

EXAMINING THE PRINCIPLES OF SOCIAL INFLUENCE AND CONDOM USE IN  
CASUAL SEX

BY

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DISSERTATION

Submitted in partial fulfillment of the requirements  
for the degree of Doctor of Philosophy in Community Health  
in the Graduate College of the  
University of Illinois at Urbana-Champaign, 2012

Urbana, Illinois

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## ABSTRACT

In this dissertation, two studies were conducted to examine the relationship between Cialdini's (1984) six principles of social influence (authority, consistency, liking, reciprocity, scarcity, and social proof) and condom use in casual sex relationships in college populations. In Study 1, nine single-gender focus groups ( $N = 48$ ) of college undergraduates were conducted to investigate the use of the principles of social influence for condom use decisions in casual sex. Data were transcribed verbatim and coded for *endorsement* or *rejection* of the six principles on condom use decisions. The data were analyzed using content analysis. Furthermore, data from the focus groups were used to corroborate the content of six vignettes created for Study 2. In Study 2, a web-based survey was created to further examine the relationship between the principles of social influence and condom use intentions in casual sex. For each of the six principles of social influence, female-centered and male-centered vignettes were created. Following each vignette were questions that examined the constructs of the theory of planned behavior (TPB) assessing participants' attitudes, subjective norms, perceived behavioral control and intentions regarding condom use in each of the six vignettes. Additionally, the survey contained items assessing demographic information, alcohol use, past sexual behaviors, past safe sex practices, and personality traits. The survey was piloted and revisions were made. In the fall of 2011 and the spring of 2012, the survey was offered as an extra credit opportunity in a human sexuality course in the Kinesiology and Community Health Department. The final sample consisted of 388 (277 females and 111 males). In Study 1, consistency, authority, and social proof were found to be the most endorsed principles and gender differences were found. In Study 2, significant differences were found across the six principles for each of the TPB constructs indicating that the principles influence the constructs differently. Further analysis revealed that

social proof and liking were found to have significant different relationships with the constructs of the TPB. The findings indicate that the principles of social influence are used to aide in condom use decisions in casual sex relationships. Furthermore, the constructs of the TPB were found to have a significant positive association with condom use intentions, with perceived behavioral control being the strongest predictor. The results are discussed with an emphasis on theoretical and practical implications for using the principles of social influence in safer sex interventions.

*To Joey*

## ACKNOWLEDGMENTS

Most doctoral students at one point daydream about writing the acknowledgements section of their dissertation. For me it has always signified the light at the end of the tunnel. But even more so, because I recognize that this long and arduous journey would not be possible without the love and support of some very special people. I have an amazing support system that has enabled me to excel professionally and personally these past four years.

First and foremost, I would like to thank my husband Joey. Where do I even begin? When you asked my parent's permission to get married, you told my parents that you thought that I could do anything I set my mind to. It's that unwavering confidence and constant support that has gotten me through these last four years. I could not have done this without you. Thank you for your patience, encouragement and understanding throughout this process. I would like to thank my beautiful daughter, Rosa. Since the moment you were born, I have seen myself in you. I hope that one day you are able to fulfill your dreams, no matter how hard or inconceivable they may seem.

I would like to thank my parents, Gary and Linda Rinaldi. As a young child, you instilled in me a good work ethic and a thirst for knowledge. I am who I am today because of you. And as a new parent, I would consider my child lucky if I am half of the role model, teacher, and friend that you are to me. To my brother John Rinaldi, thank you for your interest and ongoing support in my studies. I always looked forward to discussing the new things that I just learned with you. I would like to extend a special thanks to my in-laws, Joe and Nancy Miles. Thank you for your support of my academic ventures.

Professionally I have been fortunate enough to have two chairs that provided research expertise, academic guidance, and crisis management! Thank you Dr. McCloskey for helping me

develop my research interests into a dissertation. Your enthusiasm for my project has been a source of encouragement. I am grateful for your belief in me and my abilities throughout this process. Dr. Brian Quick, thank you so much for taking on this project! Throughout this process you have taught me how to manage the many responsibilities of academia along with family life as well. I am a better writer, researcher, and someday, mentor because of you. I would also like to thank my two other committee members, Dr. Kim Graber and Dr. Flavia Andrade. I was able to come to each of you for advice and guidance during this process and cannot thank you enough for your support and feedback. I would also like to acknowledge the contribution of Dr. Dale Brashers to this dissertation. It was when I was a student in Dr. Brashers' course which initially sparked my interest in uncertainty management and health decisions. He served as a committee member for only a short period, but his impact is immeasurable.

This dissertation would not be possible without the course instructors that allowed me the opportunity to recruit my subjects from their courses. I would like to thank Dr. Grace Giorgio, Dr. Brian Quick, Dr. Laura McCloskey, and Lena Hann for allowing me to come to your classes and offer extra credit for students who participated in this research project. I would also like to thank three research assistants that were invaluable to the data coding for Study 1. Thank you Nicole LaVoie, Sara Salmon and Kourtnei Brooke for your many hours of hard work!

Also, thanks are in order to so many of my friends who have encouraged me and provided me with social support and guidance along the way. A special thanks to my oldest and dearest friend, Desiree Lavin. Thank you for your ongoing love and encouragement. I would also like to thank another wonderful friend, Debbie Arterbury. After Rosa was born, everyone always asked me about the baby but you always asked about my progress with my dissertation. It motivated me to keep focused and keep working! Lastly I would like to thank my brilliant friend

Dr. Bhibha Das. Your advice on how to succeed as a doctoral student has been invaluable. And I can never thank you enough for proofing my dissertation! But of all your wonderful scholarly attributes, I value our friendship the most and am lucky to have you in life.

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# **CHAPTER 1**

## **INTRODUCTION**

### **Background and Significance**

In most cases, sexually transmitted diseases (STDs) and human immunodeficiency virus (HIV) transmission are preventable. Young adults have been found to engage in unprotected intercourse with multiple partners more than any other age group (Flannery, Ellingson, Votaw, & Schaefer, 2003). Yet, one in two sexually active young persons' will get an STD by the age of 25 (Cates, Herndon, Shultz, & Darroch, 2004). Additionally, young people between the ages of 15 and 24 represent 25% of the sexually experienced population and 48% of new STD cases in the United States (Weinstock, Berman, & Cates, 2004).

Studies on STD prevalence on college campuses are limited. Self-reported lifetime rates of STD infections in college students range from 12% to 25% among sexually active students (Cooper, 2002). Additional unintended consequences of engaging in risky sex include HIV transmission and unintended pregnancy. One quarter of new HIV infections occur among people between the ages of 13 to 29 years (Centers for Disease Control and Prevention [CDC], 2008). Unintended pregnancies can also result from sexual risk-taking. According to the American College Health Association National College Health Assessment (ACHA-NCHA) 2010 Reference Group Data Report, 2.2% of college students who had vaginal intercourse within the previous 12 months reported either experiencing an unintended pregnancy or impregnating someone (ACHA, 2010). This estimate likely misrepresents the actual number of unintended pregnancies that occur in college, since it is likely that a portion of pregnant undergraduate females drop out or take a break from school due to the pregnancy.

Previous research has confirmed that consistent and correct use of latex condoms is a highly effective method of preventing HIV transmission, reducing the risk of other STDs and decreasing unplanned pregnancies (National Institute of Allergy and Infectious Diseases, 2001). Despite the proven effectiveness of condom use, a mere 35% of sexually active college students *always* wear a condom (Opt & Loffredo, 2004). For instance, research has shown that 6.2%, 29.4%, and 54.1% of sexually active students *mostly* or *always* used condoms or other protective barriers in the last 30 days for oral, anal, and vaginal intercourse experiences, respectively (ACHA, 2010). In all, these studies suggest that the psychosocial correlates related to practicing safe sex are multifaceted and more complex than researchers first thought.

Examining sexual behaviors in college students provide the perfect opportunity for interventions and are the last chance to easily access such a large group of people. College students represent a growing number of the United States population. About 17.5 million people are enrolled in colleges and universities across the United States According to the U.S. Department of Education (2009), 39% of 18- to 24-year-olds were enrolled in a degree-granting institution in 2007. From 1997 and 2007, college enrollment increased by 26%. Furthermore, college enrollment is expected to continue setting new records from fall 2010 through the fall 2018 with 32% increase total (U.S. Department of Education, 2009). Investigating reproductive health trends, behaviors, and determinants in college students is a way to gain insight into the health of the future United States workforce. Another reason for sampling college student in this dissertation is that college students represent a unique sub-set of the sexually active population. A majority of high school adolescents engage in their first intercourse before they graduate from high school (Kaiser Family Foundation, 2003). According to the ACHA-NCHA, only 8.4% of

college respondents were married or partnered (ACHA, 2010). Thus, a majority of college students enter college sexually experienced and are considered single.

One specific risky practice among college students is engaging in casual sex relationships. Casual sex relationships are sexual relationships (which may include oral, vaginal or anal intercourse) whereby the partners do not refer to the relationship as romantic or committed or define their partner as a boyfriend/girlfriend husband/wife or romantic partner (Grello, Welsh, & Harper, 2006). These encounters are often referred to as a one-night stands, hook ups, or friends with benefits in the literature. The definitions may vary, but the commonality is that the sexual behavior described occurs within the context of an uncommitted relationship (Weaver & Herold, 2000). The term casual sex is an inclusive term that encompasses the complex relationship contexts in which sexual activities outside of a committed relationship between friends, classmates, or other students whom they are familiar with (Bogle, 2008; Grello et al. , 2006; Stinson, 2010). Regardless of how casual sex is referred to in the scholarly literature, research indicates that 66% of college students engage in some form of sexual behavior with a non-romantic partner (Furman & Shaffer, 2011). As these studies illustrate, sexual behavior among young adults often occurs in contexts other than romantic relationships. Approximately 50% of sexually active undergraduates have had intercourse with a non-romantic partner (Grello et al., 2006).

Relationship status may be a factor in condom use, although these research findings are often inconsistent. Recent studies have found that approximately 50% of adolescents always use a condom with casual sex partners (Gebhardt, Kuyper, & Greunsven, 2003; Lescano et al., 2006). That said individuals perceive sexual activity with a casual partner to be riskier than with a monogamous partner (Mehrotra, Noar, Zimmerman, & Palmgreen, 2009) and have reported

more condom use in casual relationships than in monogamous relationships (Sheeran, Abraham, & Orbell, 1999). However, more recently Holland and French (2011) found no significant differences for condom use between individuals in casual and monogamous relationships. These findings suggest the importance in understanding what influences condom use decisions since less than half of college students always use a condom with casual sex partners (ACHA, 2010).

Casual sex relationships are inherently comprised of uncertainty and spontaneity that may not exist in romantic sexual relationships. Casual sex partners may be friends, acquaintances or complete strangers and information needed to aide safer sexual decisions may not be known. Since casual sex encounters tend to be impulsive and unplanned, there may not be time for safer sexual preparatory behaviors. Spontaneity has been found to undermine college students' sexual self-efficacy (Downing-Matibag & Geisinger, 2009). Sexual decision making in the "heat of the moment" when a person is sexually aroused has been found to have a strong impact on judgment and decision making including willingness to engage in unsafe sex (Ariely & Loewenstein, 2006, p. 87). A meta-analysis examining the psychosocial correlates of condom use found the strongest correlate of condom use was communication about condom use (Sheeran et al., 1999). The spontaneous nature of casual sex relationships makes planning for and negotiating safe sex difficult. Additionally, there is scant research on sexual communication in casual sex relationships to understand how safer sexual negotiation is navigated and safer sexual decisions are made. When partners do not communicate regarding safer sexual practices, how do they determine sexual risk in casual sex situations? In particular, how are decisions to use a condom or engage in safe sex made between casual sex partners? This dissertation seeks to address these questions.

Understanding the cognitive and social determinants influencing safer sex practices is important to develop interventions and educational outreach programs to increase sexual protection. Specifically, condom use is influenced by a number of factors including partner and situational characteristics (Battocletti et al., 2010; Masaro, Dahinten, Johnson, Ogilvie, & Patrick, 2008; Marston & King, 2006), peer norms (Svenson, Ostergren, Merlo, & Rastam, 2002), partner interest (Hennessy, Fishbein, Curtis, & Barrett, 2007), condom negotiation timing (Bowleg, Valera, Teti, & Tschann, 2010) and condom availability (Lewis, Kaysen, Rees, & Woods, 2010). The use of superficial determinants to make safer sex decisions demonstrates how malleable condom use decisions can be in sexual situations. To explore how condom use decisions are influenced in casual sex relationships, Cialdini's (1984) six principles of social influence will be utilized. Below is a brief overview of the theoretical and practical significance of the current dissertation.

## **Theory**

**The principles of social influence.** Individuals are not able to, nor motivated to carefully scrutinize every message encountered (Petty & Cacioppo, 1986a). To reduce the complex task of assessing probabilities and predicting values, people rely on a limited number of heuristic principles to simplify judgments (Tversky & Kahneman, 1974). Thus, heuristics deemphasize detailed information processing and focuses on the role of simple rules (Chaiken, 1980) or cognitive shortcuts (Bailey & Hutter, 2006) that influence beliefs, attitudes, and behaviors in the absence of argument processing (Kahneman, Slovic, & Tversky, 1982). Such cues are learned on the basis of past experiences and observations and are represented in memory like other sorts of knowledge structures (Eagly & Chaiken, 1993). Given the use of heuristics to aide when an

individual is unwilling or unable to scrutinize every message, these cues are utilized to aide in decision making in uncertain and often impulsive situations, such as casual sex relationships.

Cialdini (1984) published his seminal book entitled, *Influence*, which summarized past social psychology research in terms of six core principles that influence the tendency for people to comply with a request without detailed information processing. Thus, the principles of social influence operate like heuristics (Cialdini, 1987). When a person receives a message, an attempt is made to relate the information to pre-existing knowledge that a person has about the issue (Cialdini, Petty, & Cacioppo, 1981) to aide in decision making. These principles are cues utilized based on socially constructed rules to ease decision making in uncertain situations. The principles of social influence include authority, consistency, liking, reciprocity, scarcity, and social proof. Cialdini's (1984) six principles of social influence have been mostly used in the business and marketing world to understand and influence consumer purchasing decisions. It is believed that these six principles may also inform condom use decision making during casual sex encounters when influential information to make a risk assessment such as sexual history might be absent.

The following is an overview of how Cialdini (1984) defines the principles. *Authority* is a principle that plays on the perception that obedience of an authority figure constitutes correct social conduct. There is a strong pressure within our society for compliance when requested by an authority figure. Authority can also be explained as a perceived power difference within a relationship that influences compliance. *Consistency* is a principle that is successful because after people make a commitment, taking a stand or position, people are more willing to agree to requests consistent with their prior commitment. *Liking* is a principle that can create influence and compliance based on factors such as physical attractiveness or similarity. People say yes to

people they like. *Reciprocity* creates a feeling of obligation to an act of repayment in the future. Members of society are trained from childhood to abide by rules of reciprocity or risk social disapproval. The *scarcity* principle is used to increase value by persuading people of a limited number or time restriction. This is because people tend to assign more value to an opportunity when it is less available. *Social proof* is a principle that influences people's decisions by informing them if other individuals have engaged in certain behaviors. People often view a behavior as more correct in a given situation if they have seen others performing it (Cialdini, 1984). The spontaneous nature of casual sex relationships makes planning for and negotiating safe sex difficult and it is plausible that the principles of social influence are employed to aid in condom decision making during these encounters.

**Theory of planned behavior.** Beliefs the people hold about a behavior play an integral role in explanations of the behavior (Ajzen, 1991). Regardless of how those beliefs are acquired, they serve to guide the decision to perform or not perform the behavior (Fishbein & Ajzen, 2010). Once beliefs are formed, they are the cognitive basis for which behavior follows, regardless if the beliefs are incorrect (due to false information), biased, or irrational (Yzer, in press). The theory of planned behavior (TPB) distinguishes between three types of beliefs that guide intentions and behavior (Fishbein & Ajzen, 2010). Specifically, the theory posits that attitude towards the behavior, the subjective norm, and perceived behavioral control are three types of beliefs that lead to the formation of a behavioral intention (Ajzen, 1991).

The TPB has been applied to explain a variety of health behaviors. Armitage and Conner's (2001) meta-analytic review of the TPB found that the theory accounted for 27% and 39% of the variance in behavior and intention respectively. In the context of condom use, the theory has been especially relevant and popular (Albarracín, Kumkale, & Johnson, 2004). A

meta-analysis revealed that the TPB did reasonably well at predicting condom use (Albarracín, Johnson, Fishbein, & Muellerleile, 2001). Additionally, in another meta-analysis, subjective norms and attitudes were found to have a medium effect size in predicting condom use intentions (Sheeran & Taylor, 1999). The theory has been used extensively to examine condom use intentions in college students. Over one-third of the studies included in Sheeran and Taylor's (1999) meta-analysis used university students in the samples. The proven utility of the TPB in predicting condom use intentions provided the theoretical framework needed to understand the situational differences between among Cialdini's (1984) six principles of social influence on condom use in casual sex.

### **Study Significance**

**Innovation.** This study utilized the principles of social influence to examine condom use intentions in casual sex situations in a college population. Social influence has long been studied in social psychology and more recently, in other health behavior areas. Yet, there is very limited research on how these specific principles of social influence relates to sexual decision making, particularly risky sexual decisions. Cognitive and social psychology theories and models may prove to fill in the gaps between knowledge and sexual risk-taking missed by traditional health behavior theories.

Additionally, how the relationship between the principles and condom use intentions were measured is unique to this study. Past survey research examining how heuristic cues influence sexual decisions have utilized basic statements that respondents agree or disagree with. For example, Thorburn and colleagues (2005) measured the endorsement of sexual heuristics with questions such as, "A person doesn't need to use condoms with partners who are attractive." The results from their survey found that the majority of their sample disagreed with the heuristic



statements (Thorburn, Harvey, & Ryan, 2005). The current study utilized vignettes derived from focus group data. The vignettes were based on the principles of social influence but addressed the principles through situations described in the vignettes, not blatant agree-disagree heuristic statements.

**Theoretical contribution.** This dissertation is an attempt to understand the relationship between Cialdini's (1984) principles of social influence and sexual decision making in college populations. Specifically, this research aims to understand the role of Cialdini's (1984) six principles regarding condom use decisions in casual sex relationships. Understanding the role of these cognitive shortcuts has the potential to increase safer sex practices and protect against unintentional sexual outcomes such as STD transmission or unplanned pregnancy. No previous literature was identified examining Cialdini's (1984) principles of social influence and condom use decisions. Understanding the relationship between the principles on health decisions made in uncertain situations has the ability to be applied to understanding other health decisions.

**Public health significance.** This study can help health educators to better understand the unique relationship between the principles of social influence and condom use decisions in casual sex among college populations. The information can be used to tailor interventions to encourage safer sexual practices by addressing salient principles in regards to specific constructs of the TPB. The power of cognitive shortcuts to influence condom use decisions may impact the safer sexual decisions and result in unintended consequences of sexual intercourse. This dynamic and potentially health-threatening relationship can begin to be understood and be used to shape successful educational outreach and future interventions.

## **Preview**

Two separate research studies were conducted. Study 1 used focus groups ( $N = 48$ ) to explore and understand the relationship between the principles of social influence and condom use. The data were analyzed using a content analysis. In Study 2, vignettes were created to examine the relationship between Cialdini's (1984) six principles of social influence and condom use intentions for casual sex situations. The focus group data were used to corroborate the content of the vignettes. For each of the six principles of social influence, female-centered and male-centered vignettes were created and items measuring the constructs of the TPB followed each vignette. The survey was administered in the fall of 2011 and the spring of 2012 ( $N = 388$ ) via an online survey management website. The following section, the literature review, will examine the previous literature regarding casual sex, the principles of social influence and the TPB. The chapter will conclude with the presentation of the research questions and hypotheses.

## **CHAPTER 2**

### **LITERATURE REVIEW**

To examine the relationship between the principles of social influence and condom use intentions and behaviors, first a review of past literature is necessary. Previous research regarding the target population, college students, highlights the role of gender and other demographics, alcohol use, personality factors, predictors and outcomes all pertaining to condom use and casual sexual behaviors within this cohort. A look at the theoretical progression of social influence research to the principles of social influence provides the foundation for the current research. A justification of the extension of the principles of social influence into a sexual behavior context is examined through previous literature. Finally, a review of the theory of planned behavior's theoretical underpinnings and constructs underscore the relevance of this theory as it relates to condom use.

#### **College Student Sexual Behaviors**

**Casual sexual terminology and behaviors.** The term casual sex is the term most often used in the literature and is the most inclusive of other terminology used. Yet, the operationalization of the term used to examine casual sexual relationships has varied within the literature. Researchers have focused on the longevity of the relationship and have defined casual sex as sexual intercourse with someone on only one occasion (Kilman, Boland, West, Jonet, & Ramsey, 1993). Other researchers have studied the degree of emotional involvement with a partner to form their conceptualization of casual sex, such as sex outside of a committed relationship (Feldman, Turner, & Araujo, 1999; Oliver & Sedikides, 1992). Townsend (1995) defined casual sex as sexual activity with no emotional involvement. Finally, other authors frame

casual sex as restricted to sexual intercourse, excluding foreplay or petting (Herold, Maticka-Tyndale, & Mewhinney, 1998).

Bogle (2008) refers to casual sex relationships as hooking up, a term that is commonly used by the college students interviewed when describing sexual encounters outside of a steady relationship. The term hooking up can mean any sort of casual sexual encounter (from kissing to intercourse) and is purposefully ambiguous in its definition because it allows those using the term to not reveal more information than they wish to share regarding the encounter (Bogle, 2008). Although Bogle's definition of hooking up was left up to her participants to determine, research examining the correlates and consequences of casual sexual behaviors provide participants with how the current study operationalized the term. Specifically, Paul, McManus and Hayes (2000) first defined hooking up as a sexual encounter that typically lasts one night involving two people who are strangers or brief acquaintances (Paul, McManus, & Hayes, 2000). Research examining casual sex relationships that specifically use the term hooking up have traditionally adopted Paul and colleagues' (2000) definition (Epstein, Calzo, Smiler, & Ward, 2009; Eshbaugh & Gute, 2008; Lambert, Kahn, & Apple, 2003).

Other ways casual sex has been operationalized is based on the specific type of casual sex under investigation. Afifi and Faulkner (2000) examined sexual activity in otherwise platonic cross-sex friendships, a term that is now referred to as friends with benefits (Grello et al., 2006). Friends with benefits are described as "relationships between cross-sex friends that engage in sexual activity but do not define the relationship as romantic" (Hughes, Morrison, & Asada, 2005, p. 49). Grello and colleagues (2006) found that two-thirds of casual sex occurred among friends. Additionally, when the partner was a friend, respondents reported engaging in more genital sexual behaviors (i.e. fondling without clothes, oral sex, and genital intercourse) than

they did with partners who were acquaintances. Friends with benefits are often associated with a more positive connotation than other defined casual sexual situations, such as the booty call. “A booty call involves solicitation of a non-long-term partner for the explicitly or implicitly intent of engaging in sexual activity” and warranted a more formal study examining this specific type of casual sexual encounter (Jonason, Li, & Cason, 2009, p. 460). The booty call relationship was found to be a compromise between male and female ideal mating strategy. Furthermore, this type of sexual relationships allows men great sexual access and women an opportunity to evaluate potential long-term mates (Jonason et al., 2009). The findings illustrate that different types of casual sex relationships have some of the same underlying themes emerge, such as changes in the current dating culture (Stinson, 2010; Townsend, 1995).

Some of the other terminologies used to examine casual sex behaviors are used interchangeably in the literature. Epstein et al. (2009) conducted a qualitative study using semi-structured interviews with college men to examine the popular portrayals of men as the beneficiaries of non-relational or casual sex. Three central themes defining these types of relationships were that (1) the two parties were not involved in a committed relationship, (2) the encounter is short-term, and (3) there were a variety of sexual behaviors that can be classified (Epstein et al., 2009). The central themes among casual sex relationships highlight similarities among the varying terminologies used. An understanding of the varying definitions allows for a meaningful comparison of previous literature examining casual sex.

***Predictors and outcomes of casual sexual relationships.*** Research reveals interesting predictors and outcomes of college students engaging in casual sex relationships. A study conducted by Paul et al. (2000) examined social and psychological predictors to understand differences among undergraduates ( $N = 555$ ) who had ever hooked up and who had or had not

engaged in sexual intercourse during the hook up. Over three-fourths of respondents had experienced at least one hook up ( $n = 266$ ) and a third had sexual intercourse with a stranger or brief acquaintance ( $n = 169$ ). Those who had experienced hook ups entailing sexual intercourse had high levels of impulsivity, low concern for personal safety, low dependency, and avoidant attachment styles. Additionally, individuals who had ever hooked up had lower self-esteem (Paul et al., 2000). Eshbaugh and Gute (2008) examined hooking up as a predictor of sexual regret in 152 college women by a self-administered questionnaire. Results indicated that two types of casual sexual activities were predictive of sexual regret such as engaging in sexual intercourse with someone once and only once and having intercourse with someone known for less than 24 hours. This study examined sexual regret related to casual sex and found variation in outcomes dependent upon the type of relationship and activities performed (Eshbaugh & Gute, 2008).

Significant gender differences in casual sexual correlates are not uncommon in the literature. In a well-cited casual sex study, Paul and Hayes (2002) were interested in examining college students' experiences with casual sexual encounters. A structured questionnaire that solicited open-ended responses was administered to 187 college students. The descriptions of what occurred during casual sex encounters did not differ by gender, but there were differences between males' and females' descriptions of what was felt after casual sexual experiences and how those experiences were interpreted. Factors identified as contributing to males' worst hook up experiences included involvement with a 'bad' partner, achieving no sexual gratification, and intoxication. Conversely, a common theme in females' worst hook up experiences was pressure to engage in unwanted sexual behavior. Identified sources of pressure included: (1) male partner aggression, (2) their own and/or hook up partner's alcohol use and intoxication, (3) societal/peer/gender pressures, or (4) personal weakness like low self-esteem or passivity (Paul

& Hayes, 2002).

