-Cabana, Cabanac, Fontanari, & Perlovsky, 2012; Matz & Wood, 2005). Thus, individuals may engage in hook up behaviors as a coping mechanism or individuals may also become intoxicated using alcohol as a coping mechanism. However, cognitive disengagement, or the complete escape of self-awareness associated with decreased cognitive restraint, cannot occur without substance use, such as alcohol intoxication and engaging in hook up behaviors.

According to this model, those who are not intoxicated will not reach cognitive disengagement and should use rational sexual decision-making, such that their behavior matches their values and intentions. Therefore, without the addition of alcohol the relationship between hooking up to cope and negative affect about their most recent HUE should be the same. However, with the addition of alcohol individuals will reach cognitive disengagement, dissonance will occur, and there will be an increased relationship between hooking up to cope and negative affect about the most recent HUE.

Therefore, based on previous research and the psychological escape model:

Hypothesis 3. Alcohol intoxication will moderate the association between hooking up to cope motives and negative affect about the most recent HUE after controlling for hook up frequency and gender. Specifically, I hypothesize that the positive association between hooking up to cope and negative affect about the most recent HUE will increase as level of intoxication increases, such that individuals who are not intoxicated will have the lowest relationship between motives

and negative affect and those in the highest intoxication group will exhibit the strongest relationship between motives and negative affect. See Figure 1.

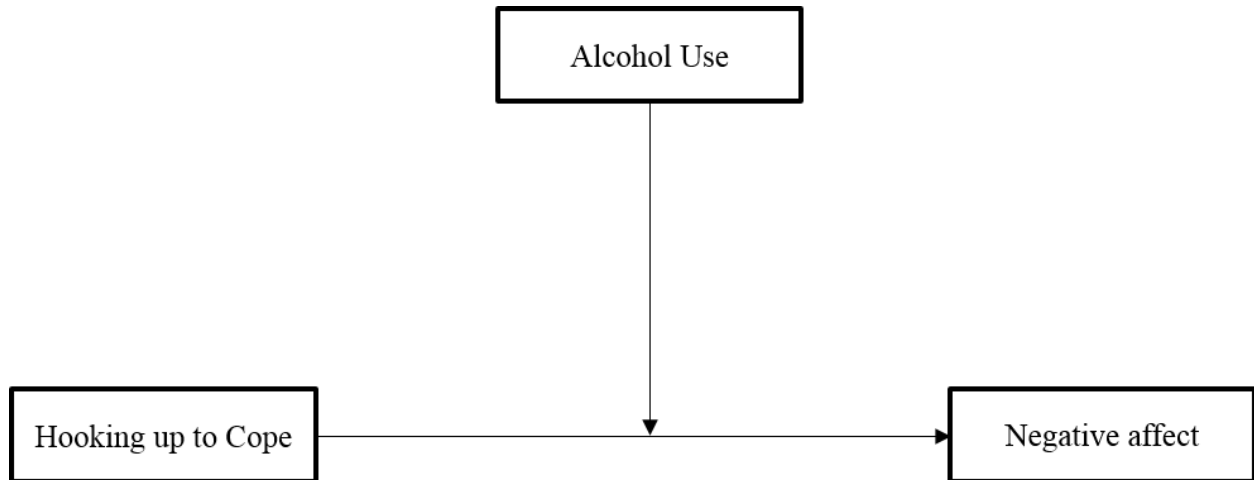


Figure 1. Conceptual moderation model of alcohol intoxication on the relationship between hooking up to cope and negative affect about the most recent HUE.

Type of Hook up Behavior and Gender

According to evolutionary theories, males with multiple partners have increased advantages compared to females due to typical parental investments (Symons, 1987). Selection favors males with multiple partners, whereas females gain the most by mating with a limited number of males. Therefore, it is adaptive for males to have multiple partners and adaptive for females to have a limited number of partners (Symons, 1987). Consequently, evolutionary theories suggest that gender should be important to hook up behavior and emotional reactions. Traditional gender roles indicate different sexual expectations for males and females (Paul, McManus, & Hayes, 2000). These gender roles indicate how males and females should behave sexually, and acting outside of these gender roles can cause conflict that leads to anxiety, regret, and disappointment (Serbin & Sprafkin, 1987). This has led to a sexual double standard where women engaging in sexually promiscuous behaviors are viewed negatively and males engaging in the same behaviors are praised (Zaikman, Marks, Young, & Zeiber, 2016).

Cognitive Dissonance and Self-discrepancy Theory. According to Festinger's (1962) cognitive dissonance theory, when there is a conflict between one's attitudes, beliefs, or behaviors the outcome will be discomfort. For example, a person may believe that engaging in casual sexual behaviors regularly is wrong and then engage in sexual behaviors. That person may experience a cognitive dilemma between their belief that they should not engage in sexual behaviors and their behavior of participating in those sexual activities. One type of self-discrepancy described in Higgins' (1987) self-discrepancy theory suggests that conflicts between one's attitudes, beliefs, or behaviors and other's attitudes, beliefs, or behaviors may also lead to discomfort. The "other" detailed in self-discrepancy theory can include anyone that is important to the person experiencing the conflict. For example, a person may believe that engaging in

casual sexual behaviors is a normal college experience, but someone important to them believes that engaging in casual sexual behaviors is wrong. That person may experience a cognitive dilemma between their belief that engaging in sexual behaviors is acceptable and an important person in their life's belief that engaging sexual behaviors is unacceptable. According to these two theories, the discomfort felt can include feelings such as disappointment, dissatisfaction, shame, depression, feeling upset, confused, and regretful. Therefore, conflict between beliefs about oneself that one feels directly due to engaging in sexual behavior and beliefs about how one should behave or others' beliefs about how one should behave should result in feelings of negative affect about the most recent HUE.

These conflicting representations are intertwined with the type of sexual behavior that occurs during a HUE. For example, college students frequently report that they have had at least one encounter where they regretted engaging in sexual activity (Eshbaugh & Gute, 2008; Fisher, Worth, Garcia, & Meredith, 2012). Although men generally tend to report regret of acts of omission, or not going further sexually, women tend to report higher regrets of action, or wishing they had not engaged in sexual behavior (Paul & Hayes, 2002; Roese et al., 2006). Owen & Fincham (2011) found that overall, women reported higher negative emotional reactions to HUEs compared to men. The type of sexual behavior also affected negative emotional experiences, such that women reported higher negative emotional reactions after engaging in penetrative behaviors compared to men. In addition, compared to women and men that engaged in penetrative sex, men reported higher levels of negative affect about engaging in non-penetrative behaviors. Roese and colleagues (2006) had similar findings, indicating that compared to women, men reported significantly more regret for not going further sexually.

These findings are consistent with cognitive dissonance theory and self-discrepancy theory in relation to a sexual double standard.

Therefore, based on previous research and theory:

Hypothesis 4. The type of sexual behavior and gender will affect levels of negative affect about the most recent HUE. Specifically, females engaging in penetrative behaviors will report the highest levels of negative affect about the most recent HUE.

Hypothesis 4a. As found in previous literature (Owen & Fincham, 2011), controlling for hook up frequency and type of sexual behavior, I expect women will report significantly higher levels of negative affect about their most recent HUE.

Hypothesis 4b. Controlling for hook up frequency and gender, those participating in penetrative hook up behaviors will report significantly higher levels of negative affect about their most recent HUE.

Combining self-discrepancy theory, cognitive dissonance theory, and the sexual double standard, women engaging in penetrative acts could experience a conflict between their own beliefs, attitudes, and/or behaviors and others' beliefs and attitudes. However, men engaging in penetrative acts may not feel conflict because their attitudes, beliefs, and/or behaviors match with the attitudes and beliefs of others. It is also possible that women engaging in non-penetrative acts would experience a conflict between their beliefs and their behaviors. Finally, men engaging in non-penetrative acts might experience conflicts between their own behaviors, attitudes, and/or behaviors and others' beliefs and attitudes.

Hypothesis 4c. Therefore, I hypothesize that gender will moderate the effects that the type of sexual behavior has on negative affect about the most recent HUE. Specifically, controlling for hook up frequency, the gender difference in negative affect about the most recent

HUE will be larger for penetrative acts compared to non-penetrative hook up behaviors. See Figure 2.

Conflict such as regret, confusion, and shame due to traditional gender roles in sexual expectations as a result of gender will affect the relationship between hooking up to cope and negative affect about the most recent HUE differentially for males and females. Thus, I expect that women may feel more negative affect after their HUE with more intimate sexual activity and men may feel more negatively from not going further sexually. This differentiation should affect the relationship between hooking up to cope and negative affect about the most recent HUE. Lewis et al. (2012) found that gender and having penetrative sex were significant predictors of negative affect about the most recent HUE. Being female and engaging in penetrative sexual behaviors predicted higher negative affect about the most recent HUE.

Research Question 1. Type of sexual behavior and gender will moderate the association between hooking up to cope motives and negative affect about the most recent HUE after controlling for hook up frequency (see Figure 3).

Research Question 1a. I expect gender to moderate the relationship between hooking up to cope and negative affect about the most recent HUE, such that the relationship will be stronger for women than men.

Research Question 1b. I expect that type of hook up behavior will moderate the relationship between hooking up to cope and negative affect about the most recent HUE, such that the relationship will be stronger for those engaging in penetrative sexual behaviors than for those engaging in non-penetrative sexual behaviors.

Research Question 1c. I predict that the gender difference in the hooking up to cope negative affect relationship will be greater in the penetrative hook up behaviors group as

compared to the non-penetrative hook up behavior group. I expect that the strongest relationship between hooking up to cope and negative affect about the most recent HUE will be for women in the penetrative hook up behavior group and the weakest would be men in the non-penetrative hook up behavior group. See Figure 4.

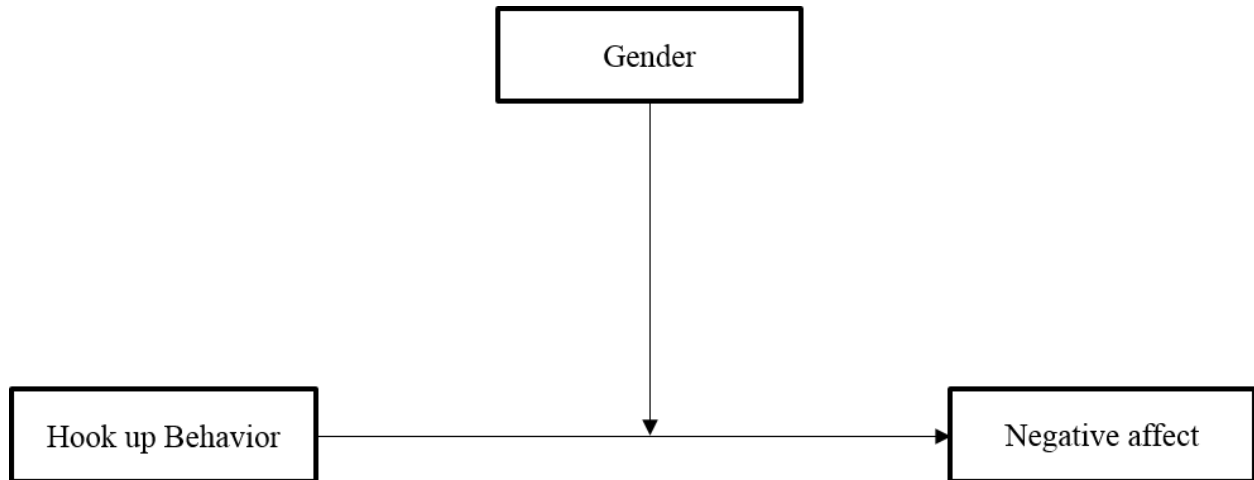


Figure 2. Conceptual moderation model of gender on the relationship between type of hook up behavior and negative affect about the most recent HUE.

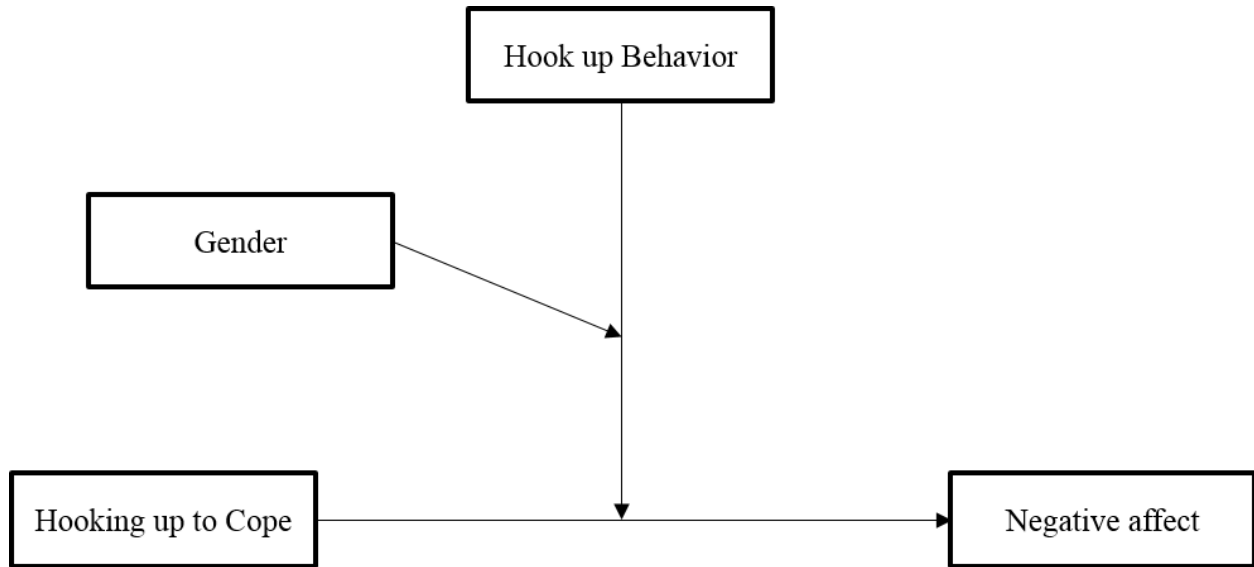


Figure 3. Conceptual moderation model of hook up behavior and gender on the relationship between hooking up to cope and negative affect about the most recent HUE.