***Gender differences in casual sexual relationships.*** Gender differences are a recurrent theme in the literature examining casual sex encounters in college populations. Grello et al. (2006) identified circumstances associated with casual sexual encounters, specifically the link between casual sex and depressive symptoms through a self-reported questionnaire administered to 404 undergraduate students. An interaction between casual sex behavior and gender in relation to depressive symptoms was found. Specifically, males reporting the lowest levels of depressive symptoms and females reporting the highest of depressive symptomatology were the most likely to be classified as engaging in casual sex (Grello et al., 2006). Herold et al. (1998) found that peer endorsement was a significant predictor of intentions to engage in casual sex for male college students, but not for females. Regan and Dreyer (1999) found that men emphasized social environmental reasons (e.g. status enhancement, normative peer group behavior) as reasons for casual sex, whereas women cited interpersonal reasons (e.g. increased probability for long-term commitment from sex partner) as reasons for casual sex.

Gender differences reported with respect to casual sex attitudes and behaviors have been explained in the literature by various theories. Script theorists (e.g. Gagnon & Simon, 2005) point to sociocultural norms dictating sexual expectations in the literature for gender differences in casual sex relationships. Additionally, differences in reproductive investment and evolutionary perspectives on mating strategies (e.g. Buss & Schmitt, 1993) have also been cited as a possible explanation to gender differences in casual sex attitudes and behaviors (Eshbaugh & Gute, 2008; Jonason et al., 2009). Impett and Peplau (2003) found that males engaging in casual sex were motivated to do so to increase their sexual experience, peer status, and popularity while females engaging in casual sex were more motivated to do so to satisfy their partner or to increase

intimacy in a potential relationship. The gender differences found supports the influence of both sociocultural norms and mating strategies in casual sex relationships.

**Condom use in college populations.** Although condoms are an effective way to prevent the transmission of STDs and unplanned pregnancy, overall condom use rates remain low. Condom use in college populations have been a focus of study for the past four decades (Pluhar, Frongillo, Stycos, & Dempster-McCain, 2003), with an increased emphasis during the 1990s. Condom use rates in college populations range broadly from 20% to 50% (Certain, Harahan, Saewyc, & Fleming, 2009; Davis, Hughes, Sloan, Tang, & MacMaster, 2009; Ingersoll, Ceperich, Nettleman, & Johnson, 2008; Patel, Gutnik, Yoskowitz, O'Sullivan, & Kaufman, 2006; Rhodes et al. 2006). Sheeran et al. (1999) conducted a systematic review of the correlates of condom use among heterosexual samples in 121 empirical studies. To date, this is still the most widely cited meta-analysis of condom use cited in the literature. The review found that attitudes towards condoms, behavioral intentions, and communication about condoms were the most important predictors of condom use. The meta-analysis demonstrates that condom use is predictable from attitudes and intentions to the same extent as other health behaviors (Sheeran et al., 1999).

***Demographics (ethnicity, age, and gender) and condom use.*** A study conducted by Buhi, Marhefka, and Hoban (2010) used secondary data from the ACHA-NCHA to examine sexual health disparities between blacks and whites in a national sample of U. S. college students. Results indicated that a greater percentage of black students reported condom use at last oral (10%), last vaginal (62.7%) and last anal sex (44%) than white college students (3.5%, 57.9%, and 29.8%, respectively). However, black students reported more sexual partners ( $M = 1.72$ ,  $SD = 3.49$ ) compared to white students ( $M = 1.40$ ,  $SD = 2.36$ ) (Buhi, Marhefka, & Hoban,



2010). In a study of 466 college students that examined sexual risk taking found that Asian American and Pacific Islander college students were significantly more likely than their non-Asian peers to use condoms (Arliss, 2008). With respect to age and gender, both have been found to influence condom use. Age is a predictor of condom use (Adefuye, Abiona, Balogun, & Lukobo-Durrell 2009) as is gender (Rhodes et al. 2006). In a study conducted by Certain and colleagues (2009), the researchers interviewed students ( $N = 1,715$ ) across five college campuses and discovered that as age increased, condom use frequency decreased. This finding may be due to the fact that older students are more likely to be in monogamous relationships and use oral contraceptive more (Siegel, Klein, Roughmann, 1999). Additionally, men reported more consistent condom use than women (Certain et al., 2009). A self-reported survey was administered to 1,500 undergraduate students to examine gender differences in the relationship between condom use and STD treatment behaviors and HIV/STD testing behaviors. Results indicated that females reported higher rates of sexual activity and lower rates of condom use. Furthermore, females who had been treated for an STD reported low rates of condom use after their diagnosis (Bontempi, Mugno, Bulmer, Danvers, & Vancour, 2009).

***Personality factors (sensation seeking, impulsivity, risk-taking) and condom use.***

Personality traits have also been examined in the condom use literature as a partial explanation to condom use inconsistencies (Gullette & Lyons, 2006). One personality trait in particular, sensation seeking, has received substantial attention. Zuckerman (1983) defines sensation seeking as “the need for varied, novel, and complex situations and experiences and the willingness to take physical and social risks for the sake of the experience” (Zuckerman, 1983, p. 37). An examination of the relationship between sensation seeking and condom use was conducted by Gullette and Lyons (2006) in a sample of 159 college students. Results indicated

that high sensation seekers participated in unprotected sexual activities at a greater rate than low sensation seekers (Gullette & Lyons, 2006) which support previous literature examining this relationship (Hoyle, Fejfar, & Miller, 2000). Sensation seeking and impulsive decision making are thought to be complementary components of a decision making process that may or may not be considered rationale. The concept of impulsive decision making suggests that impulsive individuals act spontaneously, without considering consequences. Donohew et al. (2000) found that these two personality traits have an interactive effect on risky sexual behaviors. That is, individuals high in sensation seeking or impulsivity are likely to engage in risky sexual behavior (including condom nonuse) but those most likely to engage in risky sexual behaviors are those high in both sensation seeking and impulsivity (Donohew et al., 2000).

***Condom use in committed relationships.*** Pilkington, Kern, and Indest (1994) investigated why college students ( $N = 181$ ) who know the benefits of condom use still choose not to use them. Their data, based on self-reports, indicated that people who felt more positively about their romantic partner (e.g. loved and trusted them) were found to be less fearful of contracting HIV/AIDS and were less likely to use condoms compared to people who felt less positively about their sexual partners (Pilkington, Kern, & Indest, 1994). Condom use has been found to decline significantly with steady or committed sexual partners than with casual sex partners (Patel et al., 2006; Pilkington et al., 1994; Siegel et al., 1999; Thorburn, et al., 2005). This is due to commonly held heuristics of perceived safety in committed relationships (Williams et al., 1992).

Thorburn et al. (2005) examined the influence of incorrect HIV heuristics and safer sexual behaviors in African-American couples ( $N = 22$ ) and 80 non-couple participants. Those endorsing the 'known partner' and 'trusted partner' heuristics were found less likely to use a

condom (Thorburn et al., 2005). To examine safe sex behaviors in relation to year in college, Siegel and colleagues (1999) characterized the differences and similarities among college freshmen, sophomores, juniors, and seniors regarding their sexual behavior through a self-administered survey. There was an increased level of oral contraceptives use among seniors without a corresponding increase in condom use. Also, it was found that 52% of their college student sample ( $N = 797$ ) would believe their partner's declaration of monogamy (Siegel et al., 1999). Results from these studies indicate that individuals who believe in their partners' fidelity and use alternative contraceptive methods relax their condom use in committed relationships.

***Alcohol intoxication and condom use.*** The prevalence of alcohol use on college campuses plays a significant role in students' sexual health decisions. Over 30% of college students report drinking alcohol before sex (Brown & Venable, 2007) and 16.1% report they had engaged in unprotected sex due to alcohol consumption (ACHA, 2010). Risk drinking and unprotected sex were examined in a study conducted by Ingersoll et al. (2008). Risk drinking was defined as reporting one occasion of consuming five or more drinks in the past 90 days or drinking eight or more standard drinks on average per week in the past 90 days. A self-reported survey indicated that 31% ( $n = 2,012$ ) were risk drinkers and failed to use condoms consistently (Ingersoll et al., 2008). Additionally, a meta-analysis conducted by Cooper (2002) examined the empirical associations between alcohol use and risky sex among college students and youth and found that drinking was strongly related to decisions to have sex and to engage in indiscriminant forms of risky sex (e.g. having multiple partners) but was inconsistently related to protective behaviors (Cooper, 2002).

The inconsistent relationship between alcohol use and condom use has been found in other literature as well and there is mixed evidence regarding the relationship between risky

sexual behavior and intoxication. A study by Caldeira, Arria, Zarrate, Vincent, and Wish (2009) found intoxicated sex to independently predict condom nonuse in a sample of first-year female college students who had engaged in vaginal intercourse. Conversely, research also suggests that the use of alcohol consumption while engaging in unprotected sex does not demonstrate a causal relationship between the two behaviors (Abbey, Parkhill, Buck, & Saenz, 2007). However, Certain et al. (2009) found that participants with more sexual partners used condoms less when drinking, suggesting that there may be a third variable that accounts for increased risk taking such as sensation seeking or impulsivity that influences condom use while intoxicated. Delineating alcohol's risky sexual outcomes has been challenging (Cooper, 2002) and warrants further investigation.

*Communication and negotiation and condom use.* One of the significant findings of Sheeran and colleagues (1999) meta-analysis examining the psychosocial correlates of condom use was that condom negotiation was found to be the strongest correlate of condom use ( $r = .46$ ). Noar, Carlyle, and Cole (2006) quantitatively synthesized the relationship between safer sexual communication and condom use from 53 articles. The mean weighted effect size of the communication about condom use and condom use relationship was  $r = .25$ . DeVisser (2004) qualitatively examined delayed application of condoms and withdrawal among heterosexual young adults ( $N = 35$ ) through single-gender focus groups. The results indicated that condom use after limited unprotected penetration was likely to occur in casual sex encounters and was likely to be unplanned and not negotiated (DeVisser, 2004).

## **Social Influence**

Social influence is described as “wherein one person’s attitudes, cognitions, or behaviors are changed through the doing of others” (Cialdini, 1994, p. 275). Social influences refer to

information obtained from social interactions (Simons-Morton, Haynie, & Noelcke, 2009). Broadly viewed, social influences occur at multiple levels including policies, programs, media, and more proximal interpersonal influences such as friends and family (Glass & McAtee, 2006). Social influence examines the issue of why people change thoughts, feelings, and behavior through processes such as conformity, persuasion, compliance, and yielding to social forces (Pratkanis, 2007). Expansive social contexts, such as social norms and social networks, can best demonstrate the pervasiveness of social influences. With respect to many health behaviors, there is remarkable consistency in thought, feeling, and behavior within social contexts (Simons-Morton et al., 2009). For example, individuals who exercise tend to have friends who exercise and make additional friends who exercise (McNeill, Kreuter, & Subramanian, 2006). Adolescents who have friends who smoke are more likely to take up smoking in the future (Simons-Morton, 2004). Dietary behavior as well is highly associated with social context (Sorensen et al. 2007). Furthermore, obesity has been found to be an energy intake-expenditure issue as well as a social phenomenon when social networks were investigated (Christakis & Fowler, 2007). It is clear social determinants can influence a number of health behaviors.

**Social norms and sexual behavior.** Social norms are not a theory, but a construct found in multiple theoretical frameworks. Goldstein and Cialdini (2007) argue that social norms can be used as a “lever of social influence” and social norms not only prompt, but guide people’s action (Goldstein & Cialdini, 2007, p. 167). Social norms have been used to examine undergraduate binge drinking practices and in national social norms marketing interventions to reduce heavy alcohol use in college populations (Wechsler et al, 2003). Cialdini and Trost (1998) define social norms as rules that are understood by members of a group that guide social behavior without the force of laws (Caldini & Trost, 1998). Perception and interpretation of social norms may

encourage risky behavior in a misguided attempt to conform to perceived norms at an individual level (Lapinski & Rimal, 2005). College students' perceived social norms concerning alcohol use and sexual health behaviors have been studied for future interventions. One study found students overestimated their peers' levels of sexual activity, numbers of partners, incidence of STDs, and rates of unintended pregnancies, but underestimated rates of condom use (Scholly, Katz, Gascoigne, & Holck, 2005). Paul and Hayes (2002) found that college student estimate that 85% of college students had ever hooked up at least once, when the actual number from the study was 70%.

The extent to which a type of social influence known as 'pluralistic ignorance' affects hooking up was examined in a study Lambert et al. (2003). Pluralistic ignorance is the belief that private attitudes, beliefs, or judgments are discrepant from the norm, thus, conforming to the norm. College students ( $N = 264$ ) answered questions regarding their own comfort and their perceived peers' comfort in engaging in various sexual activities while hooking up. Both women and men rated their peers' level of comfort higher than their own to engage in hooking up. The authors concluded that pluralistic ignorance appears to apply to hooking up on college campuses (Lambert et al., 2003). However, besides one question assessing whether or not participants had a hook up experience in the past, the study did not examine how participants conformed to their socially influenced notions of the comfort level of their peers in hooking up.

College students' perceptions of their classmates, whether correct or incorrect, influence their own behavior and then judge their own behavior relative to these perceptions (Scholly et al., 2005). In some instances, perceptions to conform to the perceived norm affect behaviors (Haines & Spear, 1996). If students feel that it is unusual to be a virgin, they may feel compelled to "get rid of it" or "over with" so they do not have the status of being a virgin anymore (Bogle,

2008, p. 161). Students' perceived norms can also give them excuses to behave in a certain manner. If they would like to engage in sex with multiple casual sex partners and they perceive that their peers are doing just that, then they may feel motivated to do so because everyone else is doing it.

**Social influence and heuristic decision making.** Social influences can affect health behavior in other ways than just by social norms. In 1974, Tversky and Kahneman wrote a seminal paper on how judgments are made in uncertain conditions. The article examined how individuals rely on certain heuristic principles to assess the probabilities and make simpler judgmental operations. A series of small social science experiments were conducted to test and categorize the three heuristic principles of (1) representativeness, (2) availability, and (3) adjustment and anchoring (Tversky & Kahneman, 1974). In 1981, Petty and Cacioppo developed the elaboration likelihood model (ELM) to explain how attitudes are changed due to persuasive messages. The ELM specifically deals with persuasive communication, but the basic principles of the ELM may be applied to other attitude change situations as well. Central to the ELM is the elaboration continuum, which is defined as the extent to which a person carefully thinks about issue-relevant information (Petty & Cacioppo, 1986a). The motivation and ability to engage in issue-relevant consideration influence which route, peripheral or central, is used in a persuasive situation. A person has to have a strong desire to process the message and they must actually be capable of critical evaluation (Petty & Cacioppo, 1986b).

As cognitive misers (Petty & Cacioppo, 1986a), individuals do not have the ability or motivation to process all messages to the same extent. Because of this, the ELM distinguishes between two routes to persuasion. The first type of persuasion occurs due to careful thought and consideration of the merits of the information presented. This type of persuasion is referred to as

the central route. Messages processed via the central route are given a great deal of thought and considerable elaboration. The other type of persuasion occurs as a result of simple cues that induce change without the same message scrutiny given for central route processing. This type of message processing is referred to as the peripheral route. Peripheral route processing does not require a high amount of elaboration or extensive cognitive ability. The peripheral route occurs as a result of peripheral cues that induce change without necessitating scrutiny of the true merits of the information presented (Petty & Cacioppo, 1986a). Because individuals are not able to or willing to scrutinize every message received, heuristics are often used to aide in peripheral route decision making (Petty & Cacioppo, 1986b). Such heuristics are represented in memory like other sorts of knowledge structures and are learned on the basis of past experiences and observations (Eagly & Chaiken, 1993).

***Heuristics and sexual decision making.*** Individuals use heuristics to rationalize uncertainty. Heuristic cues are often utilized to make sexual decisions in the absence of partner information which allow partner risk assessment, such as partner's past sexual history, STD/HIV status, or contraceptive methods; however, there is limited literature examining the use of heuristics in sexual situations. Of the studies conducted examining this relationship has primarily examined the use of heuristics in committed relationships. Misovich, Fisher, and Fisher (1997) reviewed AIDS preventive behavior research and in doing so identified two aspects of information influencing safe sex behavior in close relationships. The first is referred to as implicit personality theories. This is described as the belief that a person can gather HIV risk information about a partner by examining certain characteristics of that partner and, based on that information; determine whether or not to practice safe sex. These are also referred to as characteristics-based theories (Thorburn et al., 2005; Williams et al., 1992). The other



information-related barrier to safe sex behaviors in close relationships identified by Misovich et al. (1997) is the use of inaccurate AIDS risk-assessment heuristics to determine if HIV-prevention behaviors are necessary. The four heuristics identified in close relationships are (1) the ‘known partners are safe partners’, (2) the ‘monogamous relationships are safe relationships’, (3) the ‘trusted partners are safe partners’ and (4) the ‘it’s too late’ (i.e. if you have already had sex without a condom, it is too late to protect against HIV) (Misovich, Fisher, & Fisher, 1997). Thorburn and colleagues (2005) used these findings to inform their study examining HIV-prevention heuristics in African American couples. Results suggested that monogamy, knowing your partner, and trusting your partner were believed to replace, reduce, or eliminate the need for HIV prevention behavior (Thorburn et al., 2005) such as condom use.

Bailey and Hutter (2006) conducted a study to examine the use of cultural heuristics to aid sexual decision making in men ( $N = 1,259$ ) who were or are currently married in Goa, India. The use of cultural heuristics to aid sexual decisions pertained to both marital partners and extramarital partners (defined as commercial sex workers or “lovers”). For wives and lovers, heuristics of gender roles, vigilance, and trust were used to guide sexual decisions. A cultural heuristic identified for commercial sex workers was the use of visual heuristics (Bailey & Hutter, 2006). There is very limited research examining the use of heuristic cues to aid sexual decisions outside the context of a committed sexual relationship. Additionally, no studies were identified that examined sexual decision making using six heuristic principles based on past social influence research. The following section examines the use of Cialdini’s (1984) principles of social influence and their contribution to this dissertation.

**The principles of social influence.** The six principles influence the tendency for people to comply with a request (Cialdini, 2007) and have been traditionally used in business and

marketing. The principles of social influence are based on peripheral route or heuristic processing that elicits decision making when information is absent. The six principles- authority, consistency, liking, reciprocity, scarcity, and social proof- have traditionally been examined within the context of sales and marketing research.

*Authority* is a principle that plays on the perception that obedience of an authority figure constitutes correct social conduct. There is a strong pressure within our society for compliance when requested by an authority figure. One classic, but extreme, example illustrating the influence of authority on behavior was an experiment conducted by Milgram (1963). In this study, researchers in lab coats urged naïve participants to administer shocks to a victim (a study accomplice) via an electric shock generator. Surprisingly, 26 of the 40 participants followed the researcher's instruction and administered all 30 levels of shocks despite hearing "an agonized scream" (Milgram, 1963). The study concluded that a deep-seated sense of instilled authority and obedience is why so many participants completed the urged tasks of administering the shocks even when it was causing them emotional and physical distress. From a marketing standpoint, authority figures can either be portrayed as famous persons persuading you to use the same products they use or 'experts' such as doctors touting the effectiveness of a product (Cialdini, 1984). Authority is a cue that uses social status or position of power in society to elicit compliance. Regarding sexual behaviors, condom use decisions are influenced by the partner's social status (Traeen & Hovland, 1998). Pressure to comply with authority figures, such as famous people or experts, is embedded within society and thereby influences decision making in a variety of contexts. With regard to condom use during casual sex, for example, partner social status can influence the decision to use a condom (Marston & King, 2006). Thus, authority appears to play an important role in the decision to use a condom and warrants further research

in this context.

The *consistency* principle is persuasive because after people make a commitment, taking a stand or position on an issue, people are more willing to agree to requests that are consistent with their prior commitment. The consistency principle is particularly helpful in guiding decision making in situations of great uncertainty. Once someone's mind is made up about an issue, stubborn consistency means that individuals do not have to think hard about the issue anymore (Cialdini, 1984) and previous mechanisms become the determinant for future attitudes and behaviors. Within the context of condom use, research demonstrates that using condoms at first intercourse is associated with subsequent condom use thereby supporting the consistency principle (Sheeran et al., 1999; Stulhofer, Bacak, Ajdukovic, & Graham, 2010). When confronted with an issue, it is easier to believe, say, or do whatever is consistent with earlier decisions (Cialdini, 2007) and therefore should be considered as an influential cue guiding our safe sex practices in casual sexual relationships as well.

*Liking* is a principle that can create influence and compliance based on factors such as physical attractiveness or similarity. Cialdini (2007) cites the success of Tupperware parties in the United States as an example supporting the liking principle on persuasion. The true request to purchase the product does not come from the salesperson, but from the friend hosting the party (Cialdini, 2007). People say yes to people they like. The 'halo effect' occurs when one positive characteristic dominates the way a person is viewed by others and is one of the oldest and most widely known psychological phenomenon (Nisbett & Wilson, 1977). Attributing positive overall assessments based on one characteristic has been found in sexual behavior decision making as well (Thorburn et al., 2005). Research has indicated in partners whom college students know and like are not perceived to be risky, even if what the students knew about the partners was

irrelevant to assessing sexual risk (Williams et al., 1992). Partner attractiveness and similarity can influence sexual risk assessment and condom use decision making (Hennessy et al., 2007; Masaro et al., 2008). Since casual sex has been identified as a means for potential future relationships, the principle liking appears to be multifaceted and the relationship between liking and casual sexual situations merits further investigation.

*Reciprocity* creates a feeling of obligation to repay someone in the future. In one particular study in support of this principle, a researcher mailed Christmas cards ( $N = 578$ ) to complete strangers living in another state. Over 20% ( $n = 117$ ) sent a card in return and only six people indicated that they did not remember the professor (Kunz & Woolcott, 1976). Members of society are trained from childhood to abide by the rule of reciprocity or suffer serious social disapproval. Within the context of dating, women comment on the uncomfortable sense of obligation after accepting favors from a man such as an expensive dinner or even one drink (Cialdini, 1984). Additionally, how a woman is perceived can be influenced by the principle of reciprocity. That is, research suggests that perceptions of a woman's sexual disinhibition and likelihood of sex play were significantly enhanced if the man bought the drinks (George, Gournic, & McAfee, 1988) or if a man pays for dinner (Battocletti et al., 2010). Clearly the principle of reciprocity influences decision making in a variety of contexts as reviewed in the above cited studies. Therefore, it is important to understand how reciprocity influences condom use decisions in casual sex relationships.

The *scarcity* principle increases value by persuading people that there is a limited number or time restriction. In marketing, the 'limited number' tactic is used to provoke a feeling of urgency to comply in order to avoid missing an opportunity (Cialdini, 1984). People seem to be influenced more by the thought of potentially losing something than the thought of potentially

gaining something. For condom use to be effective it must occur before sexual activity actually takes place; however, due to sexual scripts the opportunity to discuss and decide on condom use in casual sex situations are limited (Edgar & Fitzpatrick, 1993). This limited window of opportunity to engage in safer sexual behaviors has been found to influence the perception of ability to engage in safer sex (Lear, 1996). Condom use negotiation tends to occur immediately before sex or it often does not occur at all (Bowleg et al., 2010). Additionally, preparatory behaviors, such as obtaining or having access to condoms, were found to mediate the relationship between intentions to use condoms and actual use among high school and college students (Bryan et al., 2002). Condom use preparatory behaviors were also found to increase condom use at global and event levels (Lewis et al., 2010). Timing of communication and access to condoms influence condom use and therefore should be investigated within a casual sex context.

*Social Proof* influences peoples' decisions by informing them what other individuals have done or would do in certain situations. When people are uncertain of how to behave, they look to the actions of others to guide behavior (Cialdini, 1984). Health decisions, especially regarding sexual health behaviors, are influenced by the social proof principle as well (Scholly et al., 2005). Peer norms have been found to be predictors of condom use (Svenson et al., 2002). People often view a behavior as more correct in a given situation if they have seen or heard of others performing it. Within the context of condom use, research indicates that peer norms predict condom use (Svenson et al., 2002). Therefore, it is reasonable to assume that social proof can exert a significant influence on safe sex practices during casual sex, especially for college students who are often immersed in a world surrounded by their peers.

According to Cialdini (1984), the six principles of social influence cue heuristic compliance (Cialdini, 1987). Each principle is examined in its ability to produce a distinct kind

of automatic, mindless compliance from people. This mindless compliance is defined as a willingness to say yes without thinking first (Cialdini, 2007). Since each principle is distinct and elicits compliance through different complex influence processes (Pratkanis, 2007), a research question is put forth regarding the use of the principles of social influence on condom use during casual sex:

RQ1: To what extent are the principles of social influence *endorsed* and *rejected* as being influential in decisions to use condoms during casual sex?

Previous research indicates differences in condom use rates between males and females (Bontempi et al., 2009; Carter, McNair, Corbin, & Williams, 1999; Sheeran & Taylor, 1999). Because condom use has been found to be different between males and females, it is plausible that the decision making cues for condom use are different as well (Carter et al., 1999). Males have been found to identify unavailability or inconveniences as the most common decision making cue for condom nonuse whereas females reported perceptions of low risk as the most common decision making cue (Carter et al., 1999). However, of the limited literature examining condom use decision heuristics, such as partner social status, partner likability or peer norms, meaningful comparisons between gender influences were often not made (Martson & King, 2006; Masaro, 2008; Svenson et al., 2002). Given the limited literature examining gender differences regarding condom use heuristics, the following research questions are put forth:

RQ2: Among female college students, to what extent are the principles of social influence *endorsed* and *rejected* as being influential in decisions to use condoms during casual sex?

RQ3: Among male college students, to what extent are the principles of social influence *endorsed* and *rejected* as being influential in decisions to use condoms during casual sex?

## **The Theory of Planned Behavior**

The theory of reasoned action (TRA) was developed to better understand the relationship between attitudes, subjective norms, intentions, and behaviors (Fishbein & Ajzen, 1975). The theory identifies antecedents to the likelihood of performing a specific behavior. Behavioral intention is considered the best predictor of behavior. The theory posits that behavioral intention is influenced by attitude toward the behavior and social normative perceptions of the behavior (Montano & Kasprzyk, 2008). The theory of planned behavior (TPB) is an extension of the TRA and includes the additional construct of perceived control over the performance of the behavior. The TRA and TPB have been used to predict a number of different behaviors, including health behaviors. Armitage and Conner's (2001) meta-analytic review of TPB found that the theory accounted for 27% and 39% of the variance in behavior and intention, respectively.

The TPB assumes that the most direct determinant of behavior is behavioral intention (Montano & Kasprzyk, 2008). Intentions are assumed to capture the motivational factors that influence behavior. Intentions indicate how much effort individuals will exert in order to perform a behavior (Ajzen, 1991). Direct determinants of individuals' behavioral intentions are the attitude toward performing the behavior, the individuals' subjective norms associated with the behavior and an individuals' perceived control of performing the behavior. The stronger the intention to engage in a behavior, the more likely the behavior will be performed as long as the target behavior in question is under volitional control (Ajzen, 1985). Perceived behavior control is a determinant of behavioral intention to account for factors outside individuals' control.

Attitude is the degree to which a person has a positive or negative evaluation of the behavior. There are three basic features of an attitude: the notion that attitude is learned, that attitude predisposes action, and that such actions are consistently favorable or unfavorable

toward the object (Fishbein & Ajzen, 1975). Generally, people intend to perform a behavior when they evaluate it positively and when they believe that important others think they should perform it (Ajzen, 1985). Subjective norms are the perceived social pressure put on a person to perform or not to perform the behavior in question as well as the motivation to comply with such normative influences, are determinants of behavioral intention. Perceived behavioral control was added to the TRA based on the idea that behavioral performance is determined jointly by motivation (intention) and ability (behavioral control) (Montano & Kasprzyk, 2008). A person's perception of control over a behavioral performance is expected to have a direct effect on behavior. The TPB posits that perceived behavioral control is an independent determinant of behavioral intention. That is, holding attitude and subjective norm constant, a person's perception of the ease or difficulty of behavioral performance will affect their behavioral intention (Ajzen, 1991). Perceived behavioral control is comprised of components that reflect beliefs about self-efficacy and controllability (Ajzen, 2002).

Several authors have targeted subjective norms as the weakest predictor of intention (Armitage & Conner, 2001). The most likely explanation of the poor performance of this construct lies in its measurement. Many authors use single-item measures as opposed to more reliable multi-item scales (Armitage & Conner, 2001). Another issue regarding the predictability of subjective norms is how the construct is defined. According to Ajzen (1991), subjective norm is operationalized as a global perception of social pressure either to comply with the wishes of others or not. Cialdini, Kallgren, and Reno (1991) distinguish between descriptive norms, (what most others do) and injunctive norms (what most others approve or disapprove) and determined that injunctive norms align most closely with the TPB's definition of subjective norms. However, descriptive norms have been found to influence intentions to engage in certain



behaviors (White, Terry, & Hogg, 1994).

**The theory of planned behavior and safer sexual behaviors.** The TPB has been applied to explain a variety of health behaviors, including HIV/STD-prevention behaviors. A meta-analysis was conducted by Sheeran and Taylor (1999) that examined the predictability of intentions to use condoms using the TRA and TPB examining 67 independent studies. The sample-weighted mean variance in intentions accounted for by the TRA was 37%, while the TPB accounted for 42%. The analysis found moderate to strong effect sizes in the ability of attitudes ( $r = .45$ ) and subjective norms ( $r = .42$ ) to predict behavioral intentions. Additionally, the analysis suggested that perceived behavioral control ( $r = .35$ ) was a reliable predictor of behavioral intention and explained variance stronger (variance attributable to perceived behavioral control = 5%) than attitudes and subjective norms (Sheeran & Taylor, 1999). Furthermore, a meta-analysis of 96 data sets ( $N = 22,594$ ) conducted by Albarracín et al. (2001) examined how well the TPB predicted condom use. Consistent with the theory, attitudes ( $r = .58$ ), subjective norms ( $r = .39$ ), and perceived behavioral control ( $r = .45$ ) were associated with condom use intentions (Albarracín et al., 2001).

The relationships between the constructs of the TPB and safer sex intentions have been of particular interest and have been applied to various methodological frameworks. Mausbach, Semple, Strathdee, and Patterson (2009) used the TPB to guide an intervention to promote safer sex behaviors among heterosexual methamphetamine users ( $N = 388$ ). They found significant relations ( $p < .05$ ) between the TPB constructs attitudes, normative beliefs, and control beliefs ( $r = -0.24, .049$ , and  $0.27$ , respectively) and safer sex intentions (Mausbach, Semple, Strathdee, & Patterson, 2009). A cross-sectional study of college students ( $N = 160$ ) found that all three constructs of the TPB to be significant, positive predictors of condom use intentions (Bryan,

Fisher, & Fisher, 2002). Xiao, Palmgreen, Zimmerman, and Noar (2010) also conducted a cross-sectional study which examined the TPB in relation to explaining condom use among Chinese college students ( $N = 490$ ). Results indicated that the constructs of TPB were a significant direct predictor of condom use, as previous research had found in Western populations (Xiao, Palmgreen, Zimmerman, & Noar, 2010). The various methodological applications of the TPB examining safe sex behaviors support the robustness of the theory within this context of predicting safer sex intentions.

Not all studies have found that all three of the constructs of the TPB are significant predictors of safer sex intentions. Asare and Sharma (2010) used the TPB to predict safer sex behavior among Ghanaian ( $N = 137$ ) immigrants through a self-administered survey. Only perceived behavioral control and subjective norm were significant predictors of condom use intentions and accounted for 38% of the variance. Attitudes were not found to be significant predictors. The sample was nonrandom and comprised of mostly married respondents which may have influenced the relationship between attitudes and condom use intentions. Gebhardt and colleagues (2003) used the TPB to investigate the extent in which need for intimacy in relationships are capable of distinguishing between those who *always* have protected sex those who do not. In a survey among 701 adolescents and young adults (15-23 years), the findings revealed that intimacy in relationships was found to distinguish individuals who always had protected sex in both steady and casual relationships. In addition, consistent condom use with casual partners was related to high self-efficacy, attitudes, and perceived subjective norms while protective sex with steady partner was significantly related to only positive attitude and perceived subjective norms (Gebhardt et al., 2003). This study highlights the importance of examining safer sexual behaviors, such as condom use, in more specific situations such as

relationship status.

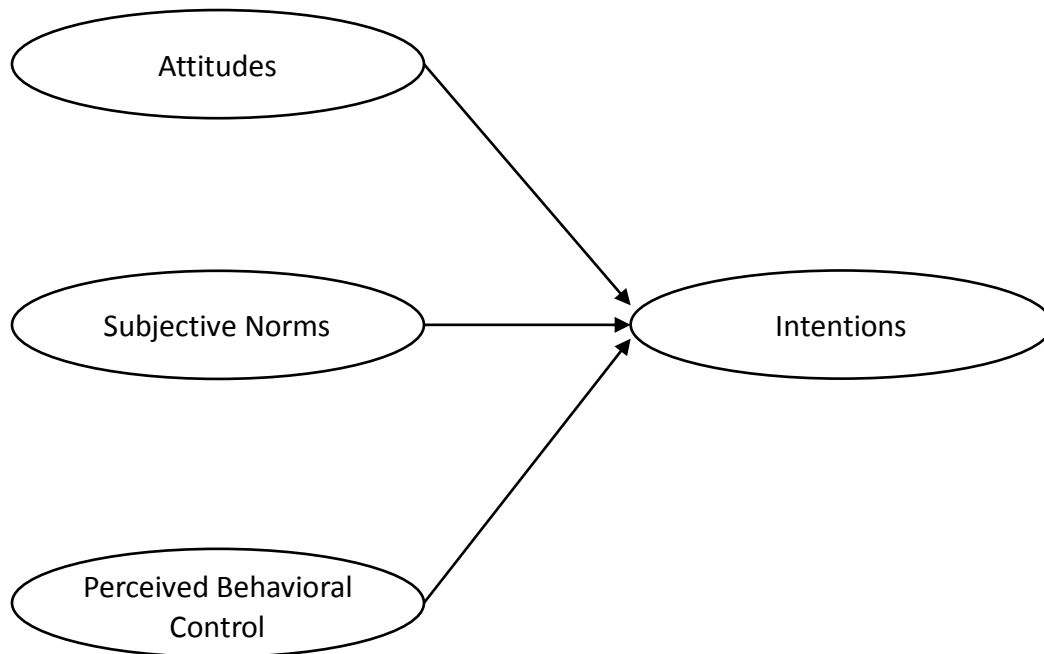
The use of the TPB to predict condom use intentions in various populations and situations are well supported in the literature. Therefore, three hypotheses are put forth regarding the constructs of the TPB's predictability of condom use intentions:

H1: Attitudes will be positively associated with intentions to use a condom during casual sex relationships.

H2: Subjective norms will be positively associated with intentions to use a condom during casual sex relationships.

H3: Perceived behavioral control will be positively associated with intentions to use a condom during casual sex relationships.

The hypothesized model is depicted in Figure 2.1.



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Figure 2.1 Hypothesized Model.

## Summary

After a review of the literature, it is clear that casual sex relationships are a major type of sexual activity for college students and that condom use varies dependent on situational factors (e.g., Battocletti et al., 2010; Hennessy et al., 2007; Marston & King, 2006; Masaro et al., 2008; Svenson et al., 2002). The TPB has been found to be a robust theory in predicting condom use across varying demographics and behaviors (e.g. Sheeran & Taylor, 1999; Xiao et al., 2010).

Although there is social influence literature linking the six principles of social influence to sexual behavior, there was no identified literature that specifically examined the relationship between the principles of social influence and condom use within casual sex encounters. There is a gap in the literature regarding the influence of these six social influence cues and sexual health decisions. Furthermore, this dissertation utilized two theoretical underpinnings, the TPB and Cialdini's (1984) principles of social influence, to understand condom use decisions in casual sex relationships. The use of the TPB, which has been shown in the literature to be a robust measure of condom use intentions (Sheeran & Taylor, 1999) and the untested application of the principles of social influence on condom use decisions, is a novel approach and has theoretical as well as practical contributions. Given the novelty of the methodological approach of this study, it is uncertain what differences will emerge among the constructs of the TPB across the six principles of social influence. In this spirit, the final research question is put forth:

RQ4: To what extent are the differences in strength among the TPB constructs (attitudes, subjective norms, and perceived behavioral control) in predicting intentions for casual sex relationships within the context of the principles of social influence (authority, consistency, liking, reciprocity, scarcity, and social proof)?

## CHAPTER 3

### METHODOLOGY

In this dissertation, two studies were conducted to examine the relationship between Cialdini's (1984) six principles of social influence and condom use in casual sex relationships in college populations. In Study 1, nine focus groups ( $N = 48$ ) of college students, were conducted to investigate the use of the principles of social influence for condom use decisions in casual sex. Data were transcribed verbatim and coded for *endorsement* or *rejection* of the six principles on condom use decisions. The data were analyzed using a content analysis. Furthermore, data from the focus groups were used to corroborate the content of six vignettes created to examine the influence of the six principles on condom use intentions for Study 2.

In Study 2, a web-based survey was created to further examine the relationship between the principles of social influence and condom use intentions in casual sex. For each of the six principles, female-centered and male-centered vignettes were created. Following each vignette were questions that examined the constructs of the theory of planned behavior assessing participants' attitudes, subjective norms, perceived behavioral control and intentions regarding condom use in each of the six vignettes. Additionally, the survey contained items assessing demographic information, alcohol use, past sexual behaviors, past safe sex practices, and personality traits. The survey was piloted and revisions were made. In the fall of 2011 and the spring of 2012, the survey was offered as an extra credit opportunity in a human sexuality course in the Kinesiology and Community Health Department. The final sample consisted of 388 (277 females and 111 males).

## Study 1

Focus groups were conducted to understand the relationship between six principles of social influence and condom use in casual sex relationships among college students. The following sections will examine the purpose of the study, as well as the recruitment, participant demographics, the study methodology and data coding.

**Purpose.** Study 1 utilized focus groups designed to examine two research questions: 1) How do the principles of social influence affect condom use for casual sex in college students?, and 2) What are some decision making heuristics that college students use to make sexual decisions in the absence of partner information? Responses from the focus groups were used to corroborate the creation of a survey for college students examining social influence's relationship with condom use intentions in casual sex relationships in college populations.

**Recruitment.** After receiving IRB approval in the fall of 2010 and the spring of 2011, undergraduate students in six communication classes were recruited to participate in formative research examining the principles of social influence used by college students to make sexual decisions. In recruiting participants, individuals were given a brief introduction to the study and information on how to contact the investigator to participate. Participants were also made aware that their decision to participate was completely voluntary and would not affect their status in the course or with the instructor. Extra credit was offered for participation and students were offered an alternative extra credit opportunity if they choose not to participate in the study. A flyer was then distributed to the whole class after the study's introduction, which contained information about the study and how to participate, including the researcher's contact information. Interested students contacted the researcher via e-mail. Each participant was then assigned to a focus group based on their gender and availability.

**Participant demographics.** Nine single-gender focus groups were conducted in total. There were six female focus groups and three male focus groups. The sample consisted of 48 participants (37 females and 11 males). The average age of the focus group participants was 21.2 ( $SD = 1.85$ ) years old. The majority of participants were upperclassmen (27 seniors, 10 juniors, 7 freshmen, 2 graduate students, 1 freshman, and 1 did not report) and self-identified as White ( $n = 32$ ) followed by Asian ( $n = 6$ ), Black ( $n = 6$ ), Hispanic ( $n = 2$ ), other ( $n = 1$ ), and one did not provide their ethnicity. The majority of participants reported having had sexual intercourse ( $n = 37$ ). Of those with sexual experience, the average number of partners in the past 12 months was 1.43 ( $SD = .80$ ) and the average number of lifetime partners was 7.97 ( $SD = 14.67$ ).

**Methodology.** The same-gender focus groups were comprised of three to eight participants, which tend to facilitate more personal and detailed sharing, provided the sensitive nature of the study (Krueger & Casey, 2009). Since the goal of the research was to examine socially-constructed scripts, the dynamic quality of focus groups fit well with the study goals. The focus groups were interactive in nature and allowed for open sharing of social scripts. Each focus group was moderated by the researcher and was digitally recording for transcribing purposes. Participants first signed the informed consent and then completed a short questionnaire. Each focus group lasted approximately one hour.

The focus group questions examined social influence and sexual decisions in casual relationships. After a brief introduction, participants were given the following definitions.

*Casual sexual relationships or encounters* for the focus groups were defined as sexual relationships (which may include oral, vaginal or anal intercourse) in which the partners do not define the relationship as romantic or committed meaning that they do not define

their partner as a boyfriend/girlfriend, (Grello et al., 2006) husband/wife, or romantic partner. This may include one-night stands, hook ups, or friends with benefits.

To examine the role of social influence on sexual decisions, the focus group questions were guided by Cialdini's six principles of social influence (Cialdini, 1984). The questions examined the six principles as they related to condom use in casual sexual relationships. In order to mitigate the likelihood of eliciting socially desirable responses, all questions were asked in a third-person context (i.e. "Do you think your peers...") to reduce embarrassment and allow students to disassociate from responses. The focus group moderator guide can be found in Appendix A.

All focus groups were transcribed verbatim by a professional transcribing service. The focus groups were exploratory in nature due to the limited literature examining the persuasiveness of the six principles of social influence within the context of casual sex relationships. There are multiple ways to analyze qualitative data (Patton, 2007). Given that the focus group questions were based on the theoretical underpinning of Cialdini's (1984) principles of social influence, a content analysis was utilized to make replicable and valid inferences from the text (Krippendorff, 2004).

**Data coding.** Prior to data analysis, the unit of analysis was defined (Krippendorff, 2004). For the current dissertation, each unit of analysis was defined as one talk turn in the transcripts. The physical parameter of a talk turn was defined as any statement made by a participant during the duration of the session. Once a new participant or the moderator spoke, the talk turn was considered over and a new talk turn was coded. Within each talk turn, the content was analyzed for overall endorsement or rejection of the coding theme and context along with other emergent themes. Coding themes were not mutually exclusive; therefore, in practice, each



talk turn could consist of more than one code. The focus group codebook can be found in Appendix B.

Two coders were trained extensively on the six social influence principles and whether each principle was endorsed or rejected. *Endorsement* refers to accepting the influence of a principle whereas *rejection* refers to dismissing the influence of a principle in affecting condom use decisions. Each coder independently coded approximately 10% of the data. Inter-coder reliability was then calculated to determine the coders' level of agreement using two proxies, Cohen's Kappa (K) and simple agreement (SA). Cohen's Kappa represents a conservative measure of agreement in that it takes into account agreement by chance (Cohen, 1960). For this reason, however, considering the dichotomous (present, not present) nature of the variables, the likelihood of agreement was higher than if the variables had additional options. Due to agreement by chance, lower Cohen kappa values were expected. For this reason, simple agreement between the trained coders was also calculated. In all, the coders achieved an acceptable inter-coder reliability across the six cues for both endorsement [authority (SA = 1.0, K = 1.0), consistency (SA = .99, K = .67), liking (SA = 1.0, K = 1.0), reciprocity (SA = 1.0, K = 1.0), scarcity (SA = 1.0, K = 1.0), and social proof (SA = 1.0, K = 1.0)] as well as rejection [authority (SA = 1.0, K = 1.0), consistency (SA = 1.0, K = 1.0), liking (SA = 1.0, K = 1.0), reciprocity (SA = 1.0, K = 1.0), scarcity (SA = 1.0, K = 1.0), and social proof (SA = 1.0, K = 1.0)]. After establishing acceptable inter-coder reliability, the trained coders independently coded the remaining transcripts.

## **Study 2**

In Study 2, a web-based survey was created and consisted of six vignettes depicting the principles of social influence for condom use decisions in casual sex situations. The survey also

measured the constructs of the TPB as well as items assessing demographic information, alcohol use, past sexual behaviors, past safe sex practices, and personality traits. Data were analyzed for 388 (277 females and 111 males) respondents. The following sections will examine the study sample, recruitment, exclusion criteria and participant demographics. Additionally, the survey development, survey variables, data collection and data analysis will be discussed.

**Sample.** Study 2 featured a convenience sample comprised of male and female undergraduate students enrolled in a human sexuality course within the Kinesiology and Community Health Department. The human sexuality course is a two-credit course that is only required for students within the Kinesiology and Community Health Department; however, the course counts as a general education elective for all other students on campus and is a popular class for students outside of the department. Each semester, the course enrolls up to 550 students. The survey was available to approximately 1,100 students from both data collection times. Since the course counts as an elective for students, the students come from departments all across campus and the make-up of underclassmen to upperclassmen is about equal.

**Recruitment.** A brief announcement about the study was made in each of the course's eleven sections. Participants were made aware that their decision to participate was completely voluntary and would not affect their status in the course or with the instructor. Extra credit was offered for participation and students were offered an alternative extra credit opportunity if they choose not to participate in the study. There were two separate survey links created, one for male participants and one for female participants. The links to the surveys were posted on each section's course website for one week following the announcement. Students needed to complete the survey within that timeframe. The survey was anonymous and responses could not be linked back to students. Upon completing the survey, students were prompted to print out the final page

of the survey. Student information was requested for grading purposes only and their responses could not be linked back to students in any way. The completed final page of the survey was used to ensure that students receive extra credit for their participation. Recruitment for Study 2 took place in both the fall of 2011 and the spring of 2012. The same survey recruitment procedures were used for both time periods.

**Exclusion criteria.** The course is only open to undergraduate students, thus, no graduate students had the opportunity to complete the survey. Only students 18-years-old or older could participate in the study. One participant, indicating that she was 17-years-old, was excluded from the study. Since there were two survey links, one for males and one for females, the first question asked for the participant's gender. An exclusion criteria set within the survey which kicked out any respondents who answered that their gender was opposite of the survey they were taking. For example, if a female entered the male survey and responded that her gender was female; she would be automatically disqualified from the survey and provided with the following message, "Sorry but you do not qualify for this survey. Please make sure that you clicked on the correct survey link for your gender." Only one participant ( $n = 1$ , female) was recorded who identified her gender was incongruent with the survey she was in. That respondent was kicked out of the survey and no data were recorded and subsequently that participant was dropped from the dataset.

Of the remaining 461 respondents, 95% ( $n = 438$ ) of the sample identified themselves as heterosexual. Of the remaining respondents, 2% ( $n = 9$ ) identified as bisexual, 1.7% ( $n = 8$ ) identified as gay/lesbian, and 1.3% ( $n = 6$ ) identified as unsure. Since the vignettes examining condom use intentions were based on traditional sexual scripts and the situations all depict

heterosexual sexual situations, those not identifying as heterosexual were excluded from the analyses ( $n = 23$ ).

The time participants spent engaged with the online survey materials was also recorded. Heterosexual participants over the age of 18 ( $n = 438$ ) response durations ranged from 7 minutes to 6,547 minutes. Given that participants responded to situations described in the repeated measure experiment, participants taking longer than 90 minutes to complete the survey were excluded ( $n = 56$ ) to eliminate outliers. Of the remaining sample ( $n = 406$ ), the top 2.5% and the bottom 2.2% of participants according to duration ( $n = 18$ ) were dropped from the data set (Miller & Quick, 2010). Thus, 388 participants (277 females and 111 males) were included in the analysis (mean response time 21.03 minutes,  $SD = 7.83$ ), with durations ranging from 11 to 48 minutes.

**Participant demographics.** In the fall of 2011 and the spring of 2012, 462 undergraduates (318 females and 144 males) completed the survey with a response rate of 42%. After eliminating respondents that met exclusion requirements ( $n = 74$ ), the sample size used for data analysis was 388. The average age of respondents was 19.86 ( $SD = 1.49$ ). Age of respondents ranged from 18-29 years old. The majority of respondents were freshmen (29.4%), followed by seniors (28.1%), sophomores (24.5%), juniors (16.0%), and fifth year or more undergraduates (2.0%). No students identified themselves as a graduate student, which was anticipated since the course is only open to undergraduates.

Respondents primarily identified as White (58.5%), followed by Asian (14.9%), Black, (13.4%), Hispanic (9.0%), Multi-Racial (2.3%), and Other (1.8%). Nine percent ( $n = 38$ ) of participants were international students.

In the previous 30 days, 22.9% ( $n = 89$ ) of participants drank 10-19 days, 21.1% ( $n = 82$ ) drank 6-9 days, 20.1% ( $n = 78$ ) drank 3-5 days, and 12.9% ( $n = 50$ ) drank 1-3 days. Eight percent had drank alcohol before, but not in the past 30 days and 11.9% ( $n = 46$ ) had never drank alcohol. Only 3.9% ( $n = 15$ ) of participants identified themselves as Married/Partnered. Seventy-eight percent ( $n = 301$ ) reported being sexually experienced. Of those 301, 45.6% ( $n = 177$ ) had engaged in a casual sex encounter previously. Average number of lifetime sex partners was 4.92 ( $SD = 7.36$ ), ranging from 1-90 partners. Regarding past condom use, 26.9% of participants ( $n = 81$ ) *always* used a condom during vaginal or anal intercourse within the last 30 days, while 23.6% ( $n = 71$ ) had not engaged in this sexual activity within the past 30 days. Additionally, 21.3% percent of participants reported using a condom *most of the time* ( $n = 45$ ) or *sometimes* ( $n = 19$ ), while 16.9% reported *rarely* ( $n = 16$ ) or *never* ( $n = 35$ ) using a condom in the past 30 days. Eleven percent ( $n = 34$ ) answered that they had never engaged in vaginal or anal intercourse previously. Furthermore, 60.8% ( $n = 183$ ) of those previously sexually active reported using a condom the last time they engaged in sexual intercourse.

**Survey development.** To examine the study's hypotheses and research questions, the current study used prospective vignettes to examine the role of the six principles of influence on sexual decision making in casual sex. Exploratory focus groups were first conducted to explore and understand the relationship between the principles of social influence and condom use decisions. For the creation of the vignettes used in the survey, the focus group data obtained from Study 1 influenced the themes, terminology and situations used (e.g. Hickman & Muehlenhard, 1999). For example, in the focus groups when examining the role of *authority* on condom use decisions, a common theme that emerged was that athletes on campus were often considered to have a higher social status that can influence sexual decision making. Therefore, in the vignette

depicting the role of *authority*, one of the sexual partners is involved in college athletics (i.e. a football player and a cheerleader). The survey was then piloted and survey revisions were made prior to use in the main study. The survey used for Study 2 can be found in Appendix C

***Piloted survey data.*** A version of the survey was piloted in a human sexuality course in the spring of 2011. The survey was administered over a web-based survey management site, SurveyMonkey. One hundred and ninety-seven undergraduates completed the survey. Cronbach alpha was used to test the reliability of the TPB constructs across each of the six principles of social influence. All alpha values had acceptable reliability ranging from .76 – .98. The piloted alphas can be found in Appendix D. The procedures and the instruments used during piloting informed revisions of the current survey. The focus group data and pilot results were used to influence the creation and revisions to the survey measurement tools utilized.