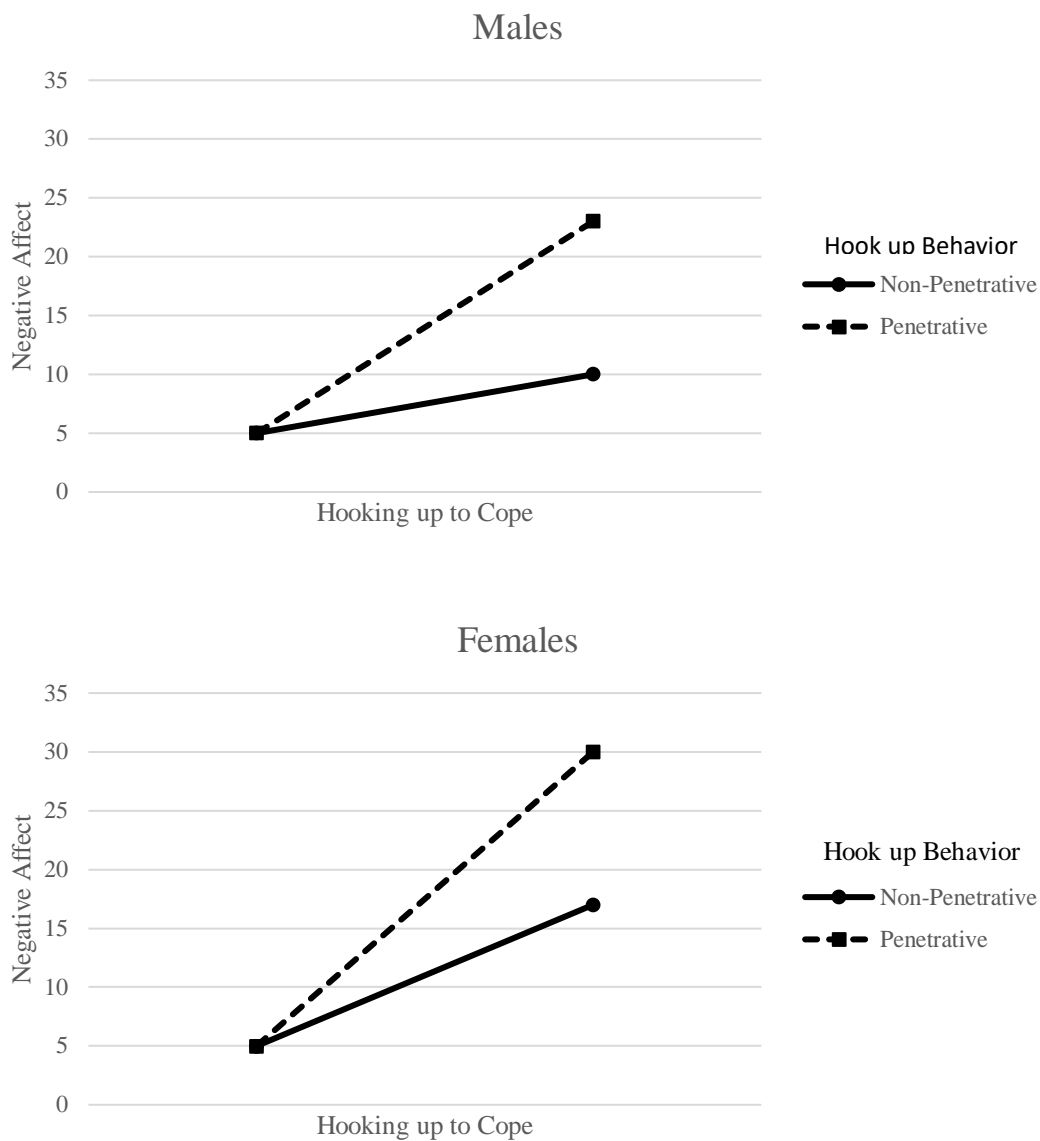


Figure 4. Hypothesized interaction between hooking up to cope, hook up behavior, gender, and negative affect.

Purpose of Study

The purpose of the current study is to examine the conditional relationships between type of sexual behavior, gender, hooking up to cope, and alcohol use prior to the HUE and aspects of negative affect about the most recent HUE such as regret, shame, and disappointment. More specifically, this study will look at the moderating role that gender, sexual behavior, and alcohol use will have on the relationship between hooking up to cope and negative affect about the most recent HUE among college students. I hypothesized that hooking up to cope and negative affect about the most recent HUE will be positively correlated. Second, I proposed that alcohol intoxication before the most recent HUE will be associated with higher negative affect about the most recent HUE. In addition, I expect that there will be an interaction between hooking up to cope and alcohol use, such that participants in the moderately to extremely intoxicated group will exhibit a stronger relationship between hooking up to cope and negative affect about the HUE. I also hypothesize that gender and the type of HUE will interact in the prediction of negative affect, such that males participating in penetrative HUE's will experience lower negative affect about the HUE and females participating in penetrative HUE's will experience higher levels of negative affect about the HUE. Finally, I will determine if alcohol use during the most recent hook up, gender, and type of sexual behavior each moderate the relationship between hooking up to cope and negative affect about the HUE. I predict that female participants who were moderately to extremely intoxicated during their most recent hook up and engaging in penetrative HUE's will report stronger relationships between hooking up to cope and negative affect about the most recent HUE. Disentangling the relationships between hooking up to cope and negative affect about the most recent HUE are important because these experiences are common in college students and related to many detrimental outcomes such as low self-esteem,

anxiety and depressive symptoms, risky sexual practices, and psychological distress (Bersamin et al., 2014; Eshbaugh & Gute, 2008; Fisher et al., 2012).

CHAPTER II

METHOD

Participants

In order to participate in the study, participants must have (1) been at least eighteen years or older, (2) been in college, (3) hooked up at some point during the past 12 months, (4) not been in a committed relationship, and (4) been heterosexual. Those in a committed relationship with someone else during the most recent HUE were removed from analysis because cheating may be the reason they experienced negative affect about their most recent HUE. Sexual orientations other than heterosexual were removed from analysis because the aim of this study was to examine heterosexual relationships, and it is possible that other sexual orientations may behave or feel differently than heterosexual orientations in relation to HUEs. Compared to females, males commonly report hooking up more frequently (LaBrie et al., 2014; Owen & Fincham, 2011) and hook up frequency may be related to how one feels about their HUEs. Therefore, hook up frequency was controlled for in all analyses.

Participants were recruited through the psychology research participation system at Old Dominion University and 541 undergraduate students participated in the study. Thirty-one participants were removed because they did not hook up in the past twelve months and ten participants were removed because they indicated that their most recent HUE occurred while they were in a committed relationship with someone else. In addition, 6 participants were deleted because they reported a sexual orientation other than heterosexual and 8 participants were deleted for having no data for the negative affect component of the survey. Last, 12 participants were deleted for indicating that they engaged in a hook up behavior involving only

kissing. The final sample consisted of 474 undergraduate student participants who received course credit in exchange for participating in the study.

Procedure

Participants took an online survey using the Qualtrics Survey software about their most recent HUEs. Participants were provided with a brief definition of hooking up: “Hooking up is defined as physically intimate behaviors without a romantic commitment or an expectation of a romantic commitment. Physically intimate behaviors can include a broad range of activities from heavy petting, mutual masturbation, oral sex, sexual intercourse, and/or anal sex.”

Participants were informed of their right to withdraw participation during the course of the study and that all questions were voluntary. Participants were provided with researcher contact information for use if they encountered further questions or concerns. Upon the completion of the survey, the participant was granted research credit for their participation in the study.

Measures

Demographics. Demographic information including age, race, ethnicity, gender, class standing, sexual orientation, and marital status (see Appendix A) was collected at the end of the survey.

Hooking Up Coping Motives. Hook up motives were assessed using the Hook Up Motives Questionnaire (HMQ; Kenney et al., 2014). The HMQ (see Appendix B) is a 19-item instrument assessing a list of reasons that college student’s hook up that translate into five motives: social-sexual, social-relationship, conformity, enhancement, and coping (Kenney et al., 2014); however, only the coping motives subscale was used for this study (current study $\alpha = .83$). The response scale uses a five-point Likert scale ranging from 1 (*not at all*) to 5 (*extremely*).

The coping motives scale consists of four items such as “I hook up because it makes me feel good when I’m not feeling good about myself.” The final question of the HMQ is “how often do you hook up?” The response scale consists of a 7 point scale ranging from 0 (*never*) to 7 (*two or more times a week*).

The HMQ has shown good reliability ($\alpha = .83$; Kenney et al., 2014) and construct validity with related external measures of depression, anxiety, and stress. The highest correlation between any two factors of the HMQ was .53, which is below the recommended interfactor correlation of .80 (Mahoney, Thombs, & Howe, 1995). The coping subscale had a significant positive relationship with depression ($r = .27, p < .001$), anxiety ($r = .27, p < .001$), and stress ($r = .20, p < .001$; Kenney et al., 2014). Criterion-related validity examined through subscale relationships with approval and hooking up behavior showed that the coping subscale had significant positive correlations with approval for and with hooking up behavior. Approval for hook up behavior was considered endorsing hooking up behaviors as acceptable and not disapproving of those behaviors (Kenney et al., 2014).

Alcohol Use. Participants were asked to rate the level of their intoxication prior to their most recent HUE on a five-point Likert scale ranging from 1 (*not at all*) to 5 (*extremely*; Lewis et al., 2012). See Appendix C. However, for males, there were only 9 in the extremely intoxicated group, 11 in moderately intoxicated group, and 17 in the somewhat intoxicated category. Therefore, the extremely and moderately intoxicated groups were combined and the slightly and somewhat intoxicated categories were combined. This led to the formation of three alcohol intoxication groups: not at all intoxicated, slightly/somewhat intoxicated, and moderately/extremely intoxicated.

Hook Up Behaviors. Participants were asked to think about their most recent HUE in the past 12 months and report what types of behaviors they engaged in (see Appendix D). A checklist was provided where they could check “yes” or “no” for the following responses: “I did not hook up in the past 12 months”, “kissing”, “mutual masturbation”, “oral sex”, “sexual intercourse”, “anal sex”, and “I was in a committed relationship with someone else during my most recent hook up experience”.

Participants that reported only kissing during their most recent hook up were not included in the analysis because kissing is not considered a public health concern. The other behaviors of hooking up are a public health concern because of the risk of STI’s, HIV/AIDS, and depression. Anal and vaginal sex were combined as penetrative sex due to the low amounts of anal sex that has been reported (Fielder & Carey, 2010b). Participants that report being in a committed relationship with someone else during their most recent HUE were not included in the analysis because the current study is not interested in cheating or infidelity. Cheating and infidelity may have a different set of motives and different reasons for experiencing negative affect about the most recent HUE. However, due to low sample size for males in the heavy petting ($n = 9$), mutual masturbation group ($n = 6$) and oral sex group ($n = 8$), these groups were combined to create a group representing those that engaged in non-penetrative hook up behavior and a group representing those that engaged in penetrative hook up behaviors.

Negative Affect about the Most Recent Hook Up. Negative affect (see Appendix E) about the most recent HUE was assessed using a measure based on the research of Lewis et al. (2012) and Owen & Fincham (2011). These studies used Glenn & Marquardt’s (2001) exploratory study on college student’s reactions to hooking up to identify emotional reactions associated with HUEs. Additional studies performing correlational and qualitative analyses by

other researchers have also found similar responses regarding emotional reactions to HUEs (Fielder & Carey, 2010; Fisher et al., 2012; Moore & Davidson, 1997; Owen, Rhoades, Stanley, & Fincham, 2010; Paul & Hayes, 2002).

Participants were asked to indicate the extent to which they experienced feelings or emotions based on their most recent hookup. This measure assessed both positive and negative affect; however, only the negative affect subscale was used for this study. Negative affect (current study $\alpha = .91$) consists of seven items including upset, regretful, depressed, confused, disappointed, used, and ashamed. These items are also very similar to the validated Positive and Negative Affect Scale (PANAS; Watson, Clarke, & Tellegen, 1988). Participants rated their emotions for seven items on a five-point Likert scale ranging from 1 (*not at all*) to 5 (*extremely*). A negative affect composite about the most recent HUE was created by calculating the mean of the 7 items (Owen & Fincham, 2011). These items have high face validity and have been used often in previous research to distinguish emotional reactions to hooking up (Owen et al., 2010; Owen & Fincham, 2011; Lewis et al., 2012). Lewis and colleagues (2012; $\alpha = .87$) and Owen & Fincham (2011; $\alpha = .82$) both reported good internal consistency for the negative affect about the most recent HUE scale.

Analyses Plan

Hypothesis 1: I hypothesized that participants who report higher hooking up to cope motives will be associated with higher levels of negative affect about the most recent HUE. A partial correlation was used to assess Hypothesis 1, such that negative affect about the most recent HUE was predicted by hooking up to cope using gender and hook up frequency as covariates. Specifically, I expected a significant positive partial correlation between hooking up to cope and negative affect about the most recent HUE.

Hypothesis 2: I hypothesized that those who were in the moderately/extremely intoxicated group would be associated with higher negative affect about the most recent HUE after controlling for gender and hook up frequency. An ANCOVA was used to assess Hypothesis 2 with negative affect about the most recent HUE as the dependent variable, alcohol intoxication prior to hooking up as the factor, and gender and hook up frequency as covariates. Specifically, I expected that those who were in the moderately/extremely intoxicated group and the somewhat/slightly intoxicated group would have significantly higher negative affect about the most recent hook up experience compared to those that were not intoxicated prior to their most recent HUE.

Hypothesis 3: I expected that alcohol intoxication would moderate the associations between hooking up to cope motives and negative affect about the most recent HUE after controlling for hook up frequency and gender. Specifically, the positive association between hooking up to cope and negative affect about the most recent HUE should increase as level of intoxication increases from not at all intoxicated to somewhat/slightly intoxicated to moderately/extremely intoxicated, such that those who were not intoxicated would have the weakest relationship between motives and negative affect; in contrast, those who were moderately/extremely intoxicated would exhibit the strongest relationship between motives and negative affect about the most recent HUE. An ANCOVA was used to assess Hypothesis 3 with alcohol intoxication group as the factor, hook up frequency and gender as the covariates, and negative affect about the most recent HUE as the dependent variable.

Hypothesis 4: I predicted that the type of sexual behavior and gender would affect levels of negative affect about the most recent HUE. Specifically, females engaging in penetrative hook up behaviors should report the highest levels of negative affect about the most recent HUE.

Hypothesis 4a: As found in previous literature (Fincham, 2011), controlling for hook up frequency and type of sexual behavior, I expected women to report significantly higher levels of negative affect about the most recent HUE.

Hypothesis 4b: Controlling for hook up frequency and gender, those participating in penetrative hook up behaviors should report significantly higher levels of negative affect about their most recent HUE.

Hypothesis 4c: Controlling for hook up frequency, the gender difference in negative affect about the most recent HUE will be larger for penetrative acts compared to non-penetrative hook up behaviors. An ANCOVA with type of sexual behavior, gender, and a gender by type of sexual behavior interaction term as the factors, hook up frequency as the covariate, and negative affect about the most recent HUE was used to assess this hypothesis.

Research Question 1: I expected that controlling for hook up frequency, type of sexual behavior and gender should moderate the associations between hooking up to cope motives and negative affect about the most recent HUE.

Research Question 1a: Gender should moderate the relationship between hooking up to cope and negative affect about the most recent HUE, such that the relationship will be stronger for women than men.

Research Question 1b: Type of hook up behavior should moderate the relationship between hooking up to cope and negative affect about the most recent HUE, such that the relationship will be stronger for those engaging in penetrative sexual behaviors than for those engaging in non-penetrative sexual behaviors.

Research Question 1c: I predicted that the gender difference in the hooking up to cope negative affect relationship would be greater for those engaging in penetrative hook up behaviors

as compared to those engaging in non-penetrative hook up behaviors. I expected that the strongest relationship between hooking up to cope and negative affect about the most recent HUE would be for women engaging in penetrative hook up behaviors. See Figures 3 and 4.

The moderation models were analyzed using Mplus 7.2 (Muthén &Methén, 1998-2013). The total and conditional effects of each variable on negative affect about the most recent HUE were examined using bias-corrected bootstrapped estimates (Efron & Tibshirani, 1993) based on 10,000 bootstrapped samples. This method provides a powerful test of moderation and is robust to departures from normality (Erceg-Hurn & Mirosevich, 2008). Frequency of hooking up was controlled for in all analyses. Statistical significance was determined by unstandardized 95% bias-corrected bootstrapped confidence intervals that did not contain zero.

CHAPTER III

RESULTS

Descriptive statistics, correlations, assumption testing, and ANOVA's were conducted using IBM SPSS Statistics version 22. Moderation analyses and invariance testing were conducted using Mplus 7.2 (Muthén & Muthén, 1998-2013). Before hypotheses were tested, the data were cleaned. Assumptions of ANCOVA and regression, univariate outliers, and multivariate outliers were checked. Histograms, boxplots, and Q-Q plots were used to assess outliers, normality, skew, and kurtosis. Negative affect about the most recent HUE was not normally distributed, with skew of 1.50 ($SE = 0.11$) and kurtosis of 1.60 ($SE = .22$; see Figure 5). Therefore, negative affect was transformed to negative affect about the most recent HUE raised to the -1.5 power (see Figure 6). Raising negative affect about the most recent HUE to a power of -1.5 reverses the direction of the values. Therefore, results need to be interpreted in the opposite direction.

Descriptive statistics can be found in Table 1 and correlations between study variables can be found in Table 2. Correlations with the transformed value of negative affect (TNA) about the most recent HUE should be interpreted with caution because the transformation causes a reversal of the sign of the correlation from what would be expected with negative affect. Correlations with negative affect about the most recent hook up experience should be interpreted with caution due to the extreme positive skew of the variable. The negative correlation between TNA and negative affect about the most recent HUE was large, $r(472) = -.89, p < .001$, as should be expected for two variables intended to measure the same construct. The strongest associations among study variables included a medium negative association between TNA and

hooking up to cope, $r(472) = -.30, p < .001$ and a small positive association between type of hook up behavior and hook up frequency, $r(472) = .24, p < .001$.

Experiencing negative affect about the most recent HUE was fairly uncommon. Only 30% of the sample reported a mean value that corresponded to feeling a slight to extreme amount of negative affect about the most recent HUE. All participants reported feeling at least one of the emotions comprising negative affect to at least a slight degree. For example, 36% reported feeling slightly to extremely upset, 43% reported feeling slight to extreme regret, 21% reported feeling slightly to extremely depressed, 45% reported feeling slightly to extremely confused, 33% reported feeling slightly to extremely ashamed, 34% reported feeling slightly to extremely disappointed, and 35% reported feeling slightly to extremely used during their most recent HUE. The average degree of use of hooking up to cope reported by participants was between slightly and somewhat. The majority of participants engaged in penetrative hook up behaviors (80%) and were not intoxicated (60%) during their most recent HUE.

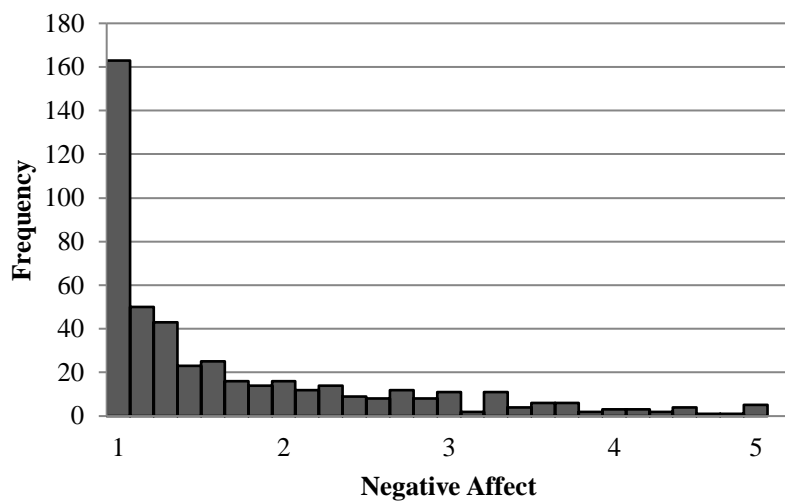


Figure 5. Frequency of values for negative affect about the most recent HUE.

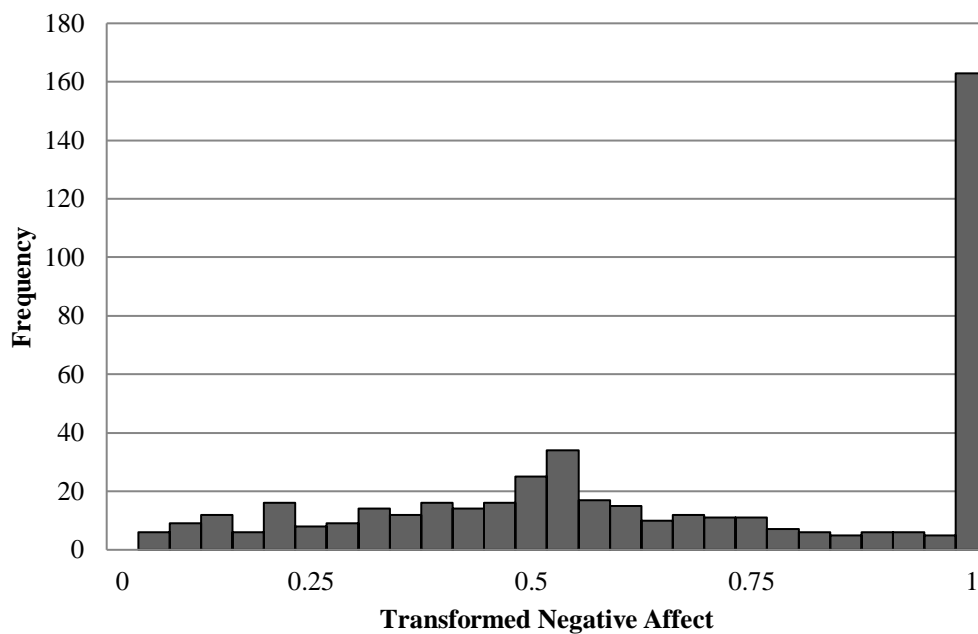


Figure 6. Frequency of values for transformed negative affect about the most recent HUE.

Table 1

Demographic and Study Variables

Variable	N	<u>Men</u>		<u>Women</u>	
		N	%	N	%
Age	131		27.64	343	72.36
<i>M, SD</i>	21.52		4.30	20.68	3.91
Ethnicity					
Asian/Pacific Islander	13		2.74	7	1.48
Black/African American	57		12.03	141	29.75
Native American	2		0.42	0	0.00
White/Caucasian	43		9.07	139	29.32
Hispanic/Latino	7		1.48	16	3.38
Bi/Multi Racial/Other	9		1.90	40	8.44
Education					
Freshman	47		9.92	104	21.94
Sophomore	29		6.12	75	15.82
Junior	22		4.64	80	16.88
Senior	30		6.33	81	17.09
Missing	3		0.63	3	0.63
Hooking up to Cope					
<i>M, SD</i>	2.24		1.04	2.17	1.13
Hook up Behavior					
Non-penetrative	23		4.85	71	14.98

Penetrative	108	22.78	272	57.38
Negative Affect				
<i>M, SD</i>	1.51	0.77	1.80	0.98
Transformed Negative Affect				
<i>M, SD</i>	0.72	0.31	0.61	0.33
Hook up Frequency				
<i>M, SD</i>	4.06	2.19	3.73	2.07
Alcohol Intoxication				
Not at all	69	14.56	215	45.36
Slightly/Somewhat	42	8.86	74	15.61
Moderately/Extremely	20	4.22	54	11.39

Note. A hook up frequency value of 4.00 corresponds to once a month.

Table 2.

Intercorrelations among Study Variables

	1	2	3	4	5	6	7	8
1. HUF	---							
2. Gender	-.07	---						
3. HTC	.16***	-.03	---					
4. HUB	.24***	-.04	-.01	---				
5. Intox1	.01	-.11*	-.03	-.01	---			
6. Intox2	-.03	-.01	.17***	.01	-.25***	---		
7. TNA	.15**	-.15**	-.30***	.07	.11*	-.22***	---	
8. NA	-.12*	.14**	.28***	-.05	-.10*	.20***	-.89***	---

Note. HUF = hook up frequency. Gender was coded -1 = men, 1 = women. HTC = hooking up to cope. HUB = Hook up behavior was coded -1 = non-penetrative, 1 = penetrative. Effects coding was used for alcohol use to make comparisons to the not at all intoxicated group. Intox1 was coded -1 = not at all, 0 = slightly/somewhat, 1 = moderately/extremely. Intox2 was coded -1 = not at all, 0 = moderately/extremely, 1 = slightly/somewhat. TNA = transformed value of negative affect about the most recent HUE. Transforming negative affect reverses the sign of the correlation from what would be expected with negative affect. NA = negative affect about the most recent HUE. Results of the NA correlations should be interpreted with caution given the high positive skew of the variable. * $p < .05$, ** $p < .01$, *** $p < .001$.

Hypothesis 1

I hypothesized that participants who reported higher hooking up to cope motives would also report higher levels of negative affect about the most recent HUE. A partial correlation was used to assess Hypothesis 1 that examined the association between the transformed value of negative affect (TNA) about the most recent HUE from hooking up to cope using gender and hook up frequency as covariates. Specifically, I expected a significant positive partial correlation between hooking up to cope and negative affect about the most recent HUE, which would correspond to a negative partial correlation between TNA and hooking up to cope.

As predicted, there was a significant partial correlation between TNA about the most recent HUE and hooking up to cope after controlling for gender and hook up frequency, $pr(470) = -.34$, $p < .001$, 95% CI [-.42, -.26], $pr^2 = .11$. This indicates that there is a negative association between hooking up to cope and TNA after controlling for hook up frequency and gender and that hooking up to cope accounts for 11% of the variance in TNA about the most recent HUE not accounted for by gender and hook up frequency. Therefore, as hooking up to cope increases, so does negative affect about the most recent HUE. For ease of interpretation, a partial correlation was calculated to examine the association between the untransformed negative affect about the most recent HUE variable and hooking up to cope with gender and hook up frequency as covariates. This partial correlation was significant, $pr(470) = .31$, $p < .001$, 95% CI [.22, .40], $pr^2 = .10$.

Hypothesis 2

I hypothesized that after controlling for gender and hook up frequency, participants who were intoxicated before hooking up would have higher negative affect about the most recent HUE compared to those that were not intoxicated prior to hooking up. I proposed an ANCOVA

to assess Hypothesis 2 with TNA as the dependent variable and alcohol intoxication prior to hooking up as the factor. However, the assumption of homogeneity of regression was violated when examining the interaction between hook up frequency and alcohol intoxication, $F(3, 470) = 6.05, p < .001$. Therefore, the interaction between alcohol intoxication and hook up frequency was included in the model.

Multiple regression was used to assess Hypothesis 2 using Mplus 7.2, with gender as a covariate (gender was coded -1 = men, 1 = women), hook up frequency, alcohol intoxication (alcohol intoxication was dummy coded to make comparisons to the not at all intoxicated group), and 2-way interactions between alcohol intoxication and hook up frequency as predictors and TNA about the most recent HUE as the dependent variable. Hook up frequency was grand mean centered prior to creating the interaction terms. Statistical significance was determined when the unstandardized 95% bias-corrected 10,000 bootstrapped confidence interval did not contain zero. Hypothesis 2 was partially supported (see Table 3).