***Vignettes.*** The vignettes used to examine the relationship between Cialdini's principles of social influence and condom use intentions were created and corroborated by results from the focus groups. The vignettes were based on examples given by participants when discussing how social cues influenced sexual decision making. Two identical vignettes were created, varying only in the gender of the target character in each vignette and the subsequent follow-up questions. The vignettes were piloted on 197 undergraduates in the spring of 2011. The order in which participants viewed the vignettes was automatically randomized to control for possible order effects (Couper, 2008). Following each of the six vignettes were questions examining the constructs of the TPB.

***Principles of social influence vignettes.*** The following section provides either the male- or female-center vignettes used to illustrate each principle. All twelve survey vignettes for both males and females can be found in the study survey located in Appendix C.

*Authority.* In the vignettes, authority is depicted by a power difference within a relationship with a general negative connotation. The vignette examining the influence of authority on condom use intentions relates authority to social status: “Cindy just met and went home with Anthony, a football player. Cindy is so excited that a football star like him would be interested in her, so when he doesn’t provide a condom, she doesn’t want to ruin the moment by bringing up a conversation about condom use.”

*Consistency.* The principle of consistency is depicted in the vignette as past behaviors: “Jim has not used condoms in past casual sexual relationships and nothing bad has happened to him. Tonight he just met Christy and they are back at her place. He doesn’t carry condoms on him and he is not concerned if Christy has one or not.”

*Liking.* In the vignette examining the role of liking is associated with positive feelings towards the casual sexual partner: “Angela just met Steve and she is really into him. She gets a good vibe from him and thinks this could really become a relationship. He is such a nice guy and she really likes him. She goes home with him; he doesn’t bring up condom use so she doesn’t insist.”

*Reciprocity.* In the vignettes, reciprocity is depicted as the relationship between condom use and the feeling of being owed due to a stated favor: “Mike’s friends just set him up on a date with Hannah, whom he just met. All night Mike has been a real gentleman, opening doors for Hannah, paying for both the dinner and the movie. Afterwards they head back to his place. Hannah doesn’t bring up using a condom so Mike doesn’t bring up the topic either since he feels like she owes him after their date.”

*Scarcity.* In the vignettes, scarcity is depicted by the small limited opportunity to negotiate condom use in casual sexual situations: “Chelsea and Peter know each other from

English class, but only a little. Chelsea goes home with Peter but there was never a good time to discuss condom use. Chelsea didn't want to bring it up too early because she wasn't sure that they were going to have sex, and then she didn't want to ruin the moment once she was sure they definitely were."

*Social proof.* The vignette depicts social proof as an observed behavior: "Todd's roommates were all talking about sexual encounters that they didn't wear condom in casual relationships and how nothing bad had happened as a result. Todd decided that if the next time he has a casual sexual encounter and doesn't wear a condom, it wouldn't be the end of the world."

**Vignette validity.** Following each vignette was the question stem, "This scenario is..." Respondents were to answer on a scale of 1 to 5 as either *not realistic-realistic* and *not believable-believable*. The vignettes were found to have acceptable internal consistency for all six principles for both males and females. Specifically, the female alpha values are as follows: *authority* ( $\alpha = .96$ ), *consistency* ( $\alpha = .97$ ), *liking* ( $\alpha = .96$ ), *reciprocity* ( $\alpha = .98$ ), *scarcity* ( $\alpha = .96$ ), and *social proof* ( $\alpha = .97$ ). The alpha values of believability for males are as follows: *authority* ( $\alpha = .96$ ), *consistency* ( $\alpha = .97$ ), *liking* ( $\alpha = .95$ ), *reciprocity* ( $\alpha = .95$ ), *scarcity* ( $\alpha = .96$ ), and *social proof* ( $\alpha = .91$ ).

**Theory of planned behavior.** Following each gender-specific vignette were subsequent questions assessing the participants' reactions to the vignette based on the constructs of the TPB. The follow-up questions assessed attitudes, subjective norms, perceived behavioral control, and behavioral intentions related to each of the six vignettes. Evaluations of each TPB construct are typically measured on bipolar *good-bad* scales, and a person's behavioral belief about the likelihood of performing target behavior are measured on bipolar *unlikely-likely* or *disagree-*



*agree* scales (Montano & Kasprzyk, 2008). These bipolar scales, also known as semantic differential scales, are most often used in the literature to measure the constructs of TPB (Albarracín et al., 2001). The follow-up questions were the same for each of the six vignettes for both genders; the only variation was the name of the target character in the questions, which was based on the accompanying vignette. Using the same stems for the follow-up questions for all vignettes allowed for reliability testing of each of the variables measured from the TPB.

*Attitudes.* Condom use attitudes were measured by three items following the stem question, “If I were [vignette target’s name], my attitude toward using a condom in this situation would be...” On bipolar scales from 1-5, participants answered if their attitudes were *bad-good*, *unfavorable-favorable*, and *negative-positive* participants rated their attitudes regarding condom use in the vignettes’ situation. For both genders across the six different vignettes, the three items assessing condom use attitudes were found to have acceptable internal consistency ranging from .97 to .99. Specifically, the alpha values are as follows: *authority* ( $\alpha = .98$ ), *consistency* ( $\alpha = .99$ ), *liking* ( $\alpha = .97$ ), *reciprocity* ( $\alpha = .98$ ), *scarcity* ( $\alpha = .97$ ), and *social proof* ( $\alpha = .99$ ).

*Perceived behavioral control.* Condom use perceived behavioral control was measured with the stem question of, “My using a condom in this situation would be...” Respondents answered on a 1 to 5 scale with either *difficult-easy* and *not capable-capable* at the endpoints. The use of the bipolar scales captures both the efficacy and control components of the construct of perceived behavioral control. For both genders across the six different vignettes, the two items assessing condom use perceived behavioral control were found to have acceptable internal consistency ranging from .66 to .73. Specifically, the alpha values are as follows: *authority* ( $\alpha = .72$ ), *consistency* ( $\alpha = .70$ ), *liking* ( $\alpha = .66$ ), *reciprocity* ( $\alpha = .70$ ), *scarcity* ( $\alpha = .67$ ), and *social proof* ( $\alpha = .73$ ). For the present study, three items were included in the survey to measure the

perceived behavioral control construct. One item measured confidence and two items measured control. The alpha reliability scores of the three items were unacceptably low. Specifically, the alpha values of the three items ranged from .54 to .63. The items measuring self-efficacy and external control yielded the highest alphas and were the two items used in the final analysis. Thus, an item measuring perceived control, *out of my control-within my control* was dropped from the analysis.

*Subjective norm.* Condom use subjective norms were measured by asking participants to rank from 1 to 5 as either *unfavorable-favorable*, or *not supportive-supportive* following this statement: “If I were [vignette target’s name], most people important to me would view my using a condom in this situation as...” For both genders across the six vignettes, the three items assessing condom use subjective norms were found to have acceptable internal consistency ranging from .89 to .97. Specifically, the alpha values are as follows: *authority* ( $\alpha = .95$ ), *consistency* ( $\alpha = .97$ ), *liking* ( $\alpha = .88$ ), *reciprocity* ( $\alpha = .94$ ), *scarcity* ( $\alpha = .94$ ), and *social proof* ( $\alpha = .97$ ).

*Intentions.* Condom use intentions were measured with three items. Participants were asked to rate on a scale of 1 to 5 how *unlikely-likely*, *false-true*, and *disagree-agree* to the following statement, “If I were in this situation, I would use a condom” (Asare & Sharma, 2010). For both genders across the six different vignettes, the three items assessing condom use intentions were all found to have the same internal consistency of .98. Specifically, the alpha values are as follows: *authority* ( $\alpha = 0.98$ ), *consistency* ( $\alpha = .98$ ), *liking* ( $\alpha = .98$ ), *reciprocity* ( $\alpha = .98$ ), *scarcity* ( $\alpha = .98$ ), and *social proof* ( $\alpha = .98$ ).

**Survey variables.** Individuals responded to a battery of items measuring psychological, behavioral correlates related to condom use. In the following section, only the variables used in the data analysis are reported.

**Demographic information.** Six items were used to assess the demographic information of the sample. Most items were taken from the ACHA-NCHA (ACHA, 2010). The ACHA-NCHA is an annual survey distributed to colleges across the United States to assess college student health. In the fall of 2010, 39 self-selected post-secondary institutions administered the ACHA-NCHA. These institutions utilized random-sampling techniques to distribute the ACHA-NCHA survey to their student populations ( $N = 24,252$ ) (ACHA, 2010). The items used to measure the demographic information of the sample were from the ACHA-NCHA. These items measured gender, age, race/ethnicity, sexual orientation, relationship status, and year in school of the survey participants.

**Alcohol use.** Alcohol use was measured using an item from the ACHA-NCHA (ACHA, 2010). The item assessed alcohol use with the previous 30 days ( $M = 4.1$ ,  $SD = 1.7$ ) on an 8-point Likert scale ranging from *never used* to *used daily*.

**Sexual experience.** A dichotomous item (1 = No, 2 = Yes) was used to measure if participants were sexually experienced or not ( $M = 1.8$ ,  $SD = .42$ ). Before the item was the following statement, “For the purposes of this survey, sexual intercourse is defined as vaginal intercourse, anal intercourse, or oral/genital sex”. This definition was derived from the CDC’s Youth Risk Behavior Survey High School (YRBS-High School) survey (CDC, 2011). Respondents that answered ‘no’ ( $n = 87$ ) were taken through an automatic skip-pattern that bypassed the questions pertaining to past sexual behaviors.

**Past sexual behaviors.** Three items were used to measure past sexual behaviors. Number

of lifetime sexual partners was a fill in the blank item with the restriction of entering in only whole numbers ( $M = 4.9$ ,  $SD = 7.4$ ). Two items measured past condom use behaviors. Past safe sexual behaviors were assessed with items from both the ACHA-NCHA (ACHA, 2010) and the YRBS-High School (CDC, 2011). Condom use during last sexual intercourse ( $M = 1.6$ ,  $SD = .49$ ) was measured on a dichotomous (1 = No, 2 = Yes) question asking if a condom was used during the last sexual intercourse. The other item from the ACHA-NCHA (ACHA, 2010) assessed condom use in the past 30 days ( $M = 4.2$ ,  $SD = 2.3$ ) on a 7-point Likert scale ranging from *have not during the last 30 days* to *always*.

***Casual sexual behaviors.*** An item was used to assess past casual sexual behaviors. This item was derived from Penhollow, Young, and Bailey (2007) and is a dichotomous question (1 = No, 2 = Yes) if participants had ever had casual sex ( $M = 1.6$ ,  $SD = .49$ ). Before the question measuring past casual sex behaviors, participants were provided the following definition: “For the purposes of this survey, casual sex relationship was defined as a sexual relationship that may include oral, anal, or vaginal intercourse in which the partners involved would NOT consider the relationship committed. Meaning, they do not refer to their sexual partner as their boyfriend/girlfriend, husband/wife, or romantic partner. This may include one-night stands, hook ups, or friends with benefits.

***Sexual sensation seeking.*** Sexual sensation seeking is theoretically defined as “the propensity to attain optimal levels of sexual excitement and to engage in novel sexual experiences” (Kalichman et al., 1994, p. 387). The Sexual Sensation Seeking Scale (SSSS) contains eleven items measured on a four-point scale ranging from 1 *not at all like me* to 4 *very much like me*. The scale was validated on 900 heterosexual college students and reported an internal consistency of .81 (Beck, Thombs, Mahoney, & Fingar, 1995). When validating the

SSSS on a sample of heterosexual college students, Gaither and Sellbom (2003) also found the measure to have strong internal consistency and convergent validity. Furthermore, SSSS scores were positively correlated with a range of sexual behaviors, including having more one-night stands, having a higher number of partners in the previous three months, and engaging in vaginal intercourse at an earlier age (Gaither & Sellbom, 2003). For the current study, the eleven items had strong internal consistency ( $\alpha = .81$ ) and were averaged to obtain a SSSS score ( $M = 2.2$ ,  $SD = .54$ ). The eleven items were averaged to create a sexual sensation seeking score.

**Data collection.** Data collection was administered via a web-based survey management site, SurveyMonkey. Web-based survey collection has become more popular over the past decade in empirical research due to rapid access to numerous potential respondents and previously hidden populations, respondent openness and full participation, opportunities for student research, and reduced research costs (Rhodes, Bowie, & Hergenrather, 2003). In a study by Eaton et al. (2010) the CDC's YRBS was randomly distributed to 8<sup>th</sup>- and 9<sup>th</sup> graders to complete via paper-and-pencil or web survey. The results indicate prevalence estimates from paper-and-pencil and web school-based surveys are generally equivalent (Eaton et al., 2010). Web-based survey collection has been utilized often on undergraduate populations due to their proficient computer skills and access to the internet. Pealer, Weiler, Pigg, Miller, and Dorman (2001) examined the feasibility of collecting health risk behavior data from undergraduate students using a web-based survey. Undergraduates are just as likely to respond to a web survey compared with a mail survey and more likely to answer socially threatening items using this method. Additionally, the web format and protocol required less time to administer (Pealer, Weiler, Pigg, Miller, & Dorman, 2001).

The survey was available via a link to a web-based survey management site, SurveyMonkey. Upon entering the website, participants were presented with a consent page that briefly described the nature of the study. The first page of the survey asked each participant to provide voluntary consent. Clicking away from the consent page to the questionnaire indicated consent and that the participant was at least 18 years old. The risks associated with this study were minimal. To advance through the survey, participants were required to respond to all questions. This eliminated missing data. Data were accessible only to the researcher and required a login and password to access data.

## CHAPTER 4

### RESULTS

The overall purpose of this dissertation was to examine the relationships between the principles of social influence and condom use in casual sex relationships. To investigate the overarching goal of this dissertation, two studies were conducted utilizing two different methodological approaches- focus groups and a repeated measures design experiment study. This dissertation utilized two theoretical underpinnings, Cialdini's (1984) principles of social influence and the TPB, to understand condom use decisions in casual sex relationships. Furthermore, both qualitative and quantitative data were collected. Various data analyses were conducted to examine the data collected in Study 1 and Study 2 to answer the research questions and address the hypotheses.

#### Study 1

**Data analytic plan.** Since each unit of analysis was defined as one talk turn in the transcripts, it was possible for a quote to contain more than one principle of social influence since each principle represented a non-independent dichotomous nominal variable. For this reason, the data analysis strategy took this non-independence into account. Specifically, to answer Research Questions 1, 2, and 3, Cochran's  $Q$  tests were performed to determine if certain principles emerged more than others. Since the presence of each principle can be coded as either an endorsement or rejection, the Cochran's  $Q$  test can detect overall differences among the six principles of social influence. Following a significant Cochran's  $Q$  test, McNemar tests were then conducted to determine where the specific differences among the principles were present (Conover, 1999). To reduce the likelihood of committing a Type I error when interpreting the McNemar tests, the alpha level was adjusted by making a Bonferroni correction by dividing the

conventional alpha level ( $p < .05$ ) by the number of pairwise comparisons (15), resulting in an adjusted alpha level of .003. Exemplar quotes were pulled from the transcripts to illustrate how each principle was endorsed and rejected.

**RQ1: Principles of social influence endorsed and rejected.** A Cochran's  $Q$  test found differences among the endorsement of the six principles of social influence,  $Q(5, N = 1,587) = 21.02, p = .001$ . Among the six principles, consistency ( $n = 28$ ) was most often endorsed, followed by authority ( $n = 27$ ), social proof ( $n = 25$ ), scarcity ( $n = 18$ ), liking ( $n = 9$ ), and reciprocation ( $n = 8$ ). McNemar tests revealed that consistency was endorsed more than reciprocation ( $p = .002$ ) and liking ( $p = .003$ ). In addition, authority was endorsed more than reciprocation ( $p = .002$ ). Differences between authority and liking ( $p = .005$ ) approached significance as well as differences between social proof and reciprocation ( $p = .005$ ) and liking ( $p = .01$ ). No other differences were found across this sample.

Among the six principles, consistency was most often cited as influencing decisions to use a condom during casual sex. Some participants commented that you either always or never use condoms. Others noted that sometimes the decision to not use condoms influences their future action tendencies. For example, a female participant responded, *"Let's say, there's this one time when alcohol is involved... And then it's just like after that one time, it's not like you actively make that mistake again, but it's kind of like, well it did happen, and like nothing [bad] happened, you know."* In general, several female and male participants noted the decision to use a condom during casual sex is often an all or nothing behavior.

Authority also influenced individuals' decisions to use condoms in that whoever has the power in the relationship determines what happens behaviorally. Among the participants, authority was often determined by social status. As observed by one male, *"I'm pretty sure there*



*are guys in my [fraternity] house that have used their status to affect condom usage.”* Other participants defined the role of authority by depicting athletes as celebrities on campus.

Regarding athletes’ status on campus, one female respondent added, *“Like they know it. So I think that puts their power even greater. And they know, ‘Well I don’t have to call her the next day, because I can just find a new girl tomorrow.’”* Other females remarked that a fear of losing the person gives their partner authority, which motivates them to do whatever he wants.

Social proof was also observed among the participants as contributing to condom use decisions during casual sex. Several participants commented that peer decisions to use a condom weighed in on their own behavior. For example, one male commented, *“If one of them (my friends) doesn’t like using a condom when hooking up with some girl, then maybe another one would do the same thing just because they’re like, ‘Well, he did it. It’s all right. It’s not that big of a deal.’ I have seen that happen before.”* It was not uncommon for participants to talk about getting teased for their condom use practices, and that this ridicule actually reinforced social norms among their network of friends, which in turn influenced subsequent condom use.

Scarcity, liking, and reciprocation principles emerged less frequently in these conversations. For many male participants, the availability of condoms clearly influenced their decision to use them. *“If it’s not there, it’s not there. If it’s going to happen, it’s going to happen still.”* To that statement, another male added, *“Yeah, you are not going to run out and grab one,”* for fear of ruining the mood. What was communicated throughout these focus groups was the idea that scarcity influences condom use but it does not always prevent individuals from having sex if a condom is not available. Scarcity was often present when participants talked about alcohol consumption and sex. For instance, one male said, *“If they’re (condoms) not available, you know, it’s the opportunity presenting itself. Many times it happens anyway. Especially if*

*you're drinking.*” Perhaps worth mentioning is the fact that several participants noted that when casual sex occurs, alcohol is involved 80-90% of the time.

Liking also influenced condom use during casual sex as one female pointed out, *“If you like someone more, you are going to want to please them... so you'll be more likely to undermine your own beliefs so they, like their beliefs, are shown more prevalent.”* Other females observed that men and women will say just about anything to seem more desirable and ultimately get what they want, such as lying about their number of sex partners. For example, one female responded, *“... whatever the girl says (regarding the number of sex partners) you multiply by 3, and whatever the guy says you divide by 3, because they always have like a bigger ego.”* The most infrequent principle of social influence to appear in the transcripts, reciprocation, was used sparingly. For example, one female remarked, *“You know, you are in the moment. You're having a good time, and he is like, I don't have a condom.’ And you're thinking, ‘well, he was so great today. I'll just go ahead and do it without.’”* Although these principles were not as common as consistency, authority, and social proof, they did influence condom use during casual sex to some degree among the participants.

Similarly, the Cochran's  $Q$  test found differences in individuals' rejection of these six principles influencing decisions to use condoms during casual sex,  $Q(5, N = 1,587) = 25.53, p < .001$ . Among these principles, authority ( $n = 34$ ) was most often rejected, followed by scarcity ( $n = 18$ ), social proof ( $n = 14$ ), consistency ( $n = 14$ ), liking ( $n = 10$ ), and reciprocation ( $n = 9$ ). To reduce the likelihood of committing a Type I error, the alpha level was adjusted by making a Bonferroni correction. The criterion alpha was divided by the number of possible comparisons ( $p = .05/15$ ). Therefore, the criterion alpha for making the decision to reject the null hypothesis was  $p \leq .003$ . Following the Bonferroni correction, McNemar tests demonstrated that authority was

rejected more than reciprocity ( $p < .001$ ) and liking ( $p < .001$ ). Differences between authority and consistency ( $p = .006$ ), social proof ( $p = .006$ ), and scarcity ( $p = .04$ ) each approached significance. No other differences emerged among the entire sample.

Throughout these focus groups, authority was most often rejected as being influential in determining condom use during casual sex. One female downplayed the influence of authority, *“Maybe like one or two of my friends might be influenced by some power difference... If he was like, an athlete or something, I don’t hear people say, he wanted me to do this and I didn’t want to but I still did it because he wanted it or anything like that.”*

Scarcity and social proof were also viewed as not influential within this context. For many participants it was believed that condoms are everywhere; therefore, there is no reason to not have one available. For example, one female added, *“I don’t think anybody can use the excuse that they’re not available, because they are... you can get them for free here.”* For some, social proof had little influence on their decision to use a condom during these sexual encounters. One female said, *“Just because my friend doesn’t use a condom doesn’t mean I’m not going to use a condom... So I don’t think it influences me on what to do. I’m my own person.”* The fact that sex typically occurs in private may mitigate the influence of social proof on individuals’ decisions to use condoms in these scenarios.

Principles rejected as influencing condom use were consistency, liking, and reciprocity. Consistency was often rejected among the participants because when something bad happens to them, thereby removing perceptions of invincibility, condom use practices change. For instance, one male participant commented, *“You get an STD or something... it’s definitely going to influence your future relationships.”* Liking was also rejected as influencing condom use decisions by some. For example, one female observed, *“... and they’re like, oh,*

*well, I don't want to use a condom, then it'd be like, well, sorry, see you later."* So, the point made by this participant was that partner liking and his or her preferences towards using a condom will not trump individual preferences. Reciprocation also emerged in the transcripts in terms of whether sex occurs, but not condom use as pointed out by one male, *"I think favors influence whether or not sex occurs, not whether or not condom use occurs. I don't think favors affect condom usage."* It is worth noting that among some male participants, reciprocation appeared to work for women lacking confidence but was less common for confident women.

**RQ2: Principles of social influence among female participants.** A Cochran's  $Q$  test found differences among the principles of social influence endorsed by female participants,  $Q(5, N = 1,021) = 14.00, p = .02$ . Among the various principles, social proof ( $n = 16$ ) was endorsed most often, followed by scarcity ( $n = 13$ ), consistency ( $n = 11$ ), authority ( $n = 5$ ), liking ( $n = 5$ ), and reciprocation ( $n = 4$ ). The McNemar tests revealed differences between social proof and reciprocation ( $p = .01$ ), authority ( $p = .03$ ), and liking ( $p = .03$ ). Additionally, differences among scarcity and reciprocation ( $p = .05$ ) approached significance. No other differences were found among female participants.

However, the Cochran's  $Q$  test found no differences in females' rejection of these six principles,  $Q(5, N = 1,021) = 4.51, p = .48$ . Among the six principles, authority ( $n = 13$ ) was most often rejected, followed by consistency ( $n = 9$ ), social proof ( $n = 8$ ), liking ( $n = 7$ ), scarcity ( $n = 7$ ), and reciprocation ( $n = 5$ ). McNemar tests were not conducted.

**RQ3: Principles of social influence among male participants.** With respect to influencing decisions to use condoms during casual sex, a Cochran's  $Q$  test found differences among the endorsement of the principles of social influence among male participants,  $Q(5, N = 566) = 28.61, p = .001$ . Among the principles, authority ( $n = 22$ ) was most often endorsed,

followed by consistency ( $n = 17$ ), social proof ( $n = 9$ ), scarcity ( $n = 5$ ), liking ( $n = 4$ ), and reciprocity ( $n = 4$ ). McNemar tests revealed authority was endorsed more than reciprocity ( $p = .001$ ), liking ( $p = .001$ ), and scarcity ( $p = .002$ ). In addition, differences between authority and social proof ( $p = .03$ ) approached significance. Also, differences between consistency and liking ( $p = .007$ ), reciprocity ( $p = .007$ ), and scarcity ( $p = .02$ ) each approached significance. No other differences were found among male participants.

A Cochran's  $Q$  test also found differences in males' rejection of these six principles of social influence,  $Q(5, N = 566) = 27.98, p < .001$ . Among the principles, authority ( $n = 21$ ) was most often rejected, followed by scarcity ( $n = 11$ ), social proof ( $n = 6$ ), consistency ( $n = 5$ ), reciprocity ( $n = 4$ ), and liking ( $n = 3$ ). McNemar tests revealed differences between authority and liking ( $p < .001$ ), reciprocity ( $p = .001$ ), and consistency ( $p = .003$ ). Differences between authority and social proof ( $p = .007$ ) approached significance. No other differences emerged among the male participants.

## **Study 2**

**Data analytic strategy.** Hypotheses 1, 2 and 3 were all tested using Structural Equation Modeling using maximum likelihood estimators in EQS 6.1 for Windows. For the analyses, the constructs of the TPB: attitudes, social norms, perceived behavioral control, and intentions were each treated as latent variables. The data analytic strategy to test Research Question 4 was testing using a repeated measures analysis of variance. A repeated measures multivariate analysis was performed to detect mean differences for each of the four constructs of the TPB across the six principles of social influence.

**Structural equation modeling.** Structural equation modeling (SEM) represents a comprehensive statistical approach to testing hypotheses about relations among observed and

latent variables (Hoyle, 1995). A latent variable is an unobserved variable represented by the covariance among two or more indicators. MacCallum, Browne, and Sugawara's (1996) standards for estimating power indicate that power is not considered a barrier to this investigation. To achieve a power of .80 for a model with 38 degrees of freedom (the degrees of freedom in the proposed models), the minimum  $N$  for a test of close fit is 300.

A two-step process was used to assess model fit for each of the six models. The first step is the measurement model, which assesses the relations between latent variables and their observed indicators. The structural model is the second step, which tests the hypothesized relationships between the latent variables. By combining the measurement and structural components, the result is a comprehensive statistical model. This model can be used to evaluate relationships among the variables free of measurement error (Hoyle, 1995).