Controlling for hook up frequency and gender, the TNA difference between those that were not at all intoxicated and those that were slightly/somewhat intoxicated was not significantly different from zero, $b = 0.03$ ($SE = 0.03$), $t(473) = 0.97, p = .330$, 95% CI [-0.04, 0.10], $\beta = .04$. However, the difference between those that were not at all intoxicated and those that were moderately/extremely intoxicated was significantly different from zero, $b = -0.19$ ($SE = 0.04$), $t(473) = -4.98, p < .001$, 95% CI [-0.27, -0.12], $\beta = -.21$ (see Figure 7 and 8). This suggests that participants who reported being moderately to extremely intoxicated had significantly higher negative affect about their most recent HUE compared to participants that were not at all intoxicated.

Additionally, although there was not a significant interaction between the dummy coded variable representing those that were slightly/somewhat intoxicated and hook up frequency, $b = -0.02$ ($SE = 0.02$), $t(473) = -1.02$, $p = .307$, 95% CI [-0.05, 0.02], $\beta = -.05$, there was a significant interaction between the dummy coded variable representing those that were moderately/extremely intoxicated and hook up frequency, $b = -0.06$ ($SE = 0.02$), $t(473) = -3.22$, $p = .001$, 95% CI [-0.09, -0.02], $\beta = -.02$ (see Figure 9 and 10). TNA about the most recent HUE increased for those who were not at all intoxicated as hook up frequency increased. However, TNA about the most recent HUE decreased for those that were moderately to extremely intoxicated as hook up frequency increased. This indicates that TNA was more or less unrelated to hook up frequency for those who were slightly to somewhat intoxicated. However, TNA did depend on hook up frequency for those who were moderately to extremely intoxicated, such that increased hook up frequency was associated with decreased negative affect about the most recent HUE.

Table 3

Regression Coefficients for Alcohol Intoxication, Hook up Frequency, and Gender on TNA about the most recent HUE

Predictor	<i>b</i> (<i>SE</i>)	β	<i>p</i>	95% CI
HUF	0.02 (0.01)	.12	.004	0.01, 0.03
Gender	-0.05 (0.02)	-.13	.002	-0.08, -0.02
Intox1	0.03 (0.03)	.04	.330	-0.04, 0.10
Intox2	-0.19 (0.04)	-.21	<.001	-0.27, -0.12
Intox1 x HUF	-0.02 (0.02)	-.05	.307	-0.05, 0.02
Intox2 x HUF	-0.06 (0.02)	-.13	.001	-0.09, -0.02

Note. Gender was coded -1 = men, 1 = women. Alcohol use was dummy coded to make comparisons to the not at all intoxicated group. Intox1 represents slightly/somewhat intoxicated and Intox2 represents moderately/extremely intoxicated.

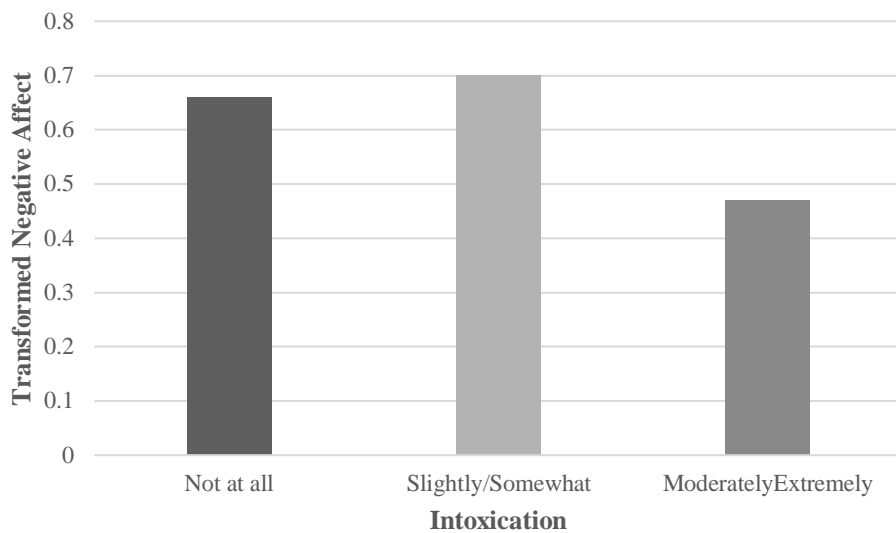


Figure 7. Mean differences in the transformed value of negative affect about the most recent HUE at levels of intoxication controlling for gender.

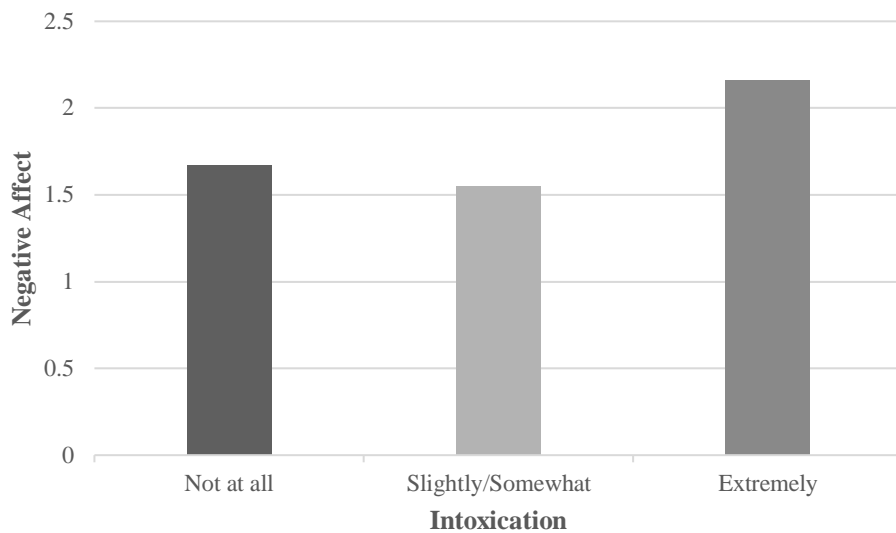


Figure 8. Mean differences in negative affect about the most recent HUE at levels of intoxication controlling for gender.

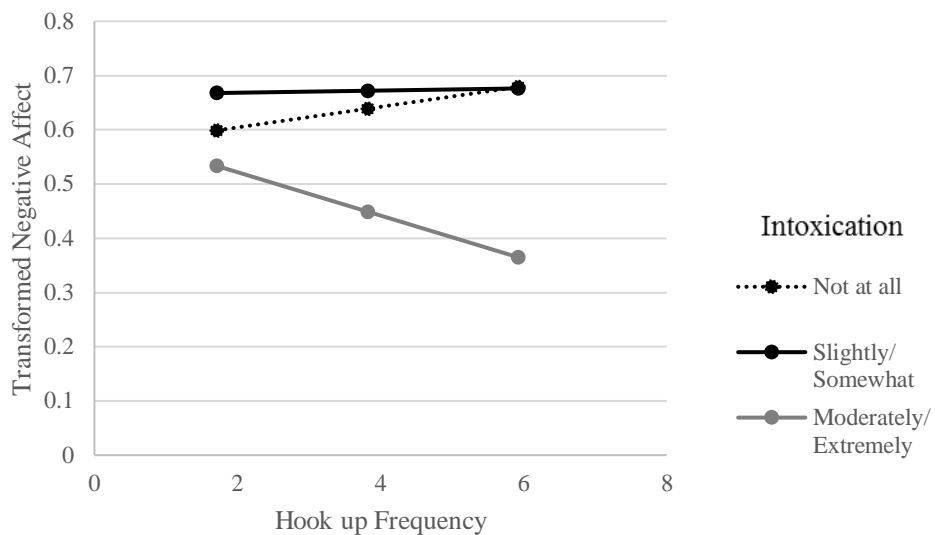


Figure 9. Marginal means for TNA on the most recent HUE based on level of alcohol intoxication and hook up frequency.

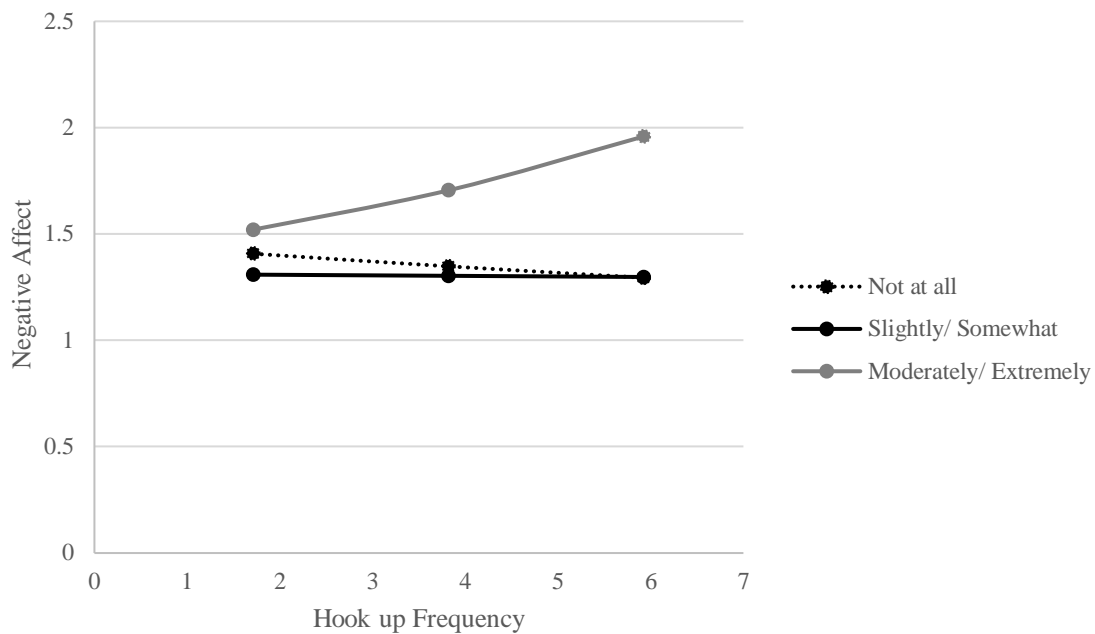


Figure 10. Marginal means for negative affect on the most recent HUE based on level of alcohol intoxication and hook up frequency.

Hypothesis 3

While controlling for hook up frequency and gender, I predicted that alcohol intoxication would moderate the associations between hooking up to cope motives and negative affect about the most recent HUE. Specifically, I expected that compared to participants who were not intoxicated prior to hooking up, the association between hooking up to cope and negative affect about the most recent HUE would be strongest among participants with higher levels of intoxication prior to the hook up. The moderation model was analyzed using Mplus 7.2 (Muthén & Muthén, 1998-2013). The interaction effects of alcohol intoxication on TNA was examined using bias-corrected bootstrapped estimates (Efron & Tibshirani, 1993) based on 10,000 bootstrapped samples. Gender and hook up frequency were controlled for in this analysis. Statistical significance was determined when the unstandardized 95% bias-corrected bootstrapped confidence interval did not contain zero. Dummy coding was used for alcohol intoxication to make comparisons to participants that were not at all intoxicated. Effects coding was used for gender (-1 = men, 1 = women). Hook up frequency and hooking up to cope variables were centered prior to analysis and creation of interaction terms.

Alcohol intoxication did not moderate the association between hooking up to cope and TNA about the most recent HUE (see Figure 11 and Table 4). The difference between the hooking up to cope relationship for those that were slightly/somewhat intoxicated and those that were not at all intoxicated was not significantly different from zero, $b = -0.02$ ($SE = 0.03$), $t(473) = -0.55$, $p = .583$, 95% CI [-0.08, 0.04], $\beta = -.02$. The difference between the hooking up to cope slope for those that were moderately/extremely intoxicated and those that were not at all intoxicated was not significantly different from zero, $b = -0.02$ ($SE = 0.03$), $t(473) = -0.57$, $p = .568$, 95% CI [-0.09, 0.05], $\beta = -.03$. Adding alcohol intoxication as a moderator to the model

did not significantly increase the percent of variability explained in TNA about the most recent HUE, $\Delta R^2 = .00$, $F(2, 466) = 0.26$, $p = .775$. The conditional effects of hooking up to cope on TNA about the most recent HUE defined by alcohol intoxication can be viewed in Figure 12 and 13.

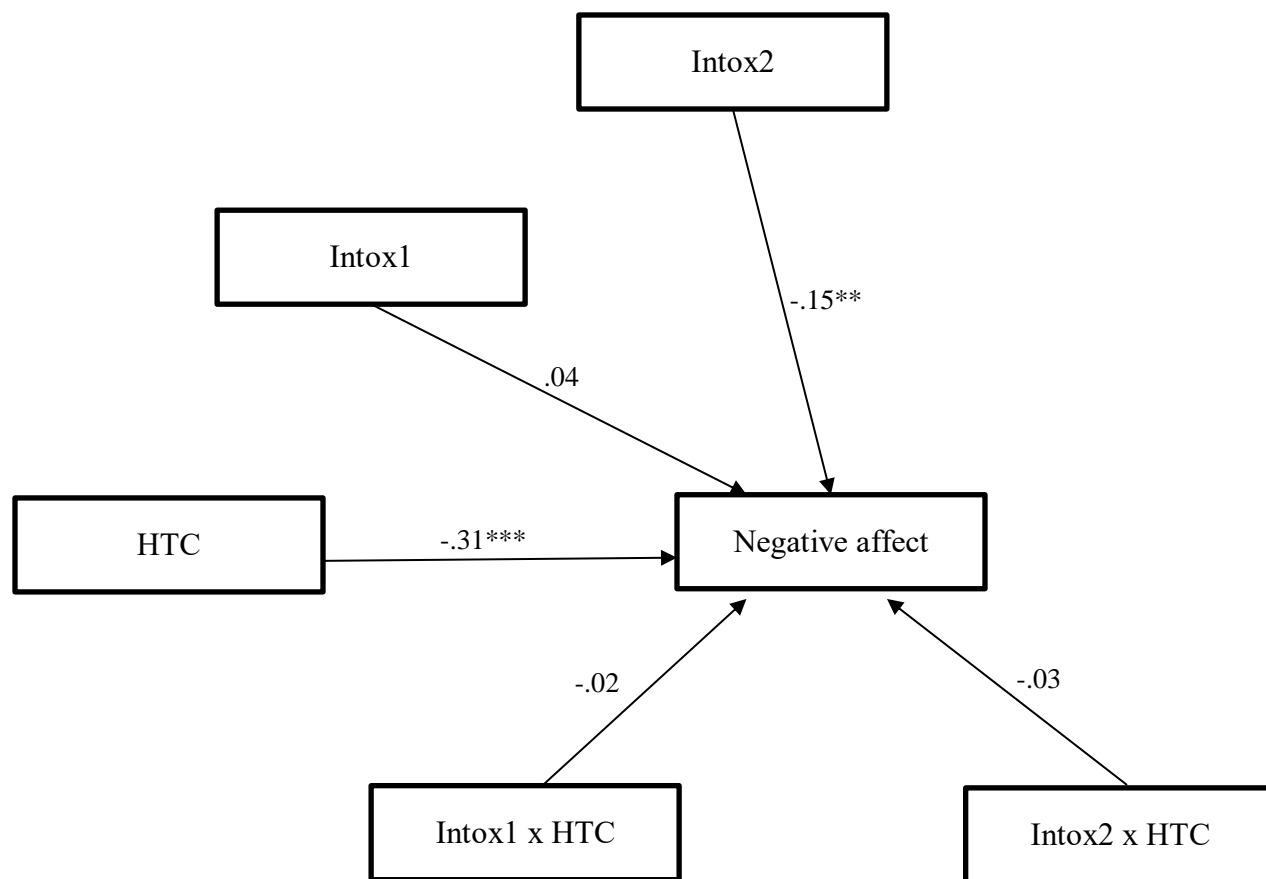


Figure 11. Statistical moderation model of alcohol intoxication on the relationship between hooking up to cope and TNA about the most recent HUE. HTC = hooking up to cope. Depicted above are the standardized regression coefficients for each path of the model. Gender was coded -1 = men, 1 = women. Alcohol use was dummy coded to make comparisons to the not at all intoxicated group. Intox1 represents slightly/somewhat intoxicated and Intox2 represents moderately/extremely intoxicated. Hook up frequency ($b = .03$, $\beta = .19$) and gender ($b = -.05$, $\beta = -.14$) were significant covariates in this model. These paths are not shown in the figure for reasons of parsimony. ** $p < .01$, *** $p < .001$.

Table 4

Regression Coefficients for the Moderation Effect of Alcohol Intoxication on the Association between Hooking up to Cope and the Transformed Value of Negative Affect

Predictor	<i>b</i> (<i>SE</i>)	β	<i>p</i>	95% CI
HUF	0.03 (0.01)	.19	<.001	0.02, 0.04
Gender	-0.05 (0.02)	-.14	.001	-0.08, -0.02
HTC	-0.09 (0.01)	-.31	<.001	-0.12, -0.07
Intox1	0.03 (0.03)	.04	.312	-0.03, 0.10
Intox2	-0.13 (0.04)	-.15	.003	-0.22, -0.04
Intox1 x HTC	-0.02 (0.03)	-.02	.583	-0.08, 0.04
Intox2 x HTC	-0.02 (0.03)	-.03	.568	-0.09, 0.05

Note. Gender was coded -1 = men, 1 = women. Alcohol use was dummy coded to make comparisons to the not at all intoxicated group. Intox1 represents slightly/somewhat intoxicated and Intox2 represents moderately/extremely intoxicated.

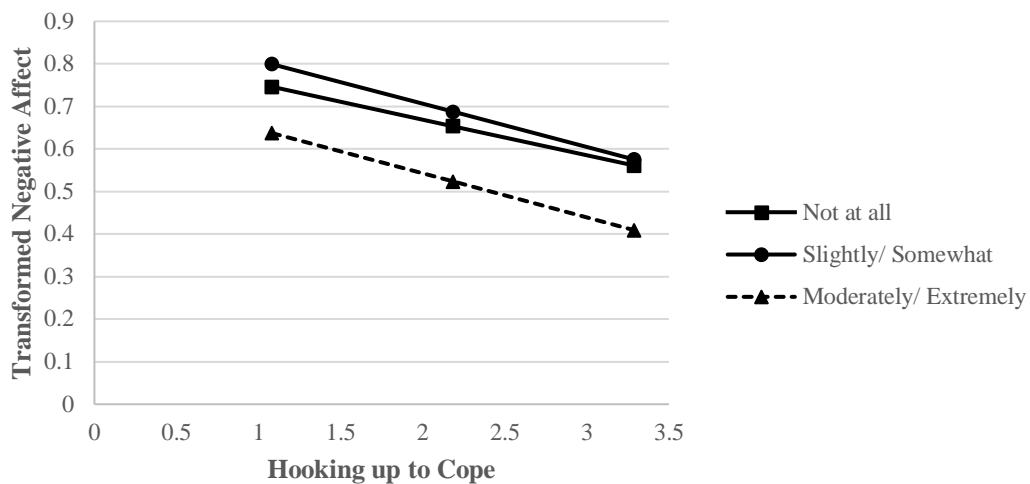


Figure 12. Conditional effects of hooking up to cope on TNA about the most recent HUE defined by alcohol intoxication.

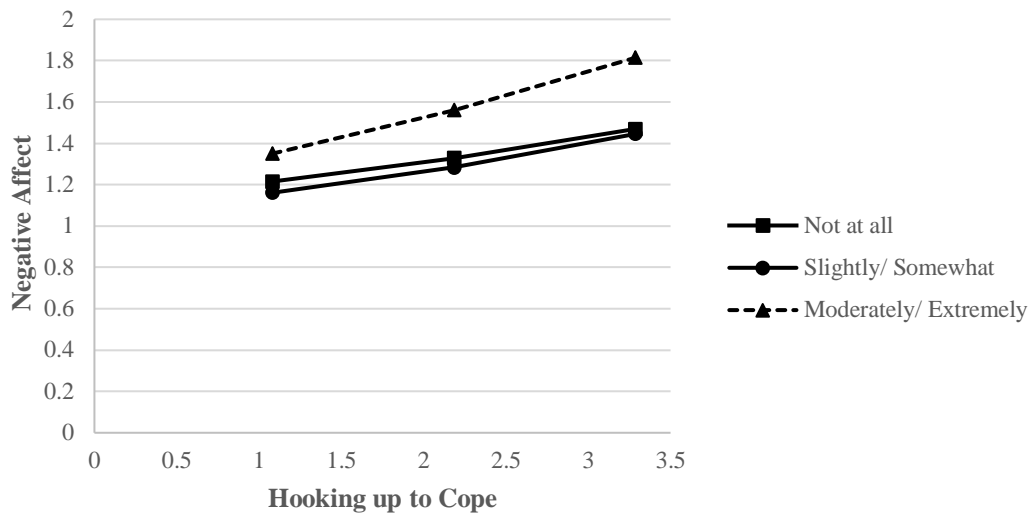


Figure 13. Conditional effects of hooking up to cope on negative affect about the most recent HUE defined by alcohol intoxication.

Hypothesis 4

I hypothesized that the type of sexual behavior and gender would affect levels of negative affect about the most recent HUE. Specifically, I predicted that after controlling for hook up frequency, females engaging in penetrative behaviors would report the highest levels of negative affect about their most recent HUE. As found in previous literature (Owen & Fincham, 2011), after controlling for hook up frequency and type of sexual behavior, I predicted that women would report significantly higher levels of negative affect about the most recent HUE. Additionally, I predicted that after controlling for hook up frequency and gender, participants engaging in penetrative hook up behaviors would report significantly higher levels of negative affect about their most recent HUE. Finally, I predicted that after controlling for hook up frequency, the gender difference in negative affect about the most recent HUE would be larger for those engaging in penetrative hook up behaviors compared to those engaging in non-penetrative hook up behaviors. An ANCOVA with type of sexual behavior, gender, and a type of sexual behavior by gender interaction term as the factors, hook up frequency as the covariate, and TNA about the most recent HUE as the dependent variable. Effects coding was used for gender (male = -1, female = 1) and type of hook up behavior (non-penetrative = -1, penetrative = 1).

Hypothesis 4a was supported; after controlling for hook up frequency and compared to males ($M = 0.72$, $SD = 0.31$), females ($M = 0.61$, $SD = 0.33$) reported significantly lower levels of TNA about their most recent HUE, $F(1, 469) = 4.13$, $p = .004$, partial $\eta^2 = .01$. Hypothesis 4b was not supported; after controlling for hook up frequency, there was not a significant main effect for type of hook up behavior, $F(1, 469) = 0.66$, $p = .418$, partial $\eta^2 = .00$. Hypothesis 4c was not supported; after controlling for hook up frequency, there was not a significant gender

difference in negative affect about the most recent HUE for penetrative and non-penetrative hook up behaviors, $F(1, 469) = 0.30$, $p = .587$, partial $\eta^2 = .00$. See Table 5, Figure 14, and Figure 15.

Table 5

ANCOVA Results for Gender and Hook up Behavior on TNA

Predictor	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	<i>Partial η^2</i>
HUF	1	.86	8.46	.004	.02
Gender	1	0.42	4.13	.043	.01
HUB	1	0.07	0.66	.418	.00
Gender x HUB	1	0.03	0.30	.587	.00
Error	469	0.10			

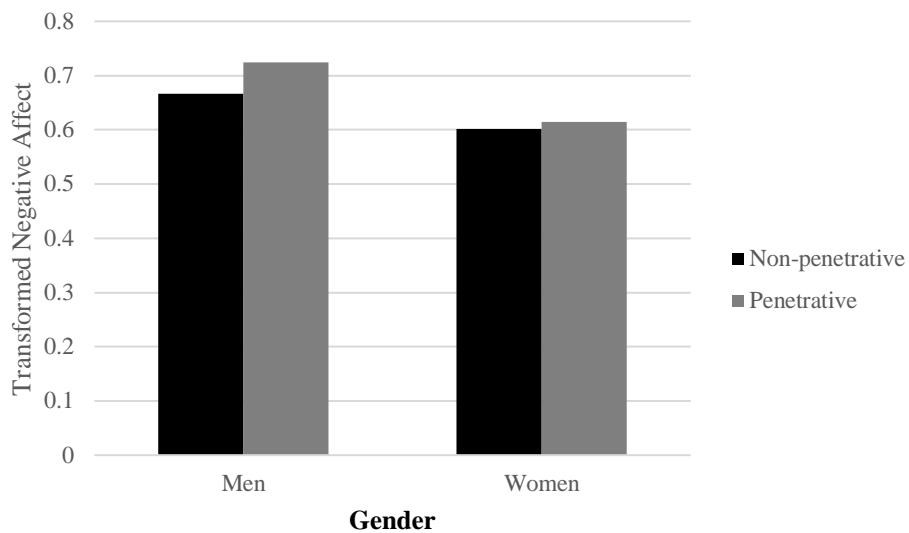


Figure 14. Marginal means for gender and type of hook up behavior on transformed negative affect about the most recent HUE.

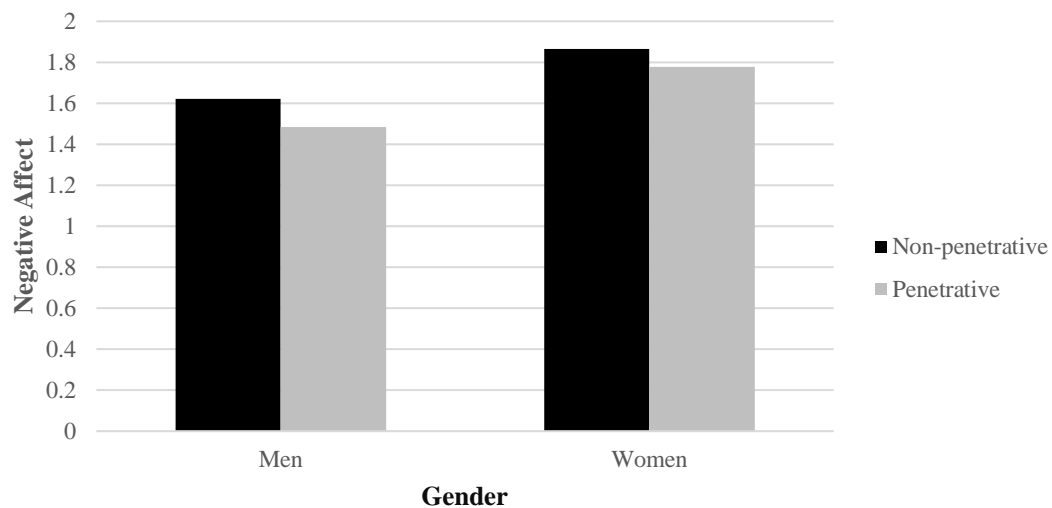


Figure 15. Marginal means for gender and type of hook up behavior on negative affect about the most recent HUE.

Research Question 1

I predicted that after controlling for hook up frequency and the type of sexual behavior, gender would moderate the associations between hooking up to cope and negative affect about the most recent HUE, such that relationship would be strongest for women. Additionally, I predicted that the type of hook up behavior would moderate the relationship between hooking up to cope and negative affect about the most recent HUE, such that the relationship would be strongest for those participating in penetrative hook up behaviors. Finally, I predicted that the gender difference in the hooking up to cope-negative affect relationship would be greater for those engaging in penetrative hook up behaviors. I expected that the strongest relationship between hooking up to cope and negative affect about the most recent HUE would be for women engaging in penetrative sexual behaviors.

The moderation model was analyzed using Mplus 7.2 (Muthén & Muthén, 1998-2013). The total and conditional effects of each variable on TNA about the most recent HUE were examined using bias-corrected bootstrapped estimates (Efron & Tibshirani, 1993) based on 10,000 bootstrapped samples. Frequency of hooking up was controlled for in this analysis. Statistical significance was determined using unstandardized 95% bias-corrected bootstrapped confidence intervals not containing zero (see Table 6). Effects coding was used for gender (male = -1, female = 1) and type of hook up behavior (non-penetrative = -1, penetrative = 1). Hook up frequency and hooking up to cope were mean centered prior to analysis.