To test the goodness of fit for the hypothesized models, the omnibus model fit was evaluated. Model fit was evaluated using the Comparative Fit Index (CFI), Standardized Root Mean Squared Residual (SRMSR), Root Mean Square Error of Approximation (RMSEA), and the Satorra-Bentler scaled chi-square value. CFI values range from 0 to 1, with better overall fit indicated by higher values. Specifically, according to Hu and Bentler (1999), CFI values of .90 or higher suggest a good fitting model. Low scores on the SRMR and RMSEA indicate good fitting models. Hu and Bentler (1999) suggest cutoff values of .09 for SRMR and .06 for RMSEA. Models with nonsignificant chi-square values represent a better fitting model (Holbert & Stephenson, 2002). When multivariate normality is problematic, the Satorra-Bentler scaled chi-square (S-B  $\chi^2$ ), which adjusts model chi-square ( $\chi^2$ ) for nonnormality (Satorra & Bentler, 2001) should be employed. A data set is said to be normal when achieving a Mardia's normalized estimate less than 3 (West, Finch, & Curran, 1995). Mardia's normalized estimates

ranged from 100.40 to 202.06 for the six models. Due to the nonnormality of the present dataset, the S-B  $\chi^2$  was used instead of the  $\chi^2$ . The Satorra-Bentler scaling corrections improve the chi-square approximation of goodness-of-fit test statistics in nonnormal data (Satorra & Bentler, 2001). The CFI, SRMR, RMSEA and S-B  $\chi^2$  values were reported for the proceeding models. To provide a conservative test of the TPB, it was decided that gender, alcohol use in the past 30 days, number of lifetime sexual partners and sexual sensation seeking would serve as covariates while testing the hypothesized models. In doing so, attitudes, subjective norms, perceived behavioral control, and intentions were regressed on each of the covariates using SPSS software. Then, the unstandardized residuals for these variables, which represent the variance not explained by the covariates, were saved and transferred to EQS for the structural data analyses (e.g. Quick, 2009). As a result, the variables depicted in the six structural models are not affected by any systematic effect due to the covariates.

*Authority.* The measurement model was consistent with the data, CFI = .99, SRMR = .02, RMSEA = .07 (90% CI: .06 to .09), and S-B  $\chi^2$  (38,  $N$  = 388) = 50.23,  $p$  = .09. The measurement model fit the authority data well. Table 4.1 displays the measurement model parameters (see Appendix E). Similarly, the structural model was also consistent with the data, CFI = .99, SRMR = .02, RMSEA = .07 (90% CI: .06 to .09), and S-B  $\chi^2$  (38,  $N$  = 388) = 50.23,  $p$  = .09. The correlations, means, and standard deviations of the eleven observed variables in the authority model are reported in Table 4.2 (see Appendix E). Results of the measurement and structural models are depicted in Figure 4.1.

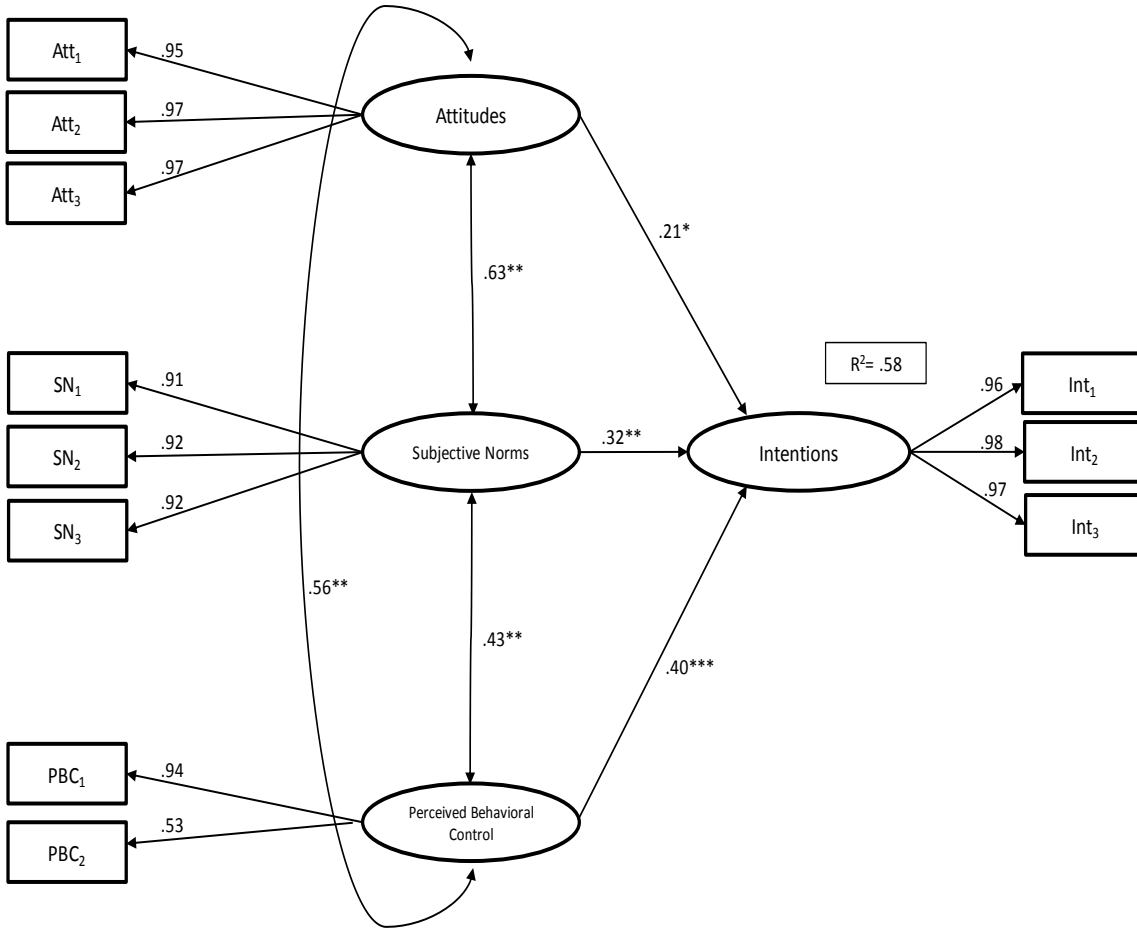


Figure 4.1 Authority Measurement and Structural Models

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

*Consistency.* Consistent with the data, the measurement model achieved acceptable fit with a CFI = .99, SRMR = .02, RMSEA = .06 (90% CI: .05 to .06), and S-B  $\chi^2$  (38,  $N = 388$ ) = 48.37,  $p = .12$ . Table 4.1 displays the measurement model parameters (see Appendix E). The structural model was also consistent with the data, CFI = .99, SRMR = .02, RMSEA = .06 (90% CI: .05 to .08), and S-B  $\chi^2$  (38,  $N = 388$ ) = 48.37,  $p = .12$ . The correlations, means, and standard deviations of the eleven observed variables in the consistency model are reported in Table 4.3 (see Appendix E). Results of the measurement and structural models are depicted in Figure 4.2.



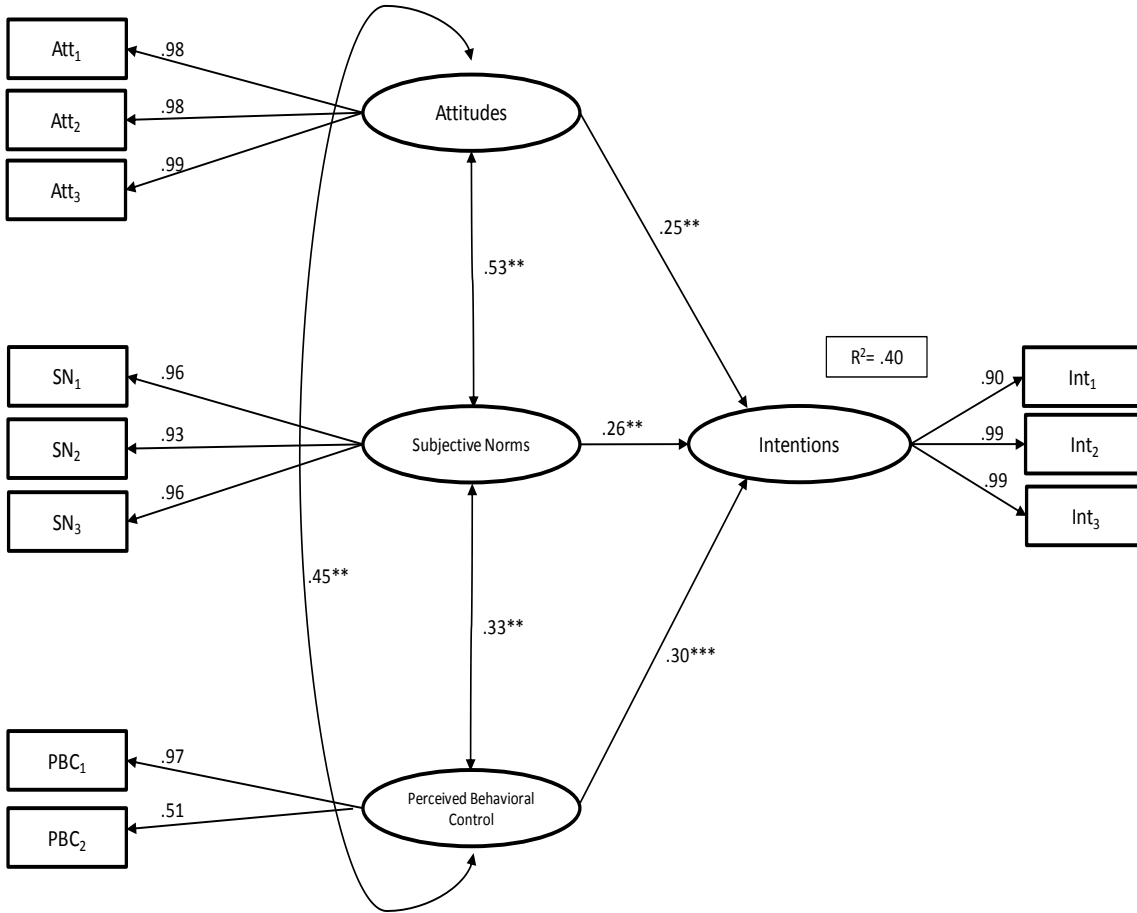


Figure 4.2: Consistency Measurement and Structural Models

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

*Liking.* The measurement model was consistent with the data, CFI = .99, SRMR = .03, RMSEA = .05 (90% CI: .03 to .06), and S-B  $\chi^2$  (38,  $N$  = 388) = 42.87,  $p$  = .27. Table 4.1 displays the measurement model parameters (see Appendix E). The structural model was also consistent with the data, CFI = .99, SRMR = .02, RMSEA = .05 (90% CI: .03 to .06), and S-B  $\chi^2$  (38,  $N$  = 388) = 42.87,  $p$  = .27. The correlations, means, and standard deviations of the eleven variables in the liking model are reported in Table 4.4 (see Appendix E). Results of the measurement and structural models are depicted in Figure 4.3.

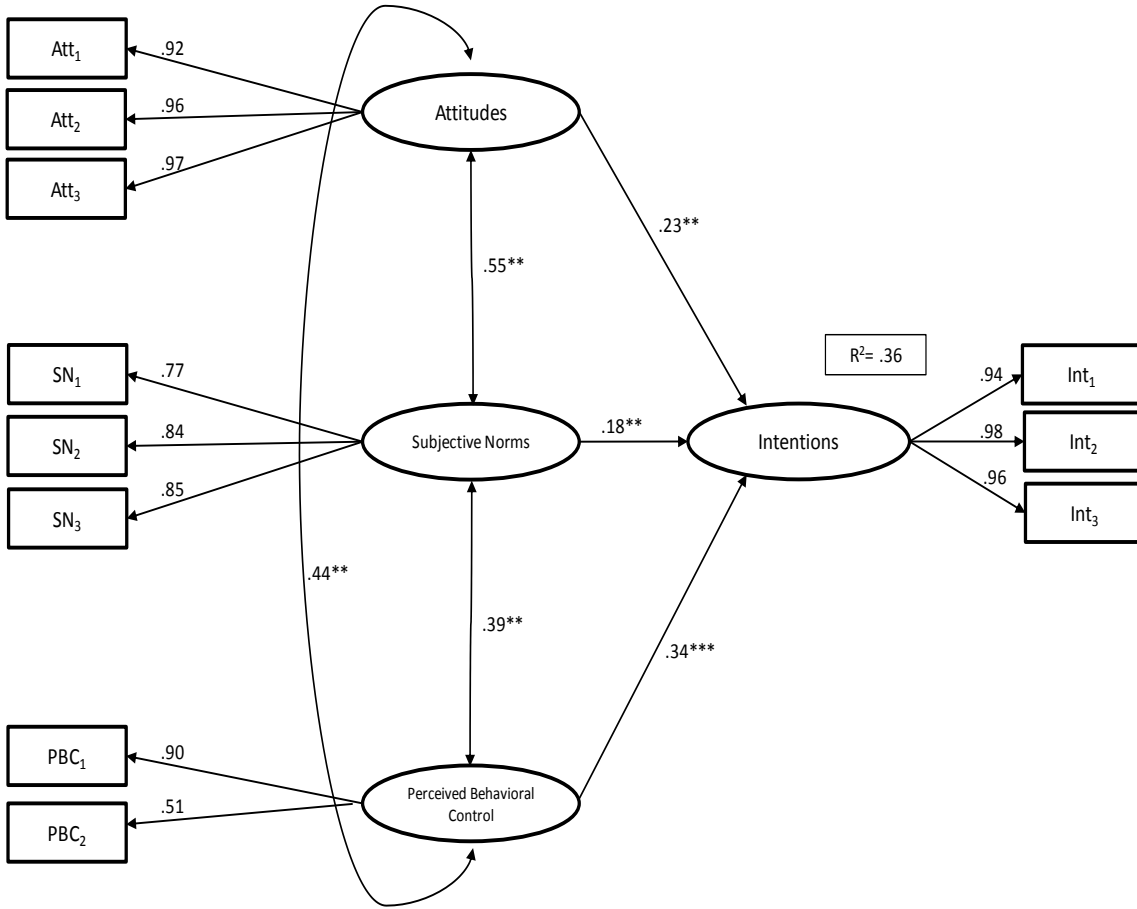


Figure 4.3: Liking Measurement and Structural Models

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

*Reciprocity.* The measurement model was consistent with the data, CFI = .99, SRMR = .02, RMSEA = .05 (90% CI: .04 to .07), and S-B  $\chi^2$  (38,  $N = 388$ ) = 36.33,  $p = .55$ . Table 4.1 displays the measurement model parameters (see Appendix E). The structural model was also consistent with the data, CFI = .99, SRMR = .02, RMSEA = .05 (90% CI: .04 to .07), and S-B  $\chi^2$  (38,  $N = 388$ ) = 36.33,  $p = .55$ . The correlations, means, and standard deviations of the eleven variables in the reciprocity model are reported in Table 4.5 (see Appendix E). Results of the measurement and structural models are depicted in Figure 4.4.

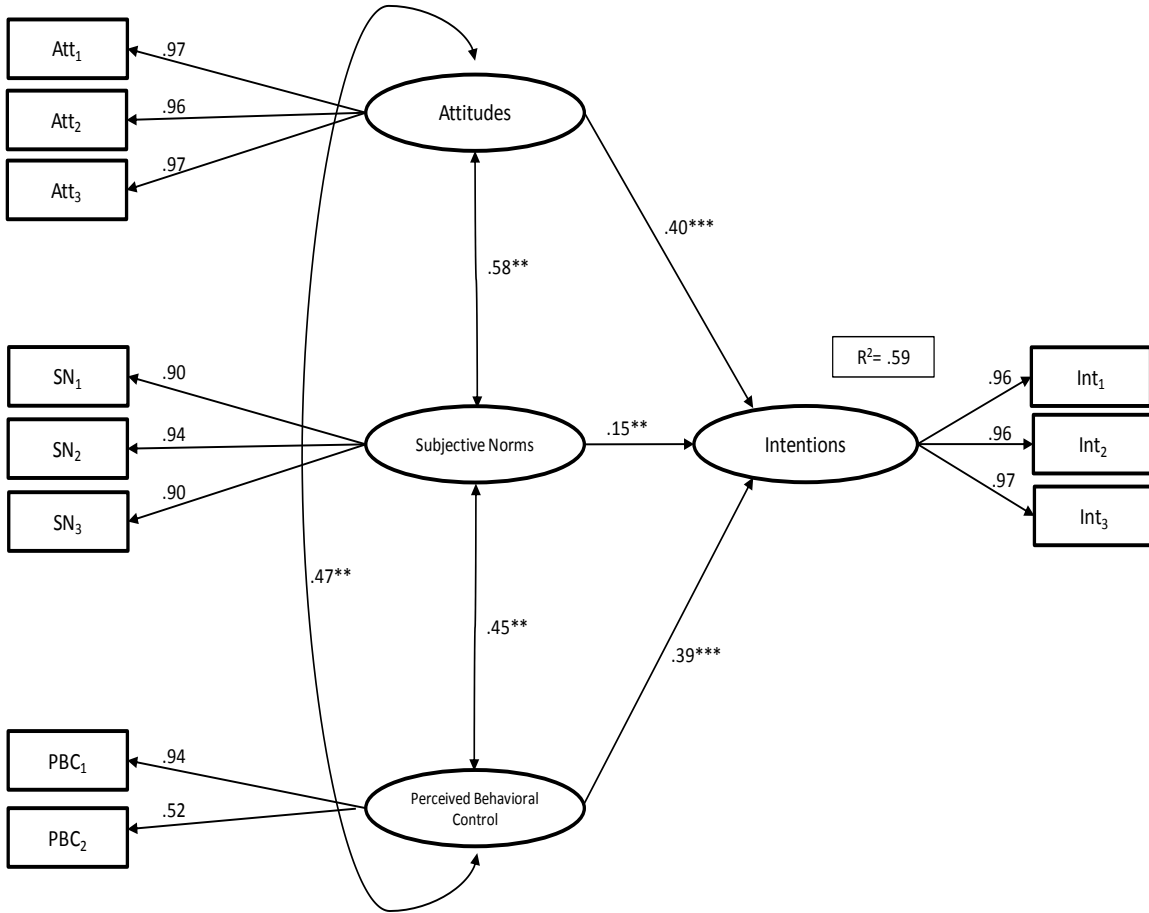


Figure 4.4: Reciprocity Measurement and Structural Models

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

*Scarcity.* The measurement model was consistent with the data, CFI = .99, SRMR = .02, RMSEA = .06 (90% CI: .04 to .08), and S-B  $\chi^2$  (38,  $N$  = 388) = 38.09,  $p$  = .47. Table 4.1 displays the measurement model parameters (see Appendix E). The structural model was also consistent with the data, CFI = .99, SRMR = .02, RMSEA = .06 (90% CI: .04 to .08), and S-B  $\chi^2$  (38,  $N$  = 388) = 38.09,  $p$  = .47. The correlations, means, and standard deviations of the eleven variables in the scarcity model are reported in Table 4.6 (see Appendix E). Results of the measurement and structural models are depicted in Figure 4.5.

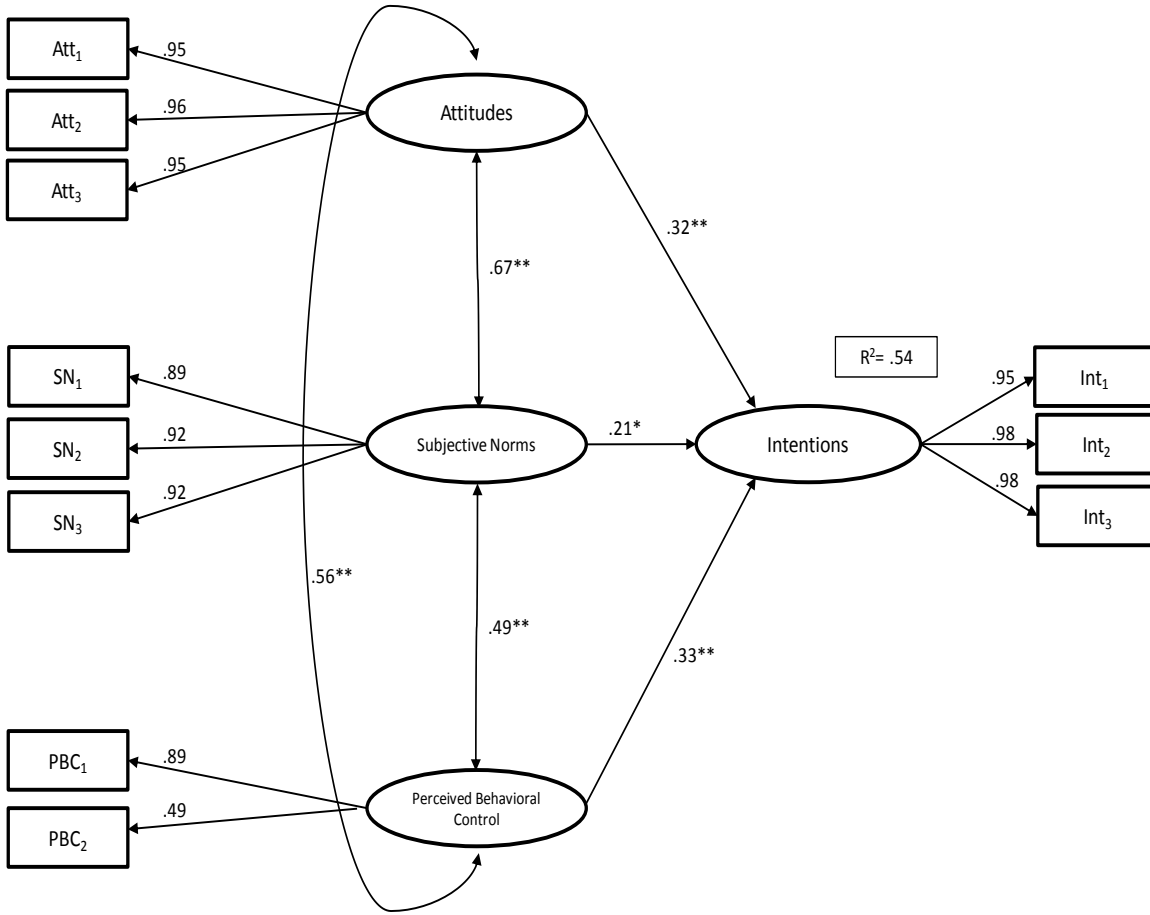


Figure 4.5: Scarcity Measurement and Structural Models

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

*Social proof.* The measurement model was consistent with the data, CFI = .99, SRMR = .01, RMSEA = .05 (90% CI: .03 to .06), and S-B  $\chi^2$  (38,  $N = 388$ ) = 43.35,  $p = .25$ . Table 4.1 displays the measurement model parameters (see Appendix E). The structural model was also consistent with the data, CFI = .99, SRMR = .01, RMSEA = .05 (90% CI: .03 to .06), and S-B  $\chi^2$  (38,  $N = 388$ ) = 43.36,  $p = .25$ . The correlations, means, and standard deviations of the eleven variables in the social proof model are reported in Table 4.7 (see Appendix E). Results of the measurement and structural models are depicted in Figure 4.6.

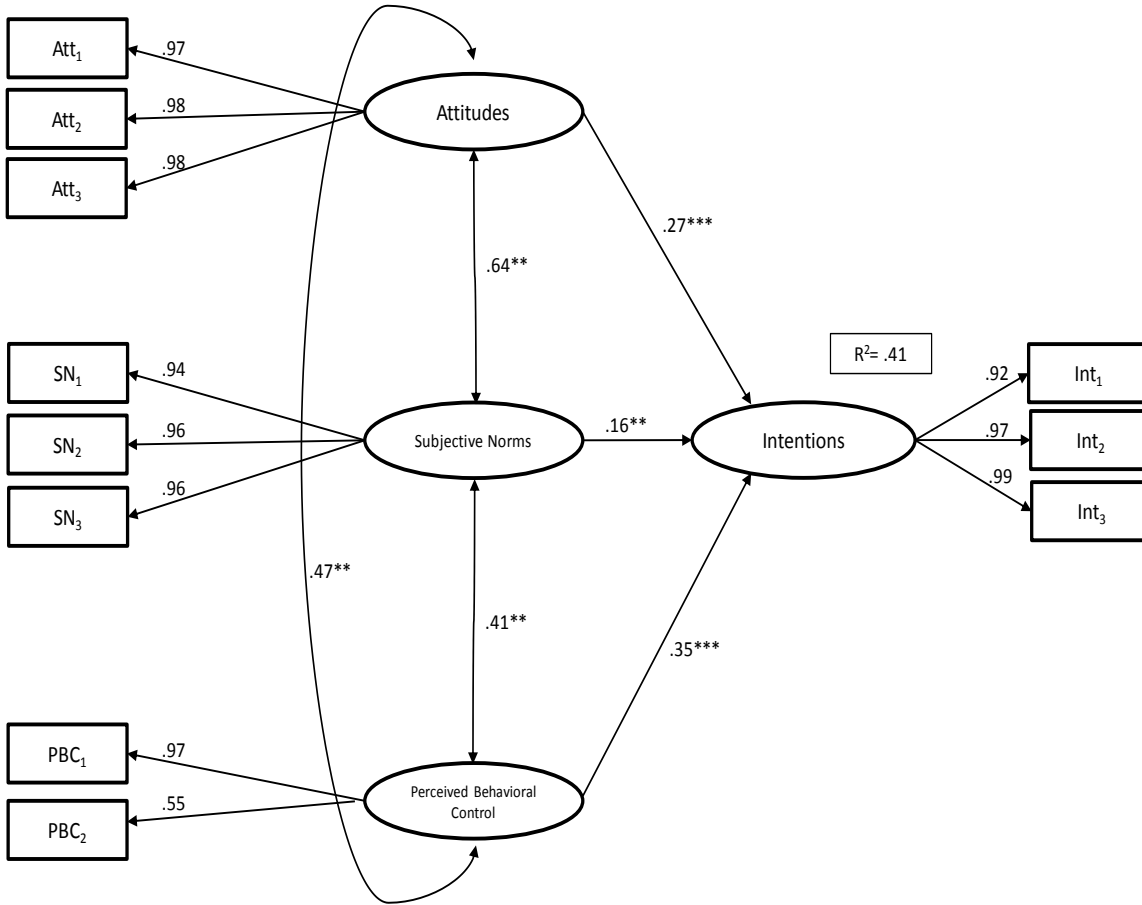


Figure 4.6: Social Proof Measurement and Structural Models

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

**H1: Attitudes will be positively associated with intentions.** Hypothesis 1 predicted a positive relationship between attitudes and intentions to use condoms in casual sex relationships. Existing research suggests people intend to perform a behavior when they evaluate it positively and when they believe that important others think they should perform it (Ajzen, 1985). In all six of the models, this hypothesis was supported. Specifically, positive relationships between attitudes and condom use intentions were found for authority (path coefficient = .21,  $p < .05$ ), consistency (path coefficient = .25,  $p < .01$ ), liking (path coefficient = .23,  $p < .01$ ), reciprocity (path coefficient = .40,  $p < .001$ ), scarcity (path coefficient = .32,  $p < .01$ ), and social proof (path coefficient = .27,  $p < .001$ ).

**H2: Subjective norms will be positively associated with intentions.** Hypothesis 2

examined the relationship between subjective norms and intentions to use condoms in casual sex relationships. Subjective norms are the perceived social pressure put on a person to perform or not to perform the behavior in question and thus, are has been found to be a determinant of behavioral intention (Montano & Kasprzyk, 2008). In all six of the models, this hypothesis was also supported. Specifically, positive relationships between subjective norms and condom use intentions were found for authority (path coefficient = .32,  $p < .01$ ), consistency (path coefficient = .26,  $p < .01$ ), liking (path coefficient = .18,  $p < .01$ ), reciprocity (path coefficient = .15,  $p < .01$ ), scarcity (path coefficient = .21,  $p < .05$ ), and social proof (path coefficient = .16,  $p < .01$ ).

**H3: Perceived behavioral control will be positively associated with intentions.** The

relationship between perceived behavioral control and intentions to use condoms in casual sex relationships was examined in Hypothesis 3. Previous research suggests that behavioral performance is determined jointly by perceived ability (behavioral control) (Montano & Kasprzyk, 2008). As with the previous hypotheses, this hypothesis was supported as well. More specifically, positive relationships between perceived behavioral control and condom use intentions were found for authority (path coefficient = .40,  $p < .001$ ), consistency (path coefficient = .30,  $p < .001$ ), liking (path coefficient = .34,  $p < .001$ ), reciprocity (path coefficient = .39,  $p < .001$ ), scarcity (path coefficient = .33,  $p < .01$ ), and social proof (path coefficient = .35,  $p < .001$ ).

Furthermore, the variance explained by the three constructs of the TPB ranged from  $R^2 = .36$  to  $.59$ . Specifically, authority  $R^2 = .58$ ; consistency  $R^2 = .40$ ; liking  $R^2 = .36$ ; reciprocity  $R^2 = .59$ ; scarcity  $R^2 = .54$ ; and social proof  $R^2 = .41$ .

***Repeated measures analysis of covariance.*** A repeated measures analysis of covariance was used to evaluate whether related populations were different. Additionally it was used to examine the mean differences among more than two related populations and was used to analyze the results from repeated measures designs with three or more treatments representing difference levels of a single independent variable (Pavkov & Pierce, 2001). To examine the mean differences between each of the TPB constructs (attitudes, subjective norms, perceived behavioral control and intentions) across the six principles of social influence (authority, consistency, liking, reciprocity, scarcity, and social proof), four separate repeated-measures multivariate covariant analyses (MANCOVA) were conducted. For each analysis, one construct of the TPB (attitude, subjective norm, perceived behavioral control, and intention) was the repeated measure and the principle of influence represented the between-subjects factor. Gender, alcohol use, sexual sensation seeking and number of lifetime sexual partners were included as covariates. Covariates that were non-significant were excluded from the analysis.

To estimate a power analysis, four parameters are required: effect size, significance criteria, power, and sample size (Cohen, 1988). Effect size is often determined by consulting prior research. A meta-analysis conducted by Sheeran and Taylor (1999) found moderate to strong effect sizes in the ability of attitudes ( $r = .45$ ), subjective norms ( $r = .42$ ) perceived behavioral control ( $r = .35$ ) to predict behavioral intentions (Sheeran & Taylor, 1999). Two large meta-analyses examining the TPB to predict condom use intentions found effect sizes ranging from  $r = .39$  to  $r = .60$  for the constructs (Albarracín et al., 2001; Albarracín et al., 2004). Taken as a whole, the existing research that tests the TPB on predicting condom use intentions leads me to expect a medium effect size. A medium effect size for an  $F$ -test is equal to a Cohen's  $f$  of .25 (Cohen, 1988). The significance criterion, often referred to as alpha is set at .05 for the present

student. Desired power was set at .80 (Morgan, Gliner, & Harmo, 2006). With a medium effect size ( $f = .25$ ) expected in conjunction with alpha and beta levels set at their conventional standards of .05 and .80 respectively, approximately 62 participants were needed to obtain .80 power with alpha set at .05.

**RQ4: Differences among the TPB constructs between the principles of influence.**

The repeated-measures MANCOVA revealed that the principles of social influence exerted a significant main effect on (1) attitude,  $F(5, 1935) = 6.16, p < .001, \eta^2 = .02$ ; Wilk's  $\lambda = .95, \eta^2 = .05$ , (2) subjective norms,  $F(5, 1930) = 5.626, p < .001, \eta^2 = .01$ ; Wilk's  $\lambda = .93, \eta^2 = .07$ , (3) perceived behavioral control,  $F(5, 1935) = 8.51, p < .001, \eta^2 = .02$ ; Wilk's  $\lambda = .93, \eta^2 = .07$ , and (4) intentions,  $F(5, 1930) = 2.44, p = .033, \eta^2 = .006$ ; Wilk's  $\lambda = .96, \eta^2 = .04$ . The means and standard deviations can be found in Tables 4.8, 4.9, 4.10, and 4.11 in Appendix E.

Paired-samples  $t$  tests were conducted to compare the attitudes, subjective norms, perceived behavioral control, and intentions across the six principles. Fifteen pairwise comparisons were made in total for each construct of the TPB. However, the probability of making an alpha error is additive across all possible comparison (Pavkov & Pierce, 2001). To reduce the likelihood of committing a Type I error when interpreting the paired sample  $t$  tests for each TPB construct, the alpha level was adjusted by making a Bonferroni correction. The criterion alpha was divided by the number of possible comparisons ( $p = .05/15$ ). Therefore, the alpha level for making the decision to reject the null hypothesis for the paired-sample  $t$  test level was .003.

*Attitude.* There were significant differences for attitude in the scores between liking and authority, consistency, scarcity and social proof. Reciprocity was found to differ significantly from consistency and social proof. Additionally, authority and consistency conditions



approached significance. Consistency and scarcity conditions also approached significance. A table of all fifteen pairwise comparisons can be found in Table 4.8 (see Appendix E).

*Subjective norm.* For the subjective norm constructs, there were significant differences detected between social proof and four other principles. Specifically, social proof was significantly different than: authority, consistency, liking, and reciprocity. There were additional principles that were significantly different as well. Scarcity was found to be statistically different from two principles, consistency and reciprocity. The consistency and scarcity conditions and the reciprocity and scarcity conditions were found to be statistically significant. Three of the paired relationships approached significance. Authority and consistency conditions approached significance. Additionally, authority and reciprocity conditions also approached significance, as well as scarcity and social proof conditions. A table of all fifteen pairwise comparisons can be found in Table 4.9 (see Appendix E).

*Perceived behavioral control.* For perceived behavioral control, the only significant differences were between the liking principle and the five other principles of social influence. The liking principle was found to be significantly different from authority, consistency, reciprocity, scarcity, and social proof. A table of all fifteen pairwise comparisons can be found in Table 4.10 (see Appendix E).

*Intention.* There were no significant differences detected in the *t* tests for intentions. A table of all fifteen pairwise comparisons can be found in Table 4.11 (see Appendix E).

*Gender.* Gender was found to be significant for subjective norms ( $p < .001$ ) and intentions ( $p = .004$ ). For these constructs, gender was included in the final analysis. To examine the significant differences in gender for subjective norms and intentions multivariate analysis of variance (MANOVA) were conducted. To reduce the likelihood of committing a Type I error

when interpreting the MANOVA tests, the alpha level was adjusted by making a Bonferroni correction. The criterion alpha was divided by the number of possible comparisons ( $p = .05/6$ ). Therefore, the alpha level for making the decision to reject the null hypothesis for the MANOVA test level was .008. Gender was found to have a statistically significant effect on subjective norms for all six principles. Similarly, gender was found to have a statistically significant effect on intentions for all six principles as well. A table of all twelve  $F$  statistics can be found in Table 4.12 (see Appendix E).

## CHAPTER 5

### DISCUSSION

The overall purpose of this dissertation was to use methodological triangulation to investigate the relationship between the principles of social influence and condom use intentions in casual sex relationships. To recap, in Study 1, focus groups examined the use of Cialdini's (1984) principles and condom use decisions. In Study 2, the constructs of the TPB were used to measure the condom use intentions in six vignettes each portraying one of the six principles. The dissertation set out to (a) understand to what extent each principle was endorsed and rejected in regards to influencing condom use and identify gender differences. Furthermore, this study sought to (b) understand the strength of associations between the TPB constructs across the six principles and (c) examine differences in the influences of the principles on the TPB constructs. The findings from this dissertation are elaborated below with attention given to theoretical and practical implications. In addition, direction for future research along with limitations of this study is discussed.

#### Study 1

**Endorsement and rejection of the principles of social influence.** In the absence of risk assessment information, people often make decisions by relying on principles in order to mitigate uncertainty and make sexual decisions (Misovich, Fisher, & Fisher, 1996; Thorburn et al., 2005). Research Question 1 was concerned with identifying to what extent the principles of social influence were endorsed or rejected as influencing condom use decisions. Of the six principles identified by Cialdini (1984), overall the findings suggest that consistency, authority, and social proof were the most powerful at influencing condom use decisions during casual sex.

**Consistency.** It is not surprising that consistency was endorsed most often, particularly among male participants, as individuals often behave in patterned ways, and once the decision is made about an issue, there is little need to think about it anymore (Cialdini, 1984). As cognitive misers (Petty & Cacioppo, 1986a), individuals are less motivated to elaborate on previously made decisions. Consistent with the finding, habitual modality of condom use predicts consistent condom use with both casual and steady sexual partners (Stulhofer et al., 2010). A particular pattern of behavior, if not followed by negative outcomes, could also indicate that this practice was protective. For instance, focus group participants endorsing consistency as an influence of condom nonuse justified the patterned behavior as “*If nothing bad has happened yet, you just keep doing it.*” O’Sullivan, Udell, Montrose, Antoniello, and Hoffman (2010) identified this justification for consistent condom nonuse as “biased evidence evaluation” (p. 1126).

The finding that habit plays a substantial role in consistent condom use or nonuse suggests the need for further exploration of personality and relational factors associated with habitual condom use, such as sexual sensation seeking. Research has explored sexual sensation seeking within a host of contexts, with this work demonstrating that high sensation seekers are at greater risk of engaging in unprotected sex with multiple casual partners given their desire for risky sex (Charnigo, Noar, Garnett, Crosby, Palmgreen, & Zimmerman, in press; Zimmerman, Palmgreen, Noar, Lustria, Lu, & Horoskewski, 2007). Researchers should seek to identify the most common intervening variables such as pregnancy or STD diagnosis during development or change of consistent condom use behaviors.

**Authority.** Research Questions 2 and 3 sought to determine differences in the endorsement and rejection of the principles of social influence between males and females. Authority was the most rejected principle among females but interestingly was the most

endorsed principle among males. This principle elicited lively discussions during the focus groups resulting in both endorsement and rejection of the influence of authority in determining condom use during casual sex encounters. Authority relies on status or position of power in society to gain compliance (Cialdini, 1984). To examine the influence of this principle, participants were asked how perceived power differences within casual sex relationships could influence condom use decisions. Social status such as Greek or athletic affiliations were common examples raised among participants in response to this question. The endorsement of this principle is consistent with previous literature, in which social status has been found to influence the decision to use a condom (Marston & King, 2006). However, the relatively equal and frequent rejection of this principle warrants further examination. Participants sometimes discussed perceived power differences in the context of one person in the relationship liking or being “*more into*” the other person. Perhaps one reason for the amount of both endorsement and rejection of this principle is in part due to the influence of liking on authority. That is, the more one person liked another; the more likely they were to perceive an uneven amount of authority in the relationship, therefore confounding these two principles of social influence within this context.

Because participants’ beliefs pertaining to the role of authority in condom decision making varied between and within focus groups, there was both an overall endorsement and rejection of this principle. This finding is contrary to the literature examining the role of power differences in relationships and safe sex decisions. Research indicates both females and males contraceptive decisions are influenced by the partner with the most power in the relationship (Grady, Klepinger, Billy, & Cubbins, 2010), and the influence of power or authority has been specifically identified among females (Teitelman, Tennille, Bohinski, Jemmott, & Jemmott,

2011). A possible explanation for why females and males rejected authority with some regularity could be due to the way the principle was examined within the context of the group. Past research examining how various types of heuristics have influence sexual decisions found discrepancies in endorsement of the heuristic based on how the topic is addressed (Thorburn et al., 2005). The results from their survey found that the majority of their sample disagreed with the heuristic statements but when re-worded with a different sample during interviews, more heuristics were endorsed (Thorburn et al., 2005). Since the discussion tended to examine the role of authority in regard to social status and discrepancies of emotional interest, respondents tended to endorse authority as influencing condom use decisions whereas others rejected this principle. Clearly, the results suggest that authority was both endorsed and rejected among participants and deserves additional inquiry to clarify both theoretical and methodological inconsistencies in the literature.

Another interesting finding with respect to authority was the way participants interpreted particular power dynamics in casual sex relationships. Attributing positive overall assessments to a partner influences condom use decisions (Masaro et al., 2008), but the influence of authority on condom decisions within the focus groups focused on the potential loss of a sexual partner due to condom use preferences. For instance, one female participant stated, *“And he’s like, ‘come on, just this one time.’ And because they like him a lot more than... he likes her... so they do it.”* Risky sexual practices due to this power imbalance for fear of losing the relationship have been noted in the literature, but mostly in the context of intimate partner violence (Fuentes, 2011), not casual sex relationships. Future research should explore these findings to understand the effects of authority on passivity and manipulation in these encounters.

***Social proof.*** Goldstein and Cialdini (2007) argue that social norms can be used as a

“lever of social influence” in that social norms not only prompt, but guide people’s action (Goldstein & Cialdini, 2007, p. 167). Thus, perception and interpretation of social norms may encourage risky behavior in a misguided attempt to conform to perceived norms on an individual level (Lapinski & Rimal, 2005). Social proof influences peoples’ decisions by informing them of how others respond to uncertain situations (Cialdini, 1984). Some previous research discovered that social norms influence condom use decisions for both males and females (Svenson et al., 2002). However, the findings reveal differences in endorsement between men and women. In addition to condom use, social proof can influence condom nonuse, which is an important consideration as well. For example, a previous study found that females were less likely than males to have understandings, defined as socially expected behaviors with a group of friends, regarding drinking and sex, including condom use, on spring break (Patrick, Morgan, Maggs, & Lefkowitz, 2011). In addition, understandings with friends were found to significantly impact behavior, thus explaining the higher rates of condom nonuse in females than males (Patrick et al., 2011). Similarly, their findings coincide with Choi and Gregorich’s (2009) research, which found condom use was higher among women with at least one friend encouraging this practice. In this study, females endorsed social proof as the most influential principle for condom use decisions during casual sex relationships (Cho & Gregorich, 2009). Thus, further examination of gender and the contextual and personality factors moderating social norm adherence for condom use and nonuse is encouraged and would go a long way in moving this literature forward.

## **Study 2**

**Relationship between constructs of TPB and condom use intentions.** Hypotheses 1, 2, and 3, predicted that attitudes, subjective norms, and perceived behavioral control would have a positive relationship with condom use intentions. All three hypotheses were confirmed across all

six models. However, perceived behavioral control was found to be the strongest predictor of condom use intentions. Given the extensive examination of the application of the TPB on condom use intentions in previous literature (Albarracín et al., 2001; Albarracín et. al. 2004, Sheeran & Taylor, 1999), these results were not surprising. Furthermore, the variance explained by the three constructs of the TPB on condom use intentions ranged from  $R^2 = .36$  to  $.59$ . The results of this study add support the robustness of the model within the context of predicting condom use intentions.

***Perceived behavioral control.*** There were differences in the magnitude of the degree of effect between the TPB constructs and condom use intentions. In five of the six models, perceived behavioral control had more influence on condom use intentions than attitudes or subjective norms. Armitage and Conner's (2001) meta-analysis of the efficacy of the TPB similarly found perceived behavioral control construct to account for significant amounts of variance in intention across a wide range of health behaviors. Meta-analyses examining the predictability of the TPB with regards to condom use intentions also found perceived behavioral control to be the most reliable predictor of behavioral intention and explain more variance than attitudes and subjective norms (Albarracín et al., 2001; Albarracín et. al. 2004, Sheeran & Taylor, 1999).

Although the perceived behavioral control construct has often been found to be a stronger predictor than attitudes or subjective norms, the construct's meaning and measurement has been questioned in the literature. Perceived behavioral control is conceptualized as a latent construct that measures both confidence-framed items and control-framed items (Ajzen, 2002; Fishbein & Ajzen, 2010). For the present study, two items measuring external control and self-efficacy yielded the highest alphas and were the two items used in the analysis. However, there has been



some debate on the inclusion of the control variable in the construct (Yzer, 2012). Fishbein and Ajzen (2010) have stated that the construct of perceived behavioral control, "...is very similar to Bandura's conception of self-efficacy" (Fishbein & Ajzen, 2010, p. 155). Additional research supports that measurements of confidence correlate more strongly to intention than items of control (Armitage & Conner, 2001; Yzer, 2012). Previous research has also found a significant relationship between constructs measuring self-efficacy and condom use (Sheeran, et al. 1999). Furthermore, previous TPB literature examining condom use intentions have defined the perceived behavioral control variables from confidence-framed items only (Heeren, Jemmott, Mandeya, & Tyler, 2007; Xiao, et al. 2010). Depending on the purpose of the investigation, perceived confidence and control can be combined or analyzed as one construct (Yzer, 2012). The results of the current study support that both the perceived confidence and the perceived control components of the construct influence condom use intentions, but given the relatively low alpha reliabilities achieved in this investigation, how the construct is operationalized should continue to be examined in future research.

***Attitude.*** There was one model where perceived behavioral control was not the strongest predictor of condom use intentions. The attitude-intention relationship was the strongest relationship for the reciprocity model. Perceived behavioral control was also found to have a significant relationship with intentions for this principle of social influence as well and was only slightly less predictive than attitudes (path coefficient = .39 vs. path coefficient = .40, respectively). It is interesting that attitudes were found to have the strongest relationship with condom use intentions in the context of reciprocity. Attitudes are described as having three basic features: (1) the notion that attitudes are learned, (2) it predisposes an action, and (3) are favorable or unfavorable (Fishbein & Ajzen, 1975). Reciprocity has been proposed as being a

common norm in human societies because most societies are socialized to instruct beneficiaries to help and not hurt their benefactors (Gouldner, 1960). The rule of reciprocity is described by Cialdini (1984) as one that is ingrained in us since birth and those that do not abide by it can face social repercussions. It is taught outwardly by parents socializing their children to feel and express gratitude (Hendrickson & Goei, 2009) and vicariously through the labeling of ingrates as narcissistic and unable to sustain interpersonal relationships (McWilliams & Lependorf, 1990). This learned response has the capability to invoke strong opinions regarding those that do not ascribe to the principle of reciprocity and individuals will go to great lengths to avoid being labeled in such a way (Cialdini, 2007). The principle strongly influences attitude and this is supported in the present study since reciprocity was the only principle of social influence in which attitude was the strongest predictor of intention to use condoms during casual sex.

***Subjective norms.*** Overall, subjective norms were found to have the smallest influence on condom use intentions. In the previous literature, subjective norms have been consistently found to be the weakest predictor of behavioral intentions (Armitage & Conner, 2001) and of condom use intentions as well (Albarracín et al., 2001; Albarracín et. al. 2004; Xiao, et al. 2010). However, some research has found normative beliefs to be one of the strongest predictors of condom use intentions (Giles, Liddell, & Bydawl, 2005; Mausbach, et al., 2009). Explanations for poor performance of the subjective norm component typically lie in measurement (Armitage & Conner, 2001). One concern with the measurement of subjective norms lies in the ability of the construct to capture all relevant perceived social influence (Yzer, in press). The subjective norm construct refers to an individual's perception that most people who are important to them think they should (or should not) perform a particular behavior (Fishbein & Ajzen, 2010). In the current study, subjective norms were found to be the weakest predictors and had significant weak

to moderate associations with condom use intentions (ranging from .15 - .32) in all six of the models. Results indicate that the construct's influence on condom use intentions is substantial, even if it is not the strongest predictor among the three antecedents.

#### **Differences among the TPB constructs between the principles of social influence.**

Research Question 4 was concerned with determining differences among the constructs of the TPB across the principles of social influence. Results revealed significant differences across the six principles for each of the TPB constructs indicating that the principles influence the constructs differently. Further analysis revealed that certain principles were found to be significantly different from each other in regarding different TPB constructs. Specifically, the principle of liking was significantly different from the other principles for both attitudes and perceived behavioral control. Furthermore, the principle of social proof was significantly different from the other principles for subjective norms.

**Liking.** Across the six vignettes measuring attitudes, the principle of liking was found to be significantly different from four of the five principles. Attitudes towards condom nonuse were viewed more positively for the liking vignette than any of the other vignettes. The principle of liking influenced condom use intentions because people prefer to say yes from requests of someone known and liked (Cialdini, 1984). There are a number of factors that influence the effectiveness of the liking principle. The liking principle can elicit positive affective responses through the use of physical attractiveness, similarity, and association. Not surprisingly, strategies to enhance liking are often used by marketers or salespeople to gain compliance (Cialdini, 2007). The role of emotions influencing attitude change has been extensively examined in the persuasion literature (Dillard & Meijnders, 2002). Brentar, Dillard, and Smith (1997) conducted a meta-analysis of mood and persuasion literature found that as the positivity of mood increased,

so did attitude change. It was found that a stronger mood-attitude correlation was found for topics that were positive in tone such as claims that were gain framed as opposed to topics negative in tone. Furthermore, the more positive an individual's affective state, the greater the number of favorable cognitive responses (Brentar, Dillard, & Smith, 1997).

Having positive emotions towards someone, often results to maintaining positive associations with that person (Christianson, Johansson, Emmelin, & Westman, 2003). The 'halo effect', which occurs when one positive characteristic dominates the way a person is viewed by others is one of the most widely known psychological phenomenon (Nisbett & Wilson, 1977). The halo effect has been found to influence perceptions of personality (Dion, Bercheid, & Walster, 1972), intelligence (Landy & Sigall, 1974) and juror sentencing (Efran, 1974). Positive associations can influence attitudes regarding sexual health risk assessments as well. Williams and colleagues (1992) found in a sample of college students that unsafe sex practices were based on their reluctance to link risk or disease with someone they care for (Williams et al., 1992). The use of the halo effect was supported in another study examining condom nonuse in Swedish youth infected with chlamydia. For instance, one participant described, "*The girl lying next to you, is someone you are fond of – you don't expect her to have a venereal disease*" (Christianson et al., 2003, p. 48). The findings of this study suggest that the liking principle can evoke positive emotions towards a partner and influence more favorable attitudes towards certain health behavior, such as condom use intentions.

Not only was it found that the participants had a more positive attitude towards condom nonuse for the liking vignettes, additionally, it was found that the liking principle significantly influenced the construct of perceived behavioral control differently than the other principles. Participants rated that it would be easier to not use a condom in the liking vignette than in the

other five vignettes. Specifically, condom use efficacy was decreased for the liking vignettes. One potential explanation could be related to the expectations for the casual sex encounter. Even though casual sex is defined as sexual activities outside of a romantic relationship, future romantic relationship potential has been identified as an expectation or reason for engaging in casual sex (Jonason et al., 2009; Paul & Hayes, 2002; Regan & Dreyer, 1999; Townsend, 1995). Some view casual sex as “*stepping-stones to romantic relationships*” (Paul & Hayes, 2002, p. 654) or an increased probability of long-term commitment from their sex partner (Regan & Dreyer, 1999). Christianson and colleagues (2003) also found a common motive for casual sex was to go steady. Furthermore, a motive for sexual risk-taking was that one must rely on feelings and intuition (Christianson et al., 2003). A study by Appleby, Miller, and Rothspan (1999) found that love, trust, and commitment were used more often to explain riskier sex than safer sex. Condom nonuse has been identified as a sign of trust in casual (Christianson et al., 2003; Lear, 1995) and committed relationships (Thorburn et al., 2005). Individuals influenced by the liking principle view the casual encounter as a possible way to test potential long-term mates (Jonason et al., 2009). Believing that condom use implies distrust in one’s partner has been identified as a factor associated with low condom use self-efficacy (Sayles et al., 2006). Condom negotiation would therefore ruin the construction of trust (Lear, 1995) and the possibility of a steady relationship (Christianson et al., 2003). The results from this study indicate that the principle of liking invokes affective and emotional components which can influence not only attitudes but also perceived ability regarding condom use in casual sex situations.