Research question 1 was not supported (see Table 6); the type of sexual behavior and gender did not significantly interact on the relationship between hooking up to cope and TNA about the most recent HUE. Adding type of sexual behavior and gender interacting on the relationship between hooking up to cope and TNA about the most recent HUE did not

significantly increase the percent of variability explained in TNA about the most recent HUE, $R^2 = .00$, $F(1, 465) = 1.67$, $p = .197$.

Research question 1a was not supported; gender did not moderate the relationship between hooking up to cope and negative affect about the most recent HUE, $b = 0.01$ ($SE = 0.02$), $t(473) = 0.80$, $p = .431$, 95% CI [-0.02, 0.04], $\beta = .04$. Research question 1b was not supported; type of hook up behavior did not moderate the relationship between hooking up to cope and negative affect about the most recent HUE, $b = -0.01$ ($SE = 0.02$), $t(473) = 0.60$, $p = .548$, 95% CI [-0.05, 0.02], $\beta = -.03$. Research question 1c was not supported; the gender difference in the hooking up to cope-negative affect about the most recent HUE was not significantly different across hook up behaviors, $b = 0.02$ ($SE = 0.02$), $t(473) = 1.23$, $p = .218$, 95% CI [-0.01, 0.06], $\beta = .06$ (see Figures 16, 17, and 18).

Hook up frequency, $b = 0.03$ ($SE = 0.01$), $t(473) = 4.30$, $p < .001$, 95% CI [0.02, 0.04], $\beta = .19$, gender, $b = -0.05$ ($SE = 0.02$), $t(473) = -3.21$, $p = .001$, 95% CI [-0.08, -0.02], $\beta = -.14$, and hooking up to cope, $b = -0.10$ ($SE = 0.01$), $t(473) = -7.79$, $p < .001$, 95% CI [-0.13, -0.08], $\beta = -.34$ were all significant predictors of TNA about the most recent HUE. This indicates that those who hook up more frequently have higher TNA (or lower negative affect) about the most recent HUE. The significance of the gender slope indicates that males report higher TNA (or lower negative affect) about the most recent HUE. Additionally, those who reported a higher degree of hooking up to cope motives reported lower TNA (or higher negative affect) about their most recent HUE.

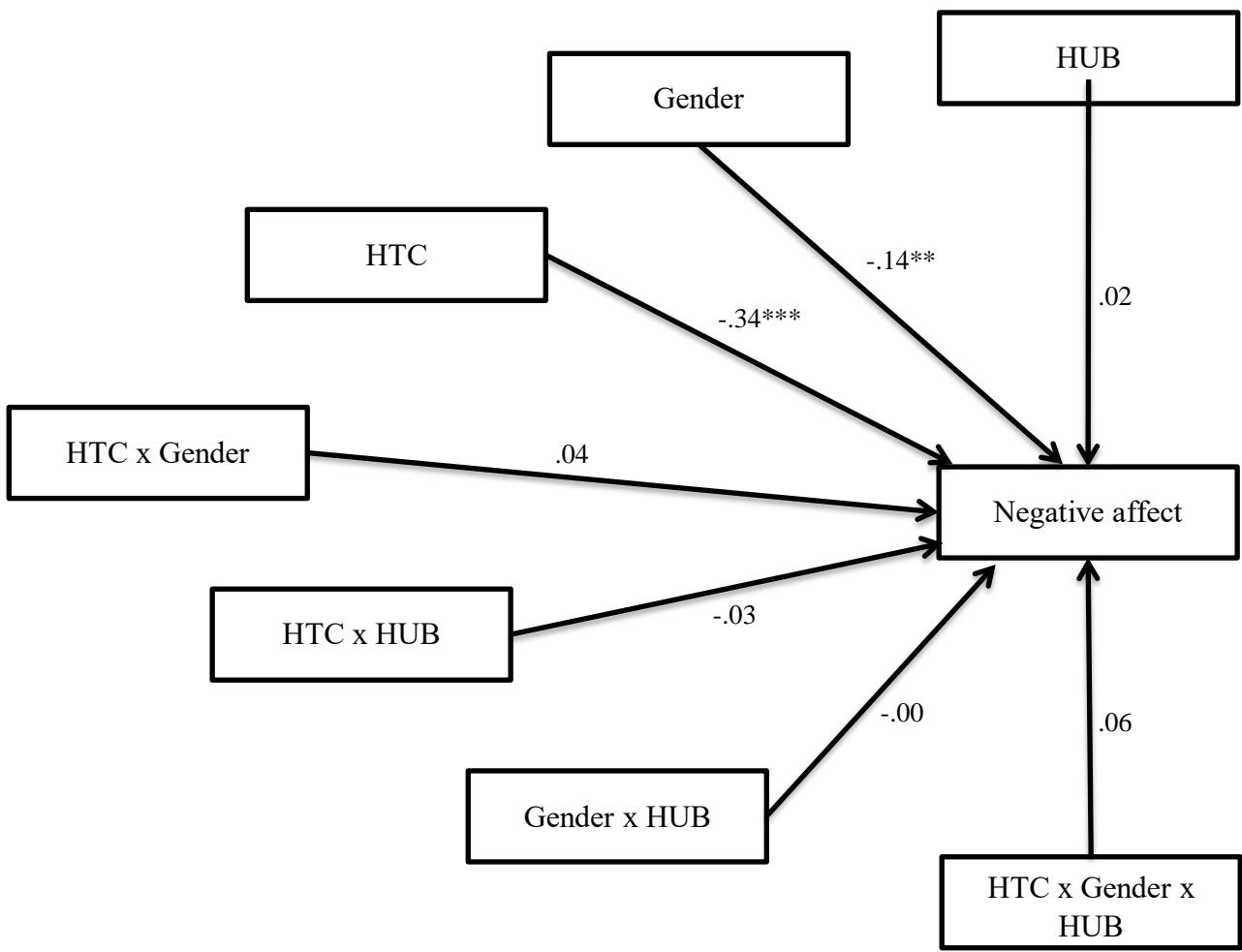


Figure 16. Statistical moderation model of hook up behavior and gender on the relationship between hooking up to cope and TNA about the most recent HUE. Depicted above are the standardized regression coefficients for each path of the model. Gender was coded -1 = men, 1 = women. HUB = Hook up behavior was coded -1 = non-penetrative, 1 = penetrative. Hook up frequency ($b = .03, \beta = .19$) was a significant covariate in this model. This path is not shown in the figure for reasons of parsimony. $** p < .01, *** p < .001$.

Table 6

Regression Coefficients for the Moderation Effect of Hook up Behavior and Gender on the Association between Hooking up to Cope and the Transformed Value of Negative Affect

Predictor	<i>b</i> (<i>SE</i>)	β	<i>p</i>	95% CI
HUF	0.03 (0.01)	.19	<.001	0.02, 0.04
HUB	0.01 (0.02)	.02	.650	-0.03, 0.05
Gender	-0.05 (0.02)	-.14	.001	-0.08, -0.02
HTC	-0.10 (0.01)	-.34	<.001	-0.13, -0.08
HTC x HUB	-0.01 (0.02)	-.03	.548	-0.05, 0.02
HTC x gender	0.01 (0.02)	.04	.431	-0.02, 0.04
HUB x gender	-0.00 (0.02)	-.00	.922	-0.04, 0.04
HTC x gender x HUB	0.02 (0.02)	.06	.218	-0.01, 0.06

Note. Gender was coded -1 = men, 1 = women. HUB = Hook up behavior was coded -1 = non-penetrative, 1 = penetrative.

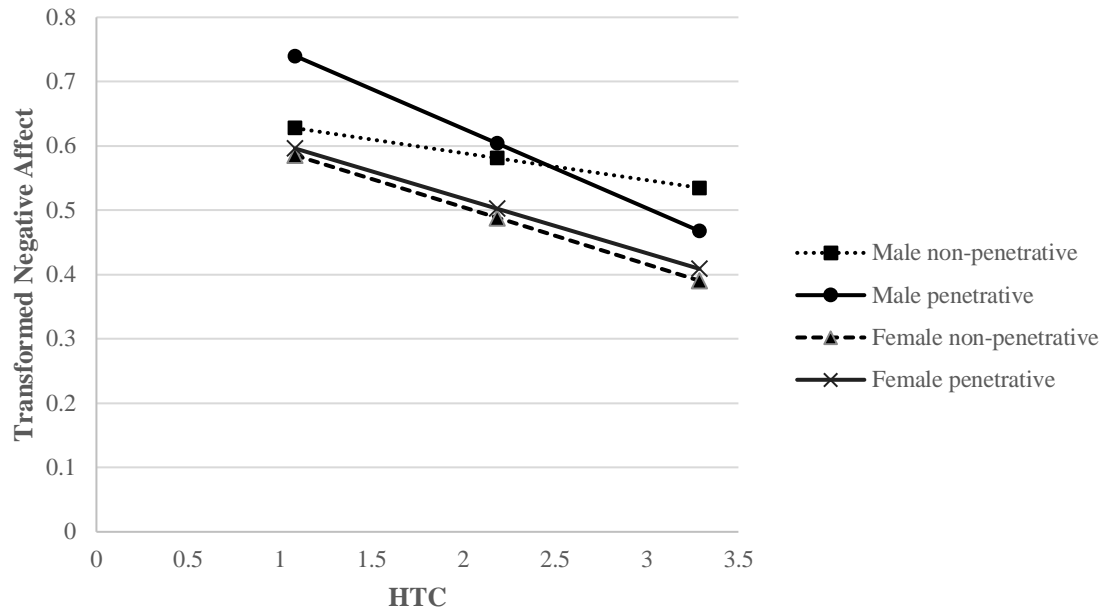


Figure 17. Simple slopes for hooking up to cope on TNA about the most recent HUE defined by gender and hook up behavior.

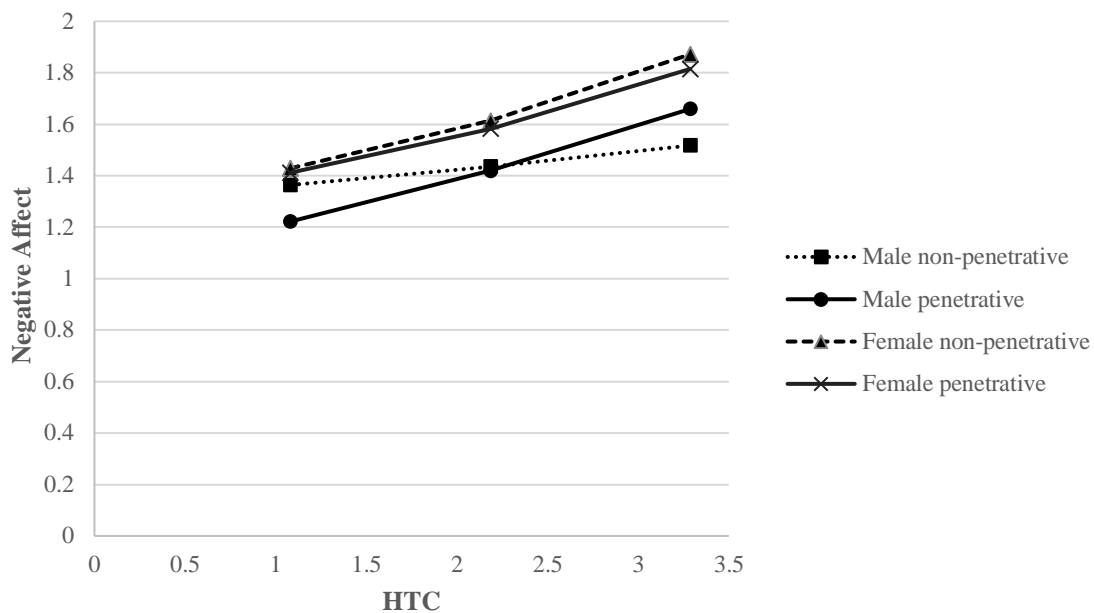


Figure 18. Simple slopes for hooking up to cope on negative affect about the most recent HUE defined by gender and hook up behavior.

CHAPTER IV

DISCUSSION

The goal of the current research was to examine the conditional relationships among hooking up to cope, gender, type of sexual behavior, and alcohol intoxication on the relationship between hooking up to cope and negative affect about the most recent HUE. This study found that the majority of college participants engaging in HUE's do not feel high levels of negative affect about their most recent HUE, even with the majority of participants engaging in penetrative hook up behaviors. Although one previous research study reported low levels of negative affect about the most recent HUE they did not transform the variable. No other studies reported such extreme positive skew about the most recent HUE. Additionally, although hook up frequency was used as a covariate in the majority of analyses and was not a specific interest for this study, it is important to note that it was significantly negatively associated with negative affect about the most recent HUE.

Hooking up to Cope

The first aim of this study was to test the association between hooking up to cope and negative affect about the most recent HUE while controlling for hook up frequency and gender. Previous literature has suggested a positive relationship between hooking up to cope and depression (Kenney et al., 2014). However, researchers have not examined how this relationship translates to feelings about a specific HUE (i.e., the most recent).

Consistent with the prediction, there was a positive association between hooking up to cope and negative affect, this indicates that higher values of hooking up to cope corresponds to greater values of negative affect about the most recent HUE. Because hook ups and regret of sexual experiences are common on college campuses today (Fisher et al., 2012; Lewis et al.,

2012), it is important to find possible risk factors associated with negative affect about the most recent HUE. The results of this study indicate that using hooking up to cope may be one of those risk factors. Furthermore, the strongest relationship between any two variables in the study, besides TNA and negative affect, was hooking up to cope and negative affect. Hooking up to cope was also the strongest predictor in all of its respective models. Nine percent of the variance in negative affect was accounted for by hooking up to cope, a medium effect size, indicating that research and interventions targeting risky sexual behaviors or hook up behaviors should include hooking up to cope. The relationship between hooking up to cope and negative affect was not moderated by gender, type of hook up behavior, or alcohol intoxication.

Alcohol Use

The second aim of this study was to test the influence of alcohol intoxication on negative affect about the most recent HUE. Many previous studies have reported an effect of intoxication on negative affect (LaBrie et al., 2014; Lewis et al., 2012; Owen & Fincham, 2011). However, many studies reported alcohol use as a dichotomous variable (LaBrie et al., 2014), averaged alcohol use across hook up experiences (Fisher et al., 2012; Owen & Fincham, 2011), or measured typical alcohol consumption (Orchowski et al., 2012). Consistent with previous literature, alcohol intoxication did increase negative affect about the most recent HUE for those that were moderately/extremely intoxicated (Owen & Fincham, 2011; Lewis et al., 2012) as compared to those who were not intoxicated. Additionally, the second strongest relationship (small positive association) with negative affect investigated in this study was feeling moderately to extremely intoxicated and 5% of the variance in negative affect about the most recent HUE was due to feeling moderately to extremely intoxicated. The results of this study indicated that alcohol intoxication may only affect negative affect about the most recent HUE at higher levels

of intoxication. Therefore, it may be important for interventions targeting alcohol use to reduce those that drink until moderate to extreme intoxication, but not necessarily those that only drink until they are slightly intoxicated.

Alcohol myopia theory predicts an increased likelihood of unwanted sexual behaviors and increased alcohol consumption would increase the myopia leading to more excessive sexual behaviors. Although there was not a difference between those who were slightly/somewhat intoxicated and not intoxicated, there was a difference between those who were moderately/extremely intoxicated and those who were not intoxicated. The results of this study indicate that compared to those who were not intoxicated, those who were moderately to extremely intoxicated did experience more negative affect about their most recent hook up behavior, which is predicted by myopia theory. However, it did not indicate that an increase in alcohol consumption led to higher negative affect about those experiences linearly. One possible reason for this difference between alcohol myopia's prediction and the findings of this study is that this study measured alcohol consumption by how intoxicated the participants felt they were. It did not measure the number of drinks that participants ingested prior to the hook up and alcohol myopia theory predicts that increased consumption of alcohol, not necessarily how intoxicated the person felt from the effects of alcohol, will lead to those unwanted sexual behaviors.

Due to a violation in the homogeneity of regression assumption, hook up frequency and its interactive effects were included as predictors of negative affect. This led to the identification of a moderating effect of hook up frequency. The relationship between negative affect about the most recent HUE and hook up frequency depended on alcohol intoxication. Although there was not a significant effect of hook up frequency for those who were slightly to somewhat

intoxicated, there was a relationship between hook up frequency and negative affect about the most recent HUE for individuals who were moderately to extremely intoxicated and slightly to somewhat intoxicated. Specifically, among individuals who were not at all intoxicated, increases in the frequency of hooking up were associated with decreased negative affect about the most recent HUE. Conversely, for individuals who were moderately to extremely intoxicated increases in the frequency of hooking up were associated with increased negative affect about the most recent HUE.

It is possible that those who do not hook up very often may not regret their experience as much because they blame their actions on their intoxication and those who do not hook up very often and are not intoxicated feel worse about their hook up experiences because they can't blame their actions on alcohol, a finding consistent with previous literature (LaBrie et al., 2014). This finding may also be consistent with cognitive dissonance (Festinger, 1962). Those who do not hook up very often may feel regret about their hook up experience because they behaved in a way that they normally do not and feel dissonance between their actions and the way they normally behave. However, those who were moderately to extremely intoxicated can explain away their actions because of their alcohol use and no longer feel cognitive dissonance. However, those who were not intoxicated remain in a state of cognitive dissonance because they cannot reconcile the differences between how they behaved and the way they normally behave.

The third aim of this study was to test the moderating relationship of alcohol intoxication on the relationship between hooking up to cope and negative affect about the most recent HUE. Although previous research has demonstrated a relationship between alcohol intoxication and coping motives for hook up behaviors (Grossbard, Lee, Neighbors, Hendershot, & Larimer, 2007; Orcutt, Cooper, & Garcia, 2005) as well as a relationship between alcohol

intoxication and components of negative affect about the most recent HUE (Abbey et al., 2006; Fisher et al., 2012; Orchowski et al., 2012), no published research has examined a possible moderating effect of alcohol intoxication on the relationship between hooking up to cope and negative affect about the most recent HUE.

According to the psychological escape model (McKirnan et al., 1996), those engaging in alcohol use and hooking up to cope should lead to cognitive disengagement, dissonance, and higher negative affect about the most recent HUE. The findings of the current study indicate that alcohol intoxication does not moderate the relationship between hooking up to cope and negative affect about the most recent HUE. It is possible that these effects couldn't be detected due to power issues because so few individuals reported being moderately/extremely intoxicated. Only 20 male participants and 54 female participants reported moderate to extreme intoxication. However, it could also indicate that the psychological escape model may need to be adapted. It may be that the individuals must also be drinking to cope with negative affective states, instead of just consuming alcohol, in order for the psychological escape model to produce its predicted effects.

Type of Hook up Behavior and Gender

The final aims of the current study were to test the combined influence of the type of hook up behavior and gender on negative affect about the most recent HUE and the moderating relationships of hook up behavior and gender on the relationship between hooking up to cope and negative affect about the most recent HUE. Although previous research has indicated a significant interaction between hook up behavior and gender, a relationship between gender and hooking up to cope (Grossbard et al., 2007; Kenney et al., 2014) as well as a relationship between hook up behavior and hooking up to cope (Patrick et al., 2011; Patrick & Maggs, 2010),

these studies combined oral sex and penetrative hook up behaviors in to one group (Owen & Fincham, 2011), used coders to identify regrets of action and inaction (Roese et al., 2006), and were measuring differences related to best and worst HUEs (Paul & Hayes, 2002).

Consistent with previous findings and the existence of a sexual double standard, after controlling for hook up frequency women reported significantly higher negative affect about the most recent HUE compared to men (Fisher et al., 2012; Owen & Fincham, 2011). An application of self-concept discrepancy theory and cognitive dissonance theory on the sexual double standard predicts that females will feel increased negative affect about the most recent HUE compared to males and also that the type of hook up behavior should lead to differing outcomes depending on gender. Although women did have increased negative affect about the most recent HUE compared to males, type of hook up behavior did not significantly affect negative affect about the most recent HUE. There was not a significant gender difference in negative affect about the most recent HUE between penetrative and non-penetrative hook up behaviors. In other words, there is a significant gender difference in negative affect about the most recent hook up behavior, but there is not a significant difference between type of hook up behavior in negative affect about the most recent hook up experience. Additionally, there is no significant difference between males that engaged in non-penetrative hook up behaviors, males that engaged in penetrative hook up behaviors, females that engaged in non-penetrative hook up behaviors, and females that engaged in penetrative hook up behaviors. This may be due to a lack of power because the male sample for non-penetrative hook up behaviors was much smaller. Finally, hook up behavior and gender did not significantly interact to affect the relationship between hooking up to cope and negative affect about the most recent HUE.

These findings suggest that women engaging in hook up behaviors experience more negative affect than men. However, they do not support the integration of self-discrepancy theory, cognitive dissonance theory, and the existence of a sexual double standard based on evolutionary theory leading to interaction effects between gender, type of hook up behavior, and negative affect. In other words, the results of this study do not fit with theories that suggest that gender should have an effect on HUEs due to conflicts between behavior and traditional gender roles or that those conflicts would change the relationship between hooking up to cope and negative affect about the most recent HUE. Although women do report higher negative affect about their most recent hook up experience compared to men, they do not appear to experience this due to the type of their hook up behavior or how often they hook up to cope. Future theories should explore other possible mechanisms for explaining the gender difference in negative affect about the most recent HUE.

General Discussion

The majority of participants did not report high levels of negative affect about their most recent HUE, although every participant reported that they felt at least slightly upset, regretful, depressed, confused, ashamed, disappointed, or used during their most recent HUE. Additionally, hooking up to cope had a stronger relationship with negative affect about the most recent HUE than all other variables included in this study including hook up frequency, gender, type of hook up behavior, and alcohol intoxication. Furthermore, increased hook up frequency was a consistent significant predictor of decreased negative affect about the most recent HUE. Although alcohol intoxication appears to have an effect on negative affect about the most recent HUE for individuals that are moderately/extremely intoxicated, being not at all or slightly/somewhat intoxicated on alcohol does not appear to have the same effect. Interestingly,

the relationship between negative affect about the most recent HUE and hook up frequency depended on alcohol intoxication, a finding I did not predict.

Similar to previous research, males reported lower negative affect about their most recent HUE as compared to females; however, that effect did not depend on hook up behavior. Additionally, although hook up behavior and gender did not moderate the relationship between hooking up to cope and negative affect about the most recent HUE, the strongest relationship between the two appeared to be in males that had engaged in penetrative hook up behaviors. Given the relationship between negative affect about the most recent HUE and increased symptoms of depression, loneliness, unwanted but casual sex, increased number of sexual partners, and decreased self-esteem (Bersamin et al., 2014) the findings of the current study might be valuable to consider when targeting aspects of risky sexual practices and alcohol intoxication (Gentzler & Kerns, 2004; Owen & Fincham, 2011). For example, it may be important to specifically target moderate to extreme intoxication in an intervention, but not necessarily all alcohol use as well as using hooking up as a coping method. Alternative ways to cope with stress should be included in these interventions.

Limitations and Future Directions

There are several limitations to the current study. First, the sample consisted of college students that were mostly female (72.36%), engaged in penetrative hook up behaviors during their most recent HUE (80.16%), and hooked up on average about once a month. Therefore, the results of this study may not be generalizable to other populations such as other sexual orientations, non-college samples, or more sexually conservative/liberal samples. Additionally, this study measured alcohol consumption by how intoxicated the participants felt they were during their most recent HUE on an ordinal scale and did not include any additional variables

measuring alcohol consumption such as the number of drinks consumed prior to their most recent HUE. Future research should include other corroborating alcohol use measures to ensure the reliability and validity of the number of drinks consumed and how intoxicated a participant feels.

The cross-sectional design of the current study does not enable the researcher to assert any cause and effect relationships among the variables. Furthermore, data were not collected about the amount of time between the HUE and completion of the survey. It is possible that there may be differing emotional reactions about the most recent HUE based on immediate reactions or long-term reactions and that emotional reactions may be temporary or enduring. The specific negative emotions/events or the intensity of those emotions/events that led to an individual to use hooking up as a coping mechanism was not investigated. The outcome of using hooking up as a coping mechanism to handle negative emotions or events may differ based on the event and intensity. For individuals consuming alcohol, motives for drinking could be a factor impacting emotional reactions.

Future research could investigate these questions using a longitudinal design to investigate the relationship between negative affect about the most recent HUE and its relationship to mental health symptoms such as depression. It is possible that the perception of a hook up experience could change over time. Investigating immediate reporting of a HUE versus reporting later on, as was done in this study, to examine those perceptions. Furthermore, due to the findings on hook up frequency it is possible that hook up frequency might mediate some of these relationships. In addition to including drinking motives, future research could investigate the relationship between the sexual expectations of individuals consuming alcohol during their HUE's.

CHAPTER V

CONCLUSIONS

The current study was the first to investigate the moderating relationships among alcohol intoxication, the type of hook up behavior, and gender on the association between engaging in hook up behaviors as a way to cope with negative emotions and negative affect about the most recent HUE. Specifically, this study found that relatively few individuals experience high levels of negative affect about their most recent HUE. Additionally, hook up frequency and hooking up to cope were consistent predictors of negative affect about the most recent HUE. Alcohol intoxication does not appear to effect negative affect about the most recent HUE except for moderate/extreme intoxication and the relationship between negative affect about the most recent HUE and alcohol intoxication depended on hook up frequency. Compared to women, men reported lower negative affect about the most recent HUE and that effect was not dependent on hook up behavior. Future research into the source and strength of the negative emotions and events preceding the use of hook up behaviors to cope and concurrent drinking motives using longitudinal designs may be useful in explaining why individuals that use hooking up as a coping mechanism engage in more risky sexual practices (Cooper et al., 1998; Grossbard et al., 2007; Patrick et al., 2011) and have such strong relationships to negative mental health symptoms (Cooper, Agocha, & Sheldon, 2000; Kenney et al., 2014). Additionally, because hook up frequency interacted with alcohol intoxication, looking at relationships between the variables in this study and hook up frequency should be investigated.