***Social proof.*** Subjective norms were viewed as more unfavorable in the vignette depicting social proof. Respondents reported that important people in their lives would be against condom nonuse based on someone else’s experiences. This finding may sound a bit

contradictory, but one possible explanation for this result may lie in the definitions. The construct of subjective norms and the principle of social proof are measuring two different types of social influence. Cialdini et al. (1990) proposed examining social norm constructs into two separate types of norms, injunctive and descriptive. Injunctive norms are defined as perceptions concerning what should or ought to be done with respect to performing a given behavior. Descriptive norms are defined perceptions that others are or are not performing the behavior in question (Cialdini et al., 1990). The original conceptualization of subjective norms refers only to injunctive norms (Fishbein & Ajzen, 2010). The current study measured subjective norms as injunctive norms, asking participants about what important others would think of condom nonuse depicted in the vignettes. The social proof vignette depicts a situation in which the target's friend has not had negative consequences due to condom nonuse; therefore, the target will not use a condom in the future. This situation depicts a descriptive norm, indicating that the target is influenced by what peers are or are not doing. Sheeran and Taylor (1999) found that injunctive and descriptive norms were both associated with greater intentions to use condoms ( $r_+ = .42$  and  $r_+ = .37$ , respectively). Additionally, low correlation between injunctive and descriptive norms in condom use research has been found (Van Empelen et al., 2001) indicating that the two types of norms are conceptually different from one another in influencing condom use intentions. The results of the current study seem to indicate that injunctive norms are more influential in condom use than descriptive norms. However, since descriptive norms were not systematically measured in the current study this hypothesis must be interpreted with caution.

### **Theoretical Contribution**

*The principles of social influence.* The use of Cialdini's (1984) six principles of social influence to examine condom use influences is a novel application of the principles.

Traditionally, the principles have been used to explain compliance behaviors for marketing and sales decisions (Cialdini, 2007). Sensenig and Cialdini (1984) identify the importance of understanding the principles in an environmental setting that can determine whether an automatic behavior pattern is enacted. Furthermore, they propose that an understanding of the underlying principle will allow health practitioners to apply it to specific health care programs (Sensenig & Cialdini, 1984).

The underlying principles have been examined in the literature regarding condom use, only identified using different terminology: partner social status (i.e. authority) (Marston & King, 2006), past condom use behaviors (i.e. consistency) (Sheeran et al., 1999; Stulhofer et al., 2010), partner physical attractiveness (i.e. liking) (Hennessy et al., 2007), perceptions of indebtedness (i.e. reciprocity) (Battocletti et al., 2010), condom availability (i.e. scarcity) (Lewis et al., 2010), and perceived condom norms (social proof) (Xiao, et al., 2010). But no literature was identified that examined and compared the six principles in one context. This study demonstrates that certain principles are more influential on behavioral antecedents than others. The findings illustrate the complex relationship between health behavior decision making and the influence of automatic behavior patterns in certain situations. Since the principles were found to influence condom use decisions, it is feasible to assume that the principles of social influence are influential in other health decision making contexts as well. Other socially influenced health decisions such as exercise adherence (McNeill et al., 2006) or smoking (Simons-Morton, 2004), may benefit from understanding exactly what underlying mechanisms influence decision making processes.

***Theory of planned behavior.*** Each component of the theory has been clearly operationalized in the literature (Ajzen 1985). It has been shown that there must be a high degree

of correspondence among the components of the theory and their measurement of the target behavior (Montano & Kasprzyk, 2008). Low correlations between the TRA/TPB variables will result if there is low correspondence between the model construct measures, while high correspondence will result in high correlations (Ajzen & Albarracín, 2007). That is, specific action (i.e., using), target (i.e., condoms), context (i.e., in casual sex relationships), and time (i.e., in this situation) must correspond for each construct measured. This is known as the principle of compatibility (Fishbein & Ajzen, 2010). Sexual decisions are often situational and condom use is influenced by a number of factors (Pilkington et al., 1994; Rhodes, et al., 2006; Siegel et al., 1999).

The sole use of the statements to measure the constructs of the TPB may not accurately detect the influence of social and situational factors on the target behavior. Using specific, situational vignettes based on the principles of social influence to examine the constructs of the TPB was a unique way to apply the theoretical framework to capture subtle nuances that may influence condom use intentions that other applications of the theory may have missed. The differences detected between the six vignettes supports the utility of the TPB in detecting subtle situation factors that may influence behavioral intentions. Furthermore, the use of vignettes to depict specific behavioral situations to measure the constructs of the TPB is a novel and interesting way to test the theory. In this dissertation, the application yielded interesting results that may have not been obtained through traditional measurement techniques usually employed to test the theory.

### **Practical Applications**

With the infrequent use of condoms during casual sex in mind, the practical implications of the findings are numerous. The results of this dissertation indicate that certain principles are



used to aide condom use decisions in casual sexual relationships more than others. Therefore, specific areas should be addressed and tailored in interventions to increase safer sex practices and protect against unintentional sexual outcomes occurring during casual sex. First, interventions should encourage individuals to establish condom use patterns early so that in times of uncertainty, the consistency principle will result in condom use, as opposed to nonuse, as the default behavior. Previous research suggests habits formed early influence condom use decisions later on in life (Stulhofer et al., 2010). Additionally, in Study 1, habitual condom nonuse was supported through evaluation biases based on prior experiences such as condom nonuse failing to result in an unintentional sexual outcome. Interventions should stress that past risky sexual practices not resulting in unintentional outcomes do not diminish risk.

Second, interventions should address the complex relationships resulting from power differences between partners influencing safe sex behaviors. Since in Study 1, authority was both endorsed and rejected frequently, this principle should be integrated into interventions by boosting healthy self-esteem and confidence among young adults, and females in particular. Emphasizing these psychological factors may attenuate the influence of the authority principle by countering feelings of insecurity and peer pressure during these spontaneous encounters. Additionally, the conflation between authority and liking in Study 1 may be less influential if self-esteem is developed and maintained throughout adolescence and into young adulthood. More research is needed to understand the precise role of authority on condom use decisions, but it appears to be influential and should be addressed as a possible decision making mechanism.

Furthermore, social proof should be addressed in interventions, especially campaigns targeting females. Social proof was endorsed as an influence on condom use in Study 1 and was found to interact with subjective norms in Study 2. A meta-analysis examining social network

based interventions focusing on increasing condom use found that eight of the nine studies with control groups showed significant improvements in condom use (Wang, Brown, Shen, & Tucker, 2011). Clearly, as shown in various social influence models, normative beliefs cannot be underestimated in their role in guiding condom use behaviors (Lapinski & Rimal, 2005), and the discrepancy between male and female reliance on this principle especially points to the benefits of targeting females.

Lastly, the liking principle was found to significantly impact attitudes and perceived behavioral control in Study 2. Positive emotions and the desire to promote trust may influence casual partner risk assessments. Interventions should emphasize the risk of attributing positive characteristics towards someone based on positive feelings towards that partner. Additionally, the relationship between the influence of the liking principle and perceived confidence and control of condom use should be addressed as well. Interventions increasing self-efficacy have been successful in increasing condom use in young adults (Bryan, Aiken, & West, 1996). Interventions should tailor self-efficacy towards situations that may decrease perceived confidence and control. The principle of liking appears to be multifaceted and warrants further investigation.

The fact that the participants conflated authority, liking, and attractiveness in Study 1 points to an interesting glitch when using Cialdini's (1984) principles within this context. These principles have previously been used in the arena of business and marketing where their distinctiveness has not been questioned, but within the context of casual sex, the independence of these principles is less certain. When applying these principles to the context of casual sex, participants frequently equated attractiveness, the desire to be liked, authority, and power. For this reason, it appears that these principles are not as independent within this context as they

appear in others. To better design interventions and campaigns promoting safer sex, it would first be a worthy undertaking to better understand the overlapping nature of these principles so promotion messages accurately tap into these influences in a manner where young adults understand them.

### **Limitations and Future Research**

One limitation of the current study was the reliance on a homogenous sample from a large university. Given the modest sample size in both studies the findings cannot be generalized to other populations. That said, by employing focus groups in Study 1, the data obtained provided rich details about how and when these principles might be endorsed or rejected. Another limitation of this dissertation was that there was a higher rate of female participation for both Study 1 and Study 2. Further, future studies should include lesbian, gay, bisexual, and transgender individuals, as well to evaluate if similar patterns emerge.

In Study 1, all focus group questions were asked in a third-person context (i.e. “Do you think your peers...”) to reduce embarrassment and allow participants to disassociate from responses. Responses may have been more enlightening if asked in a first-person context. Further methodological limitations include the operationalization of one of the TPB constructs in Study 2. The study used Fishbein and Ajzen’s (1975) original conceptualization of the subjective norm construct. Given the suggestion by some researchers to include descriptive norms in the construct (Albarracín et al., 2004; Yzer, in press) one possible limitation to this study is that descriptive norms were not measured. Specifically, Rivas and Sheeran (2003) determined that descriptive norms increased variance explained by intention by 5% after the variables of the TPB had been taken into account. Because of the repeated measures nature of Study 2, survey length and participant fatigue was a concern. Therefore, items measuring descriptive norms were

not included. However, given the interesting relationship between the social proof vignette and the subjective norm measure, future research should include a measure of descriptive norms as well.

The overarching goal of this investigation was to better understand the underlying factors influencing condom use in casual sex relationships. To that end, the goal has been accomplished. However, this investigation leaves more questions about the decision making process than prior to the start of this study. Future research should examine whether these principles are applicable to committed relationships, as well as what differences may emerge between casual and committed sexual encounters. It would be interesting to see if the abovementioned principles of social influence are similar across various relationships. Related to this point, future research should examine how casual sex partners communicate about condom use during these spontaneous sexual encounters. Lastly, the principles of social influence should be applied to other health contexts in which automatic decisions are used to see if they are influential in other contexts as well.

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## APPENDIX A: FOCUS GROUP MODERATOR GUIDE

### Focus Group Questions

First, *casual* and *committed* sexual relationships or encounters will be defined for the purposes of the focus group.

Casual sexual relationships or encounters for this focus group were defined as: sexual relationships (which may include oral, vaginal or anal intercourse) in which the partners do not define the relationship as romantic or committed meaning that they do not define their partner as a boyfriend or girlfriend (Grello et al., 2006) husband/wife or romantic partner. This may include one-night stands, hook ups, or friends with benefits.

Committed sexual relationships for this focus group were defined as: sexual relationships (which may include oral, vaginal or anal intercourse) in which the partners do define their relationship as committed or romantic or define their partner as their boyfriend or girlfriend.

### Principles of Social Influence

#### Consistency

- In your opinion, do your friends rely on past condom use behaviors to influence future condom use in casual sexual relationships?

#### Social Proof

- In your opinion, do your friends rely on peers' behaviors in using condoms in causal sexual relationships?

#### Authority

- In your opinion, are the condom use practices of your friends affected by the power differences in a causal sexual relationship?

#### Liking

- In your opinion, does how much your friends 'like' a person influence their decision to use a condom in causal sexual relationships?

#### Scarcity

- In your opinion, does the availability of the condoms influence your friends' condom use behaviors in casual relationships?

#### Reciprocity

- In your opinion, if your friend feels like they owe their partner a favor, are they more likely to follow their partner's condom preferences in a causal sexual relationship?

### Heuristics Used

Research has shown that certain 'social rules' are used to make quick decisions with limited information. What are some 'rules' that your friends use to determine sexual decisions when safer sexual communication does not occur?

## APPENDIX B: FOCUS GROUP CODE BOOK

### Coding Units

**Recording/Coding Units:** Recording/coding units are units that are distinguished for separate description, transcription, recording, or coding (Krippendorff, 2004, p. 99). Coding units will be divided by physical distinctions. Each unit of analysis will be defined as one turn of talk in the transcripts. Within each talk turn, the content will be analyzed for overall endorsement, ambiguity or rejection of the coding theme and context along with other emergent themes. Coding themes are not mutually exclusive and each talk turn can consist of more than one code.

The physical parameter of a turn of talk is defined as any statement made by a participant of the focus group during the duration of the session. Once a new participant or the moderator speaks, the talk turn is considered over and a new turn of talk is to be coded. All talk turns by the moderator will be excluded from analysis. If a talk turn is interrupted in the transcripts by laughter, chuckling or group talking that have no dialog than it is still considered the same talk turn.

### Casual Sexual Relationships

Only talk turns pertaining to casual sexual relationships or encounters will be coded using the themes listed below. Any talk turns pertaining to committed sexual relationships are to simply be ignored. If it is not clear if the talk turn is referring to casual sexual relationships, and the relationship status is not identifiable by the context of the transcript or from other parts of the focus group, the talk turn will be considered a neutral comment and will be coded as pertaining to casual sexual relationships. If the talk turn addresses both casual and committed relationships (i.e. comparing/contrasting the topic in regards to relationship type) than the part pertaining to casual relationships should be coded for the themes listed below.

### Coding Sheet Descriptions

#### Excel File

**Coder Initials:** Provide the initials of the coder

**Transcript Number:** Provide the number identifying which transcript is being coded

**Date of Focus Group:** Provide the date of the focus group being coded

**Number of Participants:** Provide the number of participants that were present at the focus group being transcribed

**Sex of Participants:** Provide the sex of the focus group being transcribed

**Length of Session:** Provide the length in minutes of the audio-recorded portion of the focus group being transcribed

**Coding Frequencies:** In the table, complete a tally of the frequencies of the coded themes defined below.

- *Talk Turn:* Record the number of the talk turn in the focus group that is being referred to
- *Speaker:* Indicate who is the speaker for that particular talk turn
- *Code:* Record the code(s) to indicate the content of each talk turn using the codes from below. Each talk turn may have more than one code as the categories are not mutually exclusive.
  - If the code was present in the talk turn, mark that code with a '1'. If the code was not present in the talk turn will be noted with a '0'.

#### Word Document

**Interesting Examples of Endorsement of Theme:** Provide interesting examples of endorsement with theme based on the theme's definitions of agreement listed below. With each example, make sure to include the focus group page number and the participants' pseudonym for easy reference.

**Interesting Examples of Rejection of Theme:** Provide examples of rejection with theme based on the theme's definitions of disagreement listed below. With each example, make sure to include the focus group page number and the participants' pseudonym for easy reference.

**Other Interesting Quotes:** Provide other interesting quotes from the focus groups that may not fit into the themes listed below but are interesting or may be another emergent theme to examine during analysis.

#### Coding Theme Definitions

##### **Provided Definitions of Key Terms to Focus Group Participants**

The focus group questions examined social influence and sexual decisions in both committed and casual relationships. After a brief introduction, participants were given the following definitions:

*Casual sexual relationships or encounters* for the focus groups were defined as: sexual relationships (which may include oral, vaginal or anal intercourse) in which the partners do not define the relationship as romantic or committed meaning that they do not define their partner as a boyfriend or girlfriend (Grello et al., 2006) husband/wife or romantic partner. This may include one-night stands, hook ups, or friends with benefits.

*Committed sexual relationships* for the focus groups were defined as: sexual relationships (which may include oral, vaginal or anal intercourse) in which the partners do define their relationship as committed or romantic or define their partner as their boyfriend or girlfriend.

## Coding Themes

### The Principles of Social Influence

**I. Consistency** is a principle that is successful because after people make a commitment, taking a stand or position, people are more willing to agree to requests that are consistent with their prior commitment as an attempt to reduce uncertainty. Once someone's mind is made up about an issue, stubborn consistency means that person does not have to think hard about the issue anymore (Cialdini, 1984).

Sexual behaviors have been found to be influenced by the commitment principle as well. Condom use at first intercourse is reliably associated with subsequent condom use supporting the hypothesis that condom use may be considered a habitual behavior (Sheeran et al., 1999). When confronted with an issue, it is easiest to believe, say, or do whatever is consistent with an earlier decision (Cialdini, 1984).

Consistency Condom Use Question: In your opinion, do your friends rely on past condom use behaviors to influence future condom use in casual sexual relationships?

- *Endorsement of Consistency- CCUE*
  - Agreed that Consistency influenced condom use in casual sexual relationships can be explicitly or implicitly stated
  - Endorsement of the principle also may be expressed through a statement in which the participant first acknowledges that theoretically the principle “shouldn’t” influence condom use but then follows up by saying that the principle actually does.
    - Agreement with Consistency could include references to behavior defined as “comfortable”, something that reduces “uncertainty”, or behavior that you have “seen the results” and know that condom behaviors “work”.
- *Rejection of Consistency- CCUR*
  - Disagreed Consistency influenced condom use in casual sexual relationships can be explicitly or implicitly stated
  - Rejection of the principle also may be expressed through a statement in which the participant first acknowledges that theoretically the principle “should” influence condom use but then follows up by saying that the principle actually does not.
    - A few examples of disagreement can include references to not “thinking clearly” and thus past condom behaviors do not matter or that behaviors differ from partner to partner in casual relationships.



**II. Social Proof** influences peoples' decisions by informing them of that other individuals, maybe a role model, are or have observed this behavior. When people are uncertain of how to behave, they look to the actions of others to guide their own actions.

Health decisions, especially regarding sexual health behaviors, have been found to be influenced by the social proof principle as well. Research indicates that peer norms have been found to be predictors of condom use (Svenson et al., 2002). People often view a behavior as more correct in a given situation if they have seen or heard of others performing it.

**Social Proof Condom Use Question:** In your opinion, do your friends rely on peers' behaviors in using condoms in casual sexual relationships?

- *Endorsement of Social Proof- **SPCUE***
  - Agreed that Social Proof influenced condom use in casual sexual relationships can be explicitly or implicitly stated
  - Endorsement of the principle also may be expressed through a statement in which the participant first acknowledges that theoretically the principle "shouldn't" influence condom use but then follows up by saying that the principle actually does.
    - Examples of agreement include references such as, "non-condom wearers may feel pressured to wear them" so that they don't have to "hear it from their friends".
- *Rejection of Social Proof- **SPCUR***
  - Disagreed Social Proof influenced condom use in casual sexual relationships can be explicitly or implicitly stated
  - Rejection of the principle also may be expressed through a statement in which the participant first acknowledges that theoretically the principle "should" influence condom use but then follows up by saying that the principle actually does not.
    - Disagreement that Social Proof influences condom use behaviors may reference that "sexual behaviors are not observable" or that "I am my own person" regarding condom use decisions.

**III. Authority** is a principle that plays on the perception that obedience of an authority figure constitutes correct social conduct. There is a strong pressure within our society for compliance when requested by an authority figure. From a marketing standpoint, authority figures can either be portrayed as famous persons persuading you to use the same products they use or 'experts' such as doctors touting the effectiveness of a product (Cialdini, 1984).

Authority is a cue that uses social status or position of power in society to elicit compliance. Regarding sexual behaviors, condom use decisions have been found to be influenced by the partner's social status (Traeen & Hovland, 1998).

Authority Condom Use Question: In your opinion, are the condom use practices of your friends affected by the power differences in a causal sexual relationship?

- *Endorsement of Authority- ACUE*
  - Agreed that Authority influenced condom use in casual sexual relationships can be explicitly or implicitly stated
  - Endorsement of the principle also may be expressed through a statement in which the participant first acknowledges that theoretically the principle “shouldn’t” influence condom use but then follows up by saying that the principle actually does.
    - Agreement that Authority influences condom use may reference “the person with the less power does what the other person wants”. Or that “athletes are treated like celebrities” and can easily find a partner that adheres to their condom use preferences.
- *Rejection of Authority- ACUR*
  - Disagreed Authority influenced condom use in casual sexual relationships can be explicitly or implicitly stated
  - Rejection of the principle also may be expressed through a statement in which the participant first acknowledges that theoretically the principle “should” influence condom use but then follows up by saying that the principle actually does not.
    - Disagreement that Authority influences condom use behaviors can be referenced to that “personal beliefs and self-confidence may override power differences” regarding condom use practices.

**IV. Liking** is a principle that can create influence and compliance based on factors such as physical attractiveness or similarity. People like to say yes to people they like. The ‘halo effect’ occurs when one positive characteristic dominates the way a person is viewed by others and is one of the oldest and most widely known psychological phenomenon (Nisbett & Wilson, 1977).

Attributing positive overall assessments based on one characteristic has been found in sexual behavior decision-making as well. Research has indicated in partners whom college students know and like are not perceived to be risky, even if what the students knew about the partners was irrelevant to assessing sexual risk (Williams et al., 1992).

Liking Condom Use Question: In your opinion, does how much your friends ‘like’ a person influence their decision to use a condom in casual sexual relationships?

- *Endorsement of Liking- LCUE*
  - Agreed that Liking influenced condom use in casual sexual relationships can be explicitly or implicitly stated
  - Endorsement of the principle also may be expressed through a statement in which the participant first acknowledges that theoretically the principle “shouldn’t” influence condom use but then follows up by saying that the principle actually does.
    - Agreement that Liking influences condom use “and other sexual behaviors”.

- *Rejection of Liking- LCUR*
  - Disagreed Liking influenced condom use in casual sexual relationships can be explicitly or implicitly stated
  - Rejection of the principle also may be expressed through a statement in which the participant first acknowledges that theoretically the principle “should” influence condom use but then follows up by saying that the principle actually does not.
    - Disagreement that Liking influences condom use behavior may include references to individuals’ condom use decisions not being influenced by feelings for their partners.

**V. Scarcity** is a principle that attempts to increase value by persuading people that there is a limited number or time restriction. In marketing, access and availability is used to provoke a feeling of urgency to comply or the opportunity will be missed (Cialdini, 1984).

Preparatory behaviors, such as obtaining or having access to condoms, were found to mediate the relationship between intentions to use condoms and actual use among high school and college students (Bryan et al., 2002).

Scarcity Condom Use Question: In your opinion, does the availability of the condoms influence your friends’ condom use behaviors in casual relationships?

- *Endorsement of Scarcity- SCUE*
  - Agreed that Scarcity influenced condom use in casual sexual relationships can be explicitly or implicitly stated
  - Endorsement of the principle also may be expressed through a statement in which the participant first acknowledges that theoretically the principle “shouldn’t” influence condom use but then follows up by saying that the principle actually does.
    - Agreement that condom use is influenced by Scarcity may include references to “condom availability on campus, “buying condoms” and “carrying condoms”. Additionally, agreement that the Scarcity of condoms influences condom use behavior may refer to the availability of condoms for a casual sexual relationship. “No condom, no sex”.
- *Rejection of Scarcity- SCUR*
  - Disagreed Scarcity influenced condom use in casual sexual relationships can be explicitly or implicitly stated
  - Rejection of the principle also may be expressed through a statement in which the participant first acknowledges that theoretically the principle “should” influence condom use but then follows up by saying that the principle actually does not.
    - Disagreement that condom use is influenced by the availability of condoms may be referred to as, “If it’s going to happen, it’s still going to happen”

**VI. Reciprocity** creates a feeling of obligation to repay someone in the future. Members of society are trained from childhood to abide by the rule of reciprocity or suffer serious social disapproval. Women comment on the uncomfortable sense of obligation after accepting favors from a man such as an expensive dinner or even one drink (Cialdini, 1984).

Additionally, how a woman is perceived can be influenced by the principle of reciprocity. Research suggests that perceptions of a woman's sexual disinhibition and likelihood of sex play were significantly enhanced if the man bought the drinks (George et al., 1988).

Reciprocity Condom Use Question: In your opinion, if your friend feels like they owe their partner a favor, are they more likely to follow their partner's condom preferences in a causal sexual relationship?

- *Endorsement of Reciprocity- RCUE*
  - Agreed that Reciprocity influenced condom use in casual sexual relationships can be explicitly or implicitly stated
  - Endorsement of the principle also may be expressed through a statement in which the participant first acknowledges that theoretically the principle "shouldn't" influence condom use but then follows up by saying that the principle actually does.
    - Agreement that Reciprocity influences condom use may state that the feeling of owing someone "I've seen the worst of girls getting drinks from guys, and like feeling like they have to. Like they owe them." Or that emotionally owing someone can influence condom use such as, "well, he was so great today. I'll just go ahead and do it without."
- *Rejection of Reciprocity- RCUR*
  - Disagreed Reciprocity influenced condom use in casual sexual relationships can be explicitly or implicitly stated
  - Rejection of the principle also may be expressed through a statement in which the participant first acknowledges that theoretically the principle "should" influence condom use but then follows up by saying that the principle actually does not.
    - Disagreement that Reciprocity influences condom use may be referred to that, "sex is not a favor".

## **VII. Other Emergent Themes**

- Sexual History 'tailoring' or 'crafting'
  - *Endorsement of 'crafting'- CraftE*
    - Agreed that sexual histories are "modified", "tailored", "crafted" or any other variation
      - Agreement with sexual history crafting could include referral to modifications in number of past partners, past sexual behaviors, specific partner information to make one seem more "desirable" to current or future partners.

- *Rejection* of ‘crafting’- **CraftR**
  - Disagreement that sexual histories of “modified”, “tailored”, “crafted” or any other variation
    - Disagreement with sexual history crafting could include referral to reasons why one would be truthful or should be truthful when discussing sexual history.
- Other Social Cues or Heuristics
  - *Endorsement* of Other Social Cues/Heuristics
    - Agreed that social cues (other than the six Principles of Influence) are used to aid sexual decision making in uncertain situations.
      - Agreement that other social cues or heuristics are used to aid sexual decision making could be referred to as the use of partner reputation or word of mouth, visual cues, partner characteristics, emotional feelings or “vibes”, to aid in decision making.
        - The type of heuristic endorsed should be noted as a sub-category. Types of heuristic sub-categories:
          - Alcohol/Drug Use/Intoxication- **HeurE-Intox**
            - Of either person involved
          - Visual Cues- **HeurE-VC**
            - ‘looked clean’
          - Emotional Cues- **HeurE-EC**
            - ‘Vibes’, aggressiveness, ‘not expecting sex’
    - *Rejection* of Other Social Cues/Heuristics
      - Disagreed that social cues (other than the six Principles of Social Influence) are used to aid sexual decision making.
        - Disagreement that other social cues or heuristics are used to aid sexual decision making could be a refusal that additional cues influence sexual decision making.
          - The type of heuristic endorsed should be noted as a sub-category. Types of heuristic sub-categories:
            - Alcohol/Drug Use/Intoxication- **HeurR-Intox**
              - Of either person involved
            - Visual Cues- **HeurR-VC**
              - ‘looked clean’
            - Emotional Cues- **HeurR-EC**
              - ‘Vibes’, aggressiveness, ‘not expecting sex’
    - Clarification- Clarify
      - Participant asks moderator to clarify the question or probe posed.
        - Example: “I don’t understand what you mean”
      - Clarification can also be when a participant is asked to clarify their response probed and in a word or two simply reiterate what they just said. This is only used if the participants’ response cannot be coded as one of the codes listed.
        - Example:
 

Moderator: “So kind of like learning from their friends’ mistakes?”