REFERENCES

- Abbey, A., Saenz, C., Buck, P. O., Parkhill, M. R., & Hayman, L. W. (2006). The effects of acute alcohol consumption, cognitive reserve, partner risk, and gender on sexual decision making. *Journal of Studies on Alcohol*, 67, 113-121.
- Bersamin, M. M, Zamboanga, B. L., Schwartz, S. J., Donnelan, M. B., Hudson, M., Weisskirch, R. S., Kim, S. Y., Agocha, V.B., Whitbourne, S. K., Caraway S. J. (2014). Risky Business: Is there an association between casual sex and mental health among emerging adults? *Journal of Sex Research*, 51, 43-51.
- Clark, N. M., & Zimmerman, B. J. (1990). A social cognitive view of self-regulated learning about health. *Health Education Research*, 5, 371-379.
- Cooper, M. L. (1994). Motivations for alcohol use among adolescents: Development and validation of a four-factor model. *Psychological Assessment*, 6, 117-128.
- Cooper, M. L. (2010). Toward a person X situation model of sexual risk-taking behaviors: Illuminating the conditional effects of traits across sexual situations and relationship contexts. *Journal of Personality and Social Psychology*, 98, 319-341.
- Cooper, M. L., Agocha, V. B., & Sheldon, M.S. (2000). A motivational perspective on risky behaviors: The role of personality and affect regulatory processes. *Journal of Personality*, 68, 1059-1088.
- Cooper, M. L., Shapiro, C. M., & Powers, A. M. (1998). Motivations for sex and risky sexual behavior among adolescents and young adults: A functional perspective. *Journal of Personality and Social Psychology*, 75, 1528-1558.
- Cox, W. M., & Klinger, E. (1988). A motivational model of alcohol use. *Journal of Abnormal Psychology*, 97, 168-180. doi: 10.1037/0021-843X.97.2.168

- Davis, K. C., Hendershot, C. S., George, W. H., Norris, J., & Heiman, J. R. (2007). Alcohol's effects on sexual decision making: An integration of alcohol myopia and individual differences. *Journal of Studies on Alcohol and Drugs*, 68, 843-851.
- Dawson, J. F. & Richter, A. W. (2006). Probing three-way interactions in moderated multiple regression: Development and application of a slope difference test. *Journal of Applied Psychology*, 91, 917-926.
- Efron, B., & Tibshirani, R. J. (1993). *An Introduction to the Bootstrap*. Boca Raton, Florida: CRC Press.
- Erceg-Hurn, D. M., & Mirosevich, V. M. (2008). Modern robust statistical methods: an easy way to maximize the accuracy and power of your research. *American Psychologist*, 63, 591-601. doi: 10.1037/0003-066X.63.7.591
- Eshbaugh, E. M., & Gute., G. (2008). Hookups and sexual regret among college women. *Journal of Social Psychology*, 148, 77-89.
- Festinger, L. (1962). *A theory of cognitive dissonance* (Vol 2). Stanford university press.
- Fielder, R. L. & Carey, M. P. (2010a). Predictors and consequences of sexual "hookups" among college students: A short-term prospective study. *Archives of Sexual Behavior*, 39, 1105-1119.
- Fielder, R. L. & Carey, M. P. (2010b). Prevalence and characteristics of sexual hookups among first-semester female college students. *Journal of Sex and Marital Therapy*, 36, 346-359.
- Fielder, R. L., Walsh, J. L., Carey, K. B., & Carey M. P. (2014). Sexual hookups and adverse health outcomes: A longitudinal study of first year college women. *Journal of Sex Research*, 51, 131-144. doi: 10.1080/00224499.2013.848255

- Fisher, M. L., Worth, K., Garcia, J. R., & Meredith, T. (2012). Feelings of regret following uncommitted sexual encounters in Canadian university students. *Culture, Health & Sexuality*, 14, 45-57
- Folkman, S. & Lazarus, R. S. (1998). The relationship between coping and emotion: Implications for theory and research. *Social Science and Medicine*, 26, 309-317.
- Garcia, J. R., & Reiber, C. (2008). Hook-up behavior: A biopsychosocial perspective. *Journal of Social, Evolutionary, and Cultural Psychology*, 2, 192-208.
- Gentzler, A. L., & Kerns, K. A. (2004). Associations between insecure attachment and sexual experiences. *Personal Relationships*, 11, 249-265.
- Glenn, N. & Marquardt, E. (2001). *Hooking up, hanging out, and hoping for Mr. Right: College women on dating and mating today*. New York: Institute for American Values.
- Grossbard, J. R., Lee, C. M., Neighbors, C., Hendershot, C. S., & Larimer, M. E. (2007). Alcohol and risky sex in athletes and nonathletes: What roles do sex motives play? *Journal of Studies on Alcohol and Drugs*, 68, 566-574.
- Higgins, E. T. (1987). Self-discrepancy theory: A theory relating self and affect. *Psychological Review*, 94, 319-340.
- Kenney, S. R., Lac, A., Hummer, J. F., & LaBrie, J. W. (2014). Development and Validation of the Hookup Motives Questionnaire (HMQ). *Psychological Assessment*. Advance online publication. <http://dx.doi.org/10.1037/a0037131>
- Kiene, S. M., Barta, W. D., Tennen, H., & Armeli, S. (2009). Alcohol, helping young adults to have unprotected with casual partners: Findings from a daily diary study of alcohol use and sexual behavior. *Journal of Adolescent Health*, 44, 73-80. doi: 10.1016/j.jadohealth.2008.05.008

- LaBrie, J. W., Hummer, J. F., Ghaidarov, T. M., Lac, A., & Kenney, S. R. (2014). Hooking up in the college context: The event-level effects of alcohol use and partner familiarity on hookup behaviors and contentment. *Journal of Sex Research, 51*, 62-73. doi: 10.1080/00224499.2012.714010
- Langer, L. M., Warheit, G. J., & McDonald, L. P. (2001). Correlates and predictors of risky sexual practices among a multi-racial/ethnic sample of university students. *Social Behavior and Personality, 29*, 133-144. doi: 10.2224/sbp.2001.29.2.133
- Lewis, M. A., Granato, H., Blayney, J. A., Lostutter, T. W., & Kilmer, J. R. (2012). Predictors of hooking up sexual behaviors and emotional reactions among U.S. college students. *Archives of Sexual Behavior, 41*, 1219-1229.
- Mahoney, C. A., Thombs, D. L., & Howe, C. Z. (1995). The art and science of scale development in health education research. *Health Education Research, 10*, 1-10.
- Monat, A., & Lazarus, R. S. (1991). *Stress and coping: An anthology*. Columbia University Press.
- Moore, N. B., & Davidson, J. K. (1997). Guilt about first intercourse: An antecedent of sexual dissatisfaction among college women. *Journal of Sex and Marital Therapy, 23*, 29-46.
- Muthén, L.K. and Muthén, B.O. (1998-2012). *Mplus user's guide. Seventh Edition*. Los Angeles, CA: Muthén & Muthén.
- Orchowski, L. M., Mastroleo, N. R., & Borsari, B. (2012). Correlates of alcohol-related regretted sex among college students. *Psychology of Addictive Behaviors, 26*, 782-790.
- Orcutt, H. K., Cooper, M. L., & Garcia, M. (2005). Use of sexual intercourse to reduce negative affect as a prospective mediator of sexual revictimization. *Journal of Traumatic Stress, 18*, 729-739.

- Owen, J. & Fincham, F. D. (2011). Young adults' emotional reactions after hooking up encounters. *Archives of Sexual Behavior*, 40, 321-330.
- Owen, J., Fincham, F. D., & Moore, J. (2011). Short-term prospective study of hooking up among college students. *Archives of Sexual Behavior*, 40, 331-341.
doi: 10.1007/s10508-010-9697-x
- Owen, J., Rhoades, G. K., Stanley, S. M., & Fincham, F. D. (2010). "Hooking up" among college students: Demographic and psychosocial correlates. *Archives of Sexual Behavior*, 39, 653-663.
- Patrick, M. E., & Maggs, J. L. (2010). Profiles of motivations for alcohol use and sexual behavior among first-year university students. *Journal of adolescence*, 33, 755-765.
- Patrick, M. E., Maggs, J. L., Cooper, M. L., & Lee, C. M. (2011). Measurement of motivations for and against sexual behavior. *Assessment*, 18, 502-516.
doi: 10.1177/1073191110372298
- Patrick, M. E., Maggs, J. L., & Lefkowitz, E. S. (2014). Daily associations between drinking and sex among college students: A longitudinal measurement burst design. *Journal of Research on Adolescence*, 1-10. doi: 10.1111/jora.12135
- Paul, E. L., & Hayes, K. A. (2002). The casualties of 'casual' sex: A qualitative exploration of the phenomenology of college students' hookups. *Journal of Social and Personal Relationships*, 19, 639-661. doi: 10.1177/0265407502195006
- Paul, E. L., McManus, B. & Hayes, H. (2000). "Hookups": Characteristics and correlates of college students' spontaneous and anonymous sexual experiences. *Journal of Sexual Research*, 37, 76-88.

- Risman, B.J. (2017). 2016 Southern sociological society presidential address: Are millennials cracking the gender structure? *Social Currents*, 1-20. doi: 10.1177/2329496517697145journals.sagepub.com/home/scu
- Roese, N. J., Pennington, G. L., Coleman, J., Janicki, M., Li, N.P., & Kenrick, D. (2006). Sex differences in regret: All for love or some for lust? *Personality and Social Psychology Bulletin*, 32, 770-780. doi: 10.1177/0146167206286709
- Serbin, L. A. & Sprafkin, C. H. (1987). A developmental approach: Sexuality from infancy through adolescence. In J. H. Geer & W. T. O'Donohue (Eds.), *Theories of Human Sexuality* (pp. 163-195). New York, Plenum Press.
- Spielberger, C. (Eds.). (2004). *Encyclopedia of applied psychology*. Oxford, UK: Elsevier Academic Press.
- Steele, C. M., & Josephs, R. A. (1998). Drinking your troubles away II: An attention-allocation model of Alcohol's effect on psychological stress. *Journal of Abnormal Psychology*, 97, 196-205.
- Steele, C. M., & Josephs, R. A. (1990). Alcohol myopia: Its prized and dangerous effects. *American Psychologist*, 45, 921-933.
- Symons, D. (1987). An evolutionary approach: Can Darwin's view of life shed light on human sexuality? In J. H. Geer & W. T. O'Donohue (Eds.), *Theories of Human Sexuality* (pp. 91-126). New York, Plenum Press.
- Townsend, J. M., & Wasserman, T. H. (2011). Sexual hookups among college students: Sex differences in emotional reactions. *Archives of Sexual Behavior*, 40, 1173-1181. doi: 10.1007/s10508-011-9841-2.

Watson, D., Clark, L. A., Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS Scales. *Journal of Personality and Social Psychology*, 54, 1063-1070.

Zaikman, Y., Marks, M. J., Young, T. M., & Zeiber, J. A. (2016). Gender role violations and the sexual double standard. *Journal of Homosexuality*, 63, 1608-1629.

APPENDIX B

THE HOOKUP MOTIVES QUESTIONNAIRE (HMQ)

Instructions will provide the definition for hooking up (La Brie et al. 2014, p. 63):
 “Hooking up” is defined as engaging in physically intimate consensual behaviors ranging from kissing to sexual intercourse with someone with whom you do not have a committed relationship. Hooking-up is defined as something both people agree to (consensual), including how far they go.

Participants will use the following response scale:

- 1 = Not at all
- 2 = Slightly
- 3 = Somewhat
- 4 = Moderately
- 5 = Extremely

Following is a list of reasons college students give for hooking up. Thinking of the last time you hooked up, how much would you say that you agree with the following reasons for hooking up during your most recent hook up experience?

1. I hooked up because it allowed me to avoid being tied down to one person.
2. I hooked up because hooking up is a way to find a relationship.
3. I hooked up because it’s fun.
4. I hooked up because it made me feel good when I wasn’t feeling good about myself.
5. I hooked up because I felt pressure from my friends to hook up.
6. Hooking up provided me with “friends with benefits”.
7. I hooked up because it made me feel attractive.
8. I hooked up because my friends would tease me if I didn’t.
9. I hooked up because it is the first step to forming a committed relationship.
10. I hooked up because it’s sexually pleasurable.
11. I hooked up because it cheers me up when I’m in a bad mood.
12. Hooking up provides me with sexual benefits without a committed relationship.
13. I hooked up because it helped me decide if I wanted something more serious with my hook up partner.
14. I hooked up because I was attracted to the person.
15. I hooked up because it helps me fit in.
16. Hooking up enables me to have multiple partners.
17. I hooked up because it’s exciting.
18. I hooked up because it helps me feel less lonely.
19. I hooked up because I feel I’ll be left out if I don’t.

Hooking up Frequency

Participants will use the following response scale:

- 0 = Never
- 1 = 1-2 times a year

2 = 3-4 times a year

3 = Once a month

4 = Two times a month

5 = Three times a month

6 = Once a week

7 = Two or more times a week

20. How often do you hook up?

APPENDIX C
ALCOHOL USE

Prior to or during your most recent hook up experience, how intoxicated on alcohol were you during the hook up?

- 1 = not at all
- 2 = slightly intoxicated
- 3 = somewhat intoxicated
- 4 = moderately intoxicated
- 5 = extremely intoxicated

APPENDIX D

MOST RECENT HOOKUP

“Hooking up” is defined as engaging in physically intimate consensual behaviors ranging from kissing to sexual intercourse with someone with whom you do not have a committed relationship. Hooking-up is defined as something both people agree to (consensual), including how far they go.

Based on this definition of hooking up please check which behaviors you participated in during your most recent hook up experience in the past 12 months...

- I did not hook up in the past 12 months
- Kissing was involved during my most recent hook up experience
- Heavy petting was involved during my most recent hook up experience
- Mutual masturbation was involved during my most recent hook up experience
- I either performed oral sex on my partner or my partner performed oral sex on me
- Sexual intercourse was involved during my most recent hook up experience
- Anal sex was involved during my most recent hook up experience
- I was in a committed relationship with someone else during my last hook up experience.

APPENDIX E

POSITIVE AND NEGATIVE AFFECT

Participants will use the following response scale:

- 1 = Not at all
- 2 = Slightly
- 3 = Somewhat
- 4 = Moderately
- 5 = Extremely

Please indicate the extent to which to which you experienced the feelings or emotions listed below as a result of your most recent hook up.

1. My most recent hook up made me feel happy.
2. My most recent hook up made me feel upset.
3. My most recent hook up made me feel carefree.
4. My most recent hookup made me feel regretful.
5. My most recent hookup made me feel attractive.
6. My most recent hookup made me feel depressed.
7. My most recent hookup made me feel desirable.
8. My most recent hookup made me feel confused.
9. My most recent hookup made me feel excited.
10. My most recent hookup made me feel ashamed.
11. My most recent hookup made me feel pleased.
12. My most recent hookup made me feel disappointed.
13. My most recent hookup made me feel adventuresome.
14. My most recent hookup made me feel used.

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PEER REVIEWED PUBLICATIONS:

Bravo, A.J., Pearson, M. R., **Stevens, L.E.**, Henson, J. M. (in press). Weighing the pros and cons of using protective behavioral strategies: A preliminary qualitative examination. *Substance Use and Misuse*.

Bravo, A.J., Pearson, M. R., **Stevens, L. E.**, Henson, J. M. (2016) Depressive symptoms and alcohol-related problems among college students: A moderated-mediated model of mindfulness and drinking to cope. *Journal of Studies on Alcohol and Drugs*.

Bravo, A. J., Pearson, M. R., & **Stevens, L. E.** (2016). Making religiosity person-centered: A latent profile analysis of religiosity and psychological health outcomes. *Personality and Individual Differences*, 88, 160-169. doi: 10.1016/j.paid.2015.08.049

Boyd, K., Perkins, P., Greenberg, B., **Stevens, L.** (2014). Utilizing a qualitative and quantitative approach to examine substance use and parental communication among African American youth. *Psychology*, 5, 1743-1749. doi: 10.4236/psych.2014.515181