Participant: “Mistakes, yeah.”

- N/A- N/A
  - Talk turns that stray from the focus group questions and are not relevant to the themes investigated at all.
    - Example would be a discussion about basketball players from the university

#### **Codes for Coding Sheet**

<b>Principle</b>	<b>Context</b>	<b>Endorsement/Rejection</b>	<b>Code</b>
Consistency	Condom Use	Endorsement	CCUE
Consistency	Condom Use	Rejection	CCUR
Social Proof	Condom Use	Endorsement	SPCUE
Social Proof	Condom Use	Rejection	SPCUR
Authority	Condom Use	Endorsement	ACUE
Authority	Condom Use	Rejection	ACUR
Liking	Condom Use	Endorsement	LCUE
Liking	Condom Use	Rejection	LCUR
Scarcity	Condom Use	Endorsement	SCUE
Scarcity	Condom Use	Rejection	SCUR
Reciprocity	Condom Use	Endorsement	RCUE
Reciprocity	Condom Use	Rejection	RCUR
Other	Sexual History “Crafting”	Endorsement	CraftE
Other	Sexual History “Crafting”	Rejection	CraftR
Other	Social Cues/Heuristics	Endorsement- Intoxication	HeurE-Intox
Other	Social Cues/Heuristics	Endorsement- Visual Cues	HeurE-VC
Other	Social Cues/Heuristics	Endorsement- Emotional Cues	HeurE-EC
Other	Social Cues/Heuristics	Rejection – Intoxication	HeurR-Intox
Other	Social Cues/Heuristics	Rejection – Visual Cues	HeurR-VC
Other	Social Cues/Heuristics	Rejection- Emotional Cues	HeurR-EC
Other	Clarification		Clarify
Other	N/A		N/A

## APPENDIX C: SURVEY & VIGNETTES

What is your gender? (*Accuracy Check to make sure respondents are in the survey that corresponds to their self-identified gender*)

- A. Male
- B. Female

I feel confident in my ability to put a condom on myself or my partner

- A. Strongly Agree
- B. Agree
- C. Neutral
- D. Disagree
- E. Strongly Disagree

I feel confident in my ability to use a condom correctly

- A. Strongly Agree
- B. Agree
- C. Neutral
- D. Disagree
- E. Strongly Disagree

I feel confident I could gracefully remove and dispose of a condom when we have intercourse

- A. Strongly Agree
- B. Agree
- C. Neutral
- D. Disagree
- E. Strongly Disagree

I feel confident in my ability to put a condom on myself or my partner quickly

- A. Strongly Agree
- B. Agree
- C. Neutral
- D. Disagree
- E. Strongly Disagree

If I were to suggest using a condom to a partner, I would feel afraid that he or she would reject me

- A. Strongly Agree
- B. Agree
- C. Neutral
- D. Disagree
- E. Strongly Disagree

If I were unsure of my partner's feelings about using condoms, I would not suggest using one

- A. Strongly Agree
- B. Agree
- C. Neutral
- D. Disagree
- E. Strongly Disagree

I would not feel confident suggesting using condoms with a new partner because I would be afraid he or she would think I've had a homosexual experience

- A. Strongly Agree
- B. Agree
- C. Neutral
- D. Disagree
- E. Strongly Disagree

I would not feel confident suggesting using condoms with a new partner because I would be afraid he or she would think I have a sexually transmitted disease

- A. Strongly Agree
- B. Agree
- C. Neutral
- D. Disagree
- E. Strongly Disagree

I would not feel confident suggesting using condoms with a new partner because I would be afraid he or she would think I thought they had a sexually transmitted disease

- A. Strongly Agree
- B. Agree
- C. Neutral
- D. Disagree
- E. Strongly Disagree

I feel confident in my ability to discuss condom usage with any partner I might have

- A. Strongly Agree
- B. Agree
- C. Neutral
- D. Disagree
- E. Strongly Disagree

I feel confident in my ability to suggest using a condom with a new partner

- A. Strongly Agree
- B. Agree
- C. Neutral
- D. Disagree
- E. Strongly Disagree

I feel confident that I could suggest using a condom without my partner feeling "diseased"

- A. Strongly Agree
- B. Agree
- C. Neutral
- D. Disagree
- E. Strongly Disagree

I feel confident that I would remember to use a condom even after I have been drinking  
A. Strongly Agree    B. Agree    C. Neutral    D. Disagree    E. Strongly Disagree

I feel confident that I would remember to use a condom even if I were high  
A. Strongly Agree    B. Agree    C. Neutral    D. Disagree    E. Strongly Disagree

I feel confident I could stop to put a condom on myself or my partner even in the heat of passion  
A. Strongly Agree    B. Agree    C. Neutral    D. Disagree    E. Strongly Disagree

I like wild, "uninhibited" sexual encounters  
Not at all like me   1   2   3   4   Very much like me

The physical sensations are the most important thing about having sex  
Not at all like me   1   2   3   4   Very much like me

I enjoy the sensation of intercourse without a condom  
Not at all like me   1   2   3   4   Very much like me

My sexual partners probably think I am a "risk-taker"  
Not at all like me   1   2   3   4   Very much like me

When it comes to sex, physical attraction is more important to me than how well I know the person  
Not at all like me   1   2   3   4   Very much like me

I enjoy the company of sensual people  
Not at all like me   1   2   3   4   Very much like me

I enjoy watching X-rated videos  
Not at all like me   1   2   3   4   Very much like me

I have said things that were not exactly true to get a person to have sex with me  
Not at all like me   1   2   3   4   Very much like me

I am interested in trying out new sexual experiences  
Not at all like me   1   2   3   4   Very much like me

I feel like exploring my sexuality  
Not at all like me   1   2   3   4   Very much like me

I like to have new and exciting sexual experiences and sensations  
Not at all like me   1   2   3   4   Very much like me

I tend to begin a new job without much advance planning on how I will do  
A. Strongly Disagree   B. Disagree    C. Neither Agree nor Disagree   D. Agree   E. Strongly Agree



I usually think about what I am going to do before doing it.

A. Strongly Disagree B. Disagree C. Neither Agree nor Disagree D. Agree E. Strongly Agree

I often do things on impulse.

A. Strongly Disagree B. Disagree C. Neither Agree nor Disagree D. Agree E. Strongly Agree

I very seldom spend much time on the details of planning ahead.

A. Strongly Disagree B. Disagree C. Neither Agree nor Disagree D. Agree E. Strongly Agree

Before I begin a complicated job, I make careful plans.

A. Strongly Disagree B. Disagree C. Neither Agree nor Disagree D. Agree E. Strongly Agree

I enjoy getting into new situations where you can't predict how things will turn out.

A. Strongly Disagree B. Disagree C. Neither Agree nor Disagree D. Agree E. Strongly Agree

I often get so carried away by new and exciting things and ideas that I never think of possible complications.

A. Strongly Disagree B. Disagree C. Neither Agree nor Disagree D. Agree E. Strongly Agree

I am an impulsive person.

A. Strongly Disagree B. Disagree C. Neither Agree nor Disagree D. Agree E. Strongly Agree

## FEMALE SCENARIOS

**\*\*A casual sexual relationship is a sexual relationship that may include oral, anal, or vaginal intercourse in which the partners involved would NOT consider the relationship committed. Meaning, they do not refer to their sexual partner as their boyfriend/girlfriend, husband/wife or romantic partner. A casual sexual relationship may include one-night stands, hook-ups, or "friends with benefits".\*\***

Angela just met Steve and she is really into him. She gets a good vibe from him and thinks that this could really become a relationship. He is such a nice guy and she really likes him. She goes home with him; he doesn't bring up condom use so she doesn't insist.

If I were Angela, most people important to me would view my not using a condom in this situation as:

Unfavorable	1	2	3	4	5	Favorable
Not Supportive	1	2	3	4	5	Supportive
Unacceptable	1	2	3	4	5	Acceptable

My not using a condom in this situation would be...

Difficult	1	2	3	4	5	Easy
Out of My Control	1	2	3	4	5	Within My Control
Not Capable	1	2	3	4	5	Capable

If I were Angela, my attitude towards not using a condom in this situation would be...

Bad	1	2	3	4	5	Good
Unfavorable	1	2	3	4	5	Favorable
Negative	1	2	3	4	5	Positive

What is the probability (from 0% to 100%) that you will not use a condom if you are in this situation? \_\_\_\_\_

If I were in this situation, I would not use a condom:

Unlikely	1	2	3	4	5	Likely
False	1	2	3	4	5	True
Disagree	1	2	3	4	5	Agree

This scenario is...

Not Realistic	1	2	3	4	5	Realistic
Not Believable	1	2	3	4	5	Believable

Cindy just met and went home with Anthony, a football player. Cindy is so excited that a football star like him would be interested in her, so when he doesn't provide a condom, she doesn't want to ruin the moment by bringing up a conversation about condom use.

If I were Cindy, most people important to me would view my not using a condom in this situation as:

Unfavorable	1	2	3	4	5	Favorable
Not Supportive	1	2	3	4	5	Supportive
Unacceptable	1	2	3	4	5	Acceptable

My not using a condom in this situation would be...

Difficult	1	2	3	4	5	Easy
Out of My Control	1	2	3	4	5	Within My Control
Not Capable	1	2	3	4	5	Capable

If I were Cindy, my attitude towards not using a condom in this situation would be...

Bad	1	2	3	4	5	Good
Unfavorable	1	2	3	4	5	Favorable
Negative	1	2	3	4	5	Positive

What is the probability (from 0% to 100%) that you will not use a condom if you are in this situation? \_\_\_\_\_

If I were in this situation, I would not use a condom:

Unlikely	1	2	3	4	5	Likely
False	1	2	3	4	5	True
Disagree	1	2	3	4	5	Agree

This scenario is...

Not Realistic	1	2	3	4	5	Realistic
Not Believable	1	2	3	4	5	Believable

Hannah's friends just set her up on a date with Mike, whom she just met. All night Mike has been a real gentleman, opening doors for Hannah and paying for both the dinner and the movie. Afterwards they head back to his place. Mike doesn't bring up using a condom so Hannah doesn't bring up the topic since she feels like she owes him after their date.

If I were Hannah, most people important to me would view my not using a condom in this situation as:

Unfavorable	1	2	3	4	5	Favorable
Not Supportive	1	2	3	4	5	Supportive
Unacceptable	1	2	3	4	5	Acceptable

My not using a condom in this situation would be...

Difficult	1	2	3	4	5	Easy
Out of My Control	1	2	3	4	5	Within My Control
Not Capable	1	2	3	4	5	Capable

If I were Hannah, my attitude towards not using a condom in this situation would be...

Bad	1	2	3	4	5	Good
Unfavorable	1	2	3	4	5	Favorable
Negative	1	2	3	4	5	Positive

What is the probability (from 0% to 100%) that you will not use a condom if you are in this situation? \_\_\_\_\_

If I were in this situation, I would not use a condom:

Unlikely	1	2	3	4	5	Likely
False	1	2	3	4	5	True
Disagree	1	2	3	4	5	Agree

This scenario is...

Not Realistic	1	2	3	4	5	Realistic
Not Believable	1	2	3	4	5	Believable

Bridgett's roommates were all talking about casual sexual encounters when they didn't use condoms and how nothing bad had happened as a result. Bridgett decides that if the next time she has a casual sexual encounter and she doesn't use a condom, it wouldn't be the end of the world.

If I were Bridgett, most people important to me would view my not using a condom in this situation as:

Unfavorable	1	2	3	4	5	Favorable
Not Supportive	1	2	3	4	5	Supportive
Unacceptable	1	2	3	4	5	Acceptable

My not using a condom in this situation would be...

Difficult	1	2	3	4	5	Easy
Out of My Control	1	2	3	4	5	Within My Control
Not Capable	1	2	3	4	5	Capable

If I were Bridgett, my attitude toward not using a condom in this situation would be...

Bad	1	2	3	4	5	Good
Unfavorable	1	2	3	4	5	Favorable
Negative	1	2	3	4	5	Positive

What is the probability (from 0% to 100%) that you will not use a condom if you are in this situation? \_\_\_\_\_

If I were in this situation, I would not use a condom:

Unlikely	1	2	3	4	5	Likely
False	1	2	3	4	5	True
Disagree	1	2	3	4	5	Agree

This scenario is...

Not Realistic	1	2	3	4	5	Realistic
Not Believable	1	2	3	4	5	Believable

Christy has not used condoms in past casual sexual relationships and nothing bad has happened to her. Tonight she just met Jim and they are back at his place. She doesn't carry condoms on her and she is not concerned if Jim has one or not.

If I were Christy, most people important to me would view my not using a condom in this situation as:

Unfavorable	1	2	3	4	5	Favorable
Not Supportive	1	2	3	4	5	Supportive
Unacceptable	1	2	3	4	5	Acceptable

My not using a condom in this situation would be...

Difficult	1	2	3	4	5	Easy
Out of My Control	1	2	3	4	5	Within My Control
Not Capable	1	2	3	4	5	Capable

If I were Christy, my attitude toward not using a condom in this situation would be...

Bad	1	2	3	4	5	Good
Unfavorable	1	2	3	4	5	Favorable
Negative	1	2	3	4	5	Positive

What is the probability (from 0% to 100%) that you will not use a condom if you are in this situation? \_\_\_\_\_

If I were in this situation, I would not use a condom:

Unlikely	1	2	3	4	5	Likely
False	1	2	3	4	5	True
Disagree	1	2	3	4	5	Agree

This scenario is...

Not Realistic	1	2	3	4	5	Realistic
Not Believable	1	2	3	4	5	Believable

Chelsea and Peter know each other from English class, but only a little. Chelsea goes home with Peter but there was never a good time to discuss condom use. Chelsea didn't want to bring it up too early because she wasn't sure that they were going to have sex, and then she didn't want to ruin the moment once she was sure they definitely were.

If I were Chelsea, most people important to me would view my not using a condom in this situation as:

Unfavorable	1	2	3	4	5	Favorable
Not Supportive	1	2	3	4	5	Supportive
Unacceptable	1	2	3	4	5	Acceptable

My not using a condom in this situation would be...

Difficult	1	2	3	4	5	Easy
Out of My Control	1	2	3	4	5	Within My Control
Not Capable	1	2	3	4	5	Capable

If I were Chelsea, my attitude towards not using a condom in this situation would be...

Bad	1	2	3	4	5	Good
Unfavorable	1	2	3	4	5	Favorable
Negative	1	2	3	4	5	Positive

What is the probability (from 0% to 100%) that you will not use a condom if you are in this situation? \_\_\_\_\_

If I were in this situation, I would not use a condom:

Unlikely	1	2	3	4	5	Likely
False	1	2	3	4	5	True
Disagree	1	2	3	4	5	Agree

This scenario is...

Not Realistic	1	2	3	4	5	Realistic
Not Believable	1	2	3	4	5	Believable

## MALE SCENARIOS

\*\*A casual sexual relationship is a sexual relationship that may include oral, anal, or vaginal intercourse in which the partners involved would NOT consider the relationship committed. Meaning, they do not refer to their sexual partner as their boyfriend/girlfriend, husband/wife or romantic partner. A casual sexual relationship may include one-night stands, hook-ups, or “friends with benefits”.\*\*

Steve just met Angela and he is really into her. He gets a good vibe from her and thinks that this could really become a relationship. She is such a nice girl and he really likes her. He goes home with her; she doesn't bring up condom use so he doesn't insist.

If I were Steve, most people important to me would view my not using a condom in this situation as:

Unfavorable	1	2	3	4	5	Favorable
Not Supportive	1	2	3	4	5	Supportive
Unacceptable	1	2	3	4	5	Acceptable

My not using a condom in this situation would be...

Difficult	1	2	3	4	5	Easy
Out of My Control	1	2	3	4	5	Within My Control
Not Capable	1	2	3	4	5	Capable

If I were Steve, my attitude towards not using a condom in this situation would be...

Bad	1	2	3	4	5	Good
Unfavorable	1	2	3	4	5	Favorable
Negative	1	2	3	4	5	Positive

What is the probability (from 0% to 100%) that you will not use a condom if you are in this situation? \_\_\_\_\_

If I were in this situation, I would not use a condom:

Unlikely	1	2	3	4	5	Likely
False	1	2	3	4	5	True
Disagree	1	2	3	4	5	Agree

This scenario is...

Not Realistic	1	2	3	4	5	Realistic
Not Believable	1	2	3	4	5	Believable



Anthony just met and went home with Cindy, a cheerleader. Anthony is so excited that a hot cheerleader like her would be interested in him, so when she doesn't provide a condom, he doesn't want to ruin the moment by bringing up a conversation about condom use.

If I were Anthony, most people important to me would view my not using a condom in this situation as:

Unfavorable	1	2	3	4	5	Favorable
Not Supportive	1	2	3	4	5	Supportive
Unacceptable	1	2	3	4	5	Acceptable

My not using a condom in this situation would be...

Difficult	1	2	3	4	5	Easy
Out of My Control	1	2	3	4	5	Within My Control
Not Capable	1	2	3	4	5	Capable

If I were Anthony, my attitude towards not using a condom in this situation would be...

Bad	1	2	3	4	5	Good
Unfavorable	1	2	3	4	5	Favorable
Negative	1	2	3	4	5	Positive

What is the probability (from 0% to 100%) that you will not use a condom if you are in this situation? \_\_\_\_\_

If I were in this situation, I would not use a condom:

Unlikely	1	2	3	4	5	Likely
False	1	2	3	4	5	True
Disagree	1	2	3	4	5	Agree

This scenario is...

Not Realistic	1	2	3	4	5	Realistic
Not Believable	1	2	3	4	5	Believable

Mike's friends just set him up on a date with Hannah, whom he just met. All night Mike has been a real gentleman, opening doors for Hannah, paying for both the dinner and the movie. Afterwards they head back to his place. Hannah doesn't bring up using a condom so Mike doesn't bring up the topic either since he feels like she owes him after their date.

If I were Mike, most people important to me would view my not using a condom in this situation as:

Unfavorable	1	2	3	4	5	Favorable
Not Supportive	1	2	3	4	5	Supportive
Unacceptable	1	2	3	4	5	Acceptable

My not using a condom in this situation would be...

Difficult	1	2	3	4	5	Easy
Out of My Control	1	2	3	4	5	Within My Control
Not Capable	1	2	3	4	5	Capable

If I were Mike, my attitude towards not using a condom in this situation would be...

Bad	1	2	3	4	5	Good
Unfavorable	1	2	3	4	5	Favorable
Negative	1	2	3	4	5	Positive

What is the probability (from 0% to 100%) that you will not use a condom if you are in this situation? \_\_\_\_\_

If I were in this situation, I would not use a condom:

Unlikely	1	2	3	4	5	Likely
False	1	2	3	4	5	True
Disagree	1	2	3	4	5	Agree

This scenario is...

Not Realistic	1	2	3	4	5	Realistic
Not Believable	1	2	3	4	5	Believable

Todd's roommates were all talking about sexual encounters that they didn't wear condoms in casual relationships and how nothing bad had happened as a result. Todd decides that if the next time he has a casual sexual encounter and doesn't wear a condom, it wouldn't be the end of the world.

If I were Todd, most people important to me would view my not using a condom in this situation as:

Unfavorable	1	2	3	4	5	Favorable
Not Supportive	1	2	3	4	5	Supportive
Unacceptable	1	2	3	4	5	Acceptable

My not using a condom in this situation would be...

Difficult	1	2	3	4	5	Easy
Out of My Control	1	2	3	4	5	Within My Control
Not Capable	1	2	3	4	5	Capable

If I were Todd, my attitude towards not using a condom in this situation would be...

Bad	1	2	3	4	5	Good
Unfavorable	1	2	3	4	5	Favorable
Negative	1	2	3	4	5	Positive

What is the probability (from 0% to 100%) that you will not use a condom if you are in this situation? \_\_\_\_\_

If I were in this situation, I would not use a condom:

Unlikely	1	2	3	4	5	Likely
False	1	2	3	4	5	True
Disagree	1	2	3	4	5	Agree

This scenario is...

Not Realistic	1	2	3	4	5	Realistic
Not Believable	1	2	3	4	5	Believable

Jim has not used condoms in past casual sexual relationships and nothing bad has happened to him. Tonight he just met Christy and they are back at her place. He doesn't carry condoms on him and he is not concerned if Christy has one or not.

If I were Jim, most people important to me would view my not using a condom in this situation as:

Unfavorable	1	2	3	4	5	Favorable
Not Supportive	1	2	3	4	5	Supportive
Unacceptable	1	2	3	4	5	Acceptable

My not using a condom in this situation would be...

Difficult	1	2	3	4	5	Easy
Out of My Control	1	2	3	4	5	Within My Control
Not Capable	1	2	3	4	5	Capable

If I were Jim, my attitude towards not using a condom in this situation would be...

Bad	1	2	3	4	5	Good
Unfavorable	1	2	3	4	5	Favorable
Negative	1	2	3	4	5	Positive

What is the probability (from 0% to 100%) that you will not use a condom if you are in this situation? \_\_\_\_\_

If I were in this situation, I would not use a condom:

Unlikely	1	2	3	4	5	Likely
False	1	2	3	4	5	True
Disagree	1	2	3	4	5	Agree

This scenario is...

Not Realistic	1	2	3	4	5	Realistic
Not Believable	1	2	3	4	5	Believable

Peter and Chelsea know each other from English class, but only a little. Peter goes home with Chelsea but there was never a good time to discuss condom use. Peter didn't want to bring it up too early because he wasn't sure that they were going to have sex, and then he didn't want to ruin the moment once he was sure they definitely were.

If I were Peter, most people important to me would view my not using a condom in this situation as:

Unfavorable	1	2	3	4	5	Favorable
Not Supportive	1	2	3	4	5	Supportive
Unacceptable	1	2	3	4	5	Acceptable

My not using a condom in this situation would be...

Difficult	1	2	3	4	5	Easy
Out of My Control	1	2	3	4	5	Within My Control
Not Capable	1	2	3	4	5	Capable

If I were Peter, my attitude towards not using a condom in this situation would be...

Bad	1	2	3	4	5	Good
Unfavorable	1	2	3	4	5	Favorable
Negative	1	2	3	4	5	Positive

What is the probability (from 0% to 100%) that you will not use a condom if you are in this situation? \_\_\_\_\_

If I were in this situation, I would not use a condom:

Unlikely	1	2	3	4	5	Likely
False	1	2	3	4	5	True
Disagree	1	2	3	4	5	Agree

This scenario is...

Not Realistic	1	2	3	4	5	Realistic
Not Believable	1	2	3	4	5	Believable

\*\*‘Social rules’ are often used to make quick sexual decisions with limited information. How often do your friends use the following social rules to guide their sexual decisions in causal sexual encounters? \*\*

The reputation of partner

A. Always    B. Often    C. Rarely    D. Never

The social status of partner

A. Always    B. Often    C. Rarely    D. Never

Get a ‘good vibe’ from partner

A. Always    B. Often    C. Rarely    D. Never

Partner is not too pushy

A. Always    B. Often    C. Rarely    D. Never

Partner doesn’t ‘expect sex’

A. Always    B. Often    C. Rarely    D. Never

Really ‘likes’ or is ‘into’ partner

A. Always    B. Often    C. Rarely    D. Never

Partner’s physical appearance

A. Always    B. Often    C. Rarely    D. Never

Feel like they owe their partner

A. Always    B. Often    C. Rarely    D. Never

Could turn into a romantic relationship

A. Always    B. Often    C. Rarely    D. Never

\*\*For the purpose of this survey, sexual intercourse is defined as vaginal intercourse, anal intercourse, or oral/genital sex.\*\*

Have you ever had sexual intercourse?

A. No (*Skip Pattern to Demographics*)

B. Yes

How old were you when you had sexual intercourse for the first time?

\_\_\_\_\_ years old

Within your lifetime, with how many partners have you had oral sex, vaginal intercourse or anal intercourse?

\_\_\_\_\_ partners

Within the last 12 months, with how many partners have you had oral sex, vaginal intercourse or anal intercourse?

\_\_\_\_\_ partners

**\*\*For the purposes of this survey, casual sexual relationship is defined as a sexual relationship that may include oral, anal, or vaginal intercourse in which the partners involved would NOT consider the relationship committed. Meaning, they do not refer to their sexual partner as their boyfriend/girlfriend, husband/wife or romantic partner. This may include one-night stands, hook-ups, or “friends with benefits”.\*\***

Have you ever had casual sex?

- A. No, never had casual sex
- B. Yes

With how many people in the past 12 months have you had casual sex with?

\_\_\_\_\_ partners

When you engage in a casual sexual relationship, how often have you engaged in sexual intercourse with the other person?

- A. Have not done this in a casual situation
- B. Every time
- C. Most of the time
- D. Some of the time

When you engage in a casual sexual relationship, how often have you given or received oral sex?

- A. Have not done this in a casual situation
- B. Every time
- C. Most of the time
- D. Some of the time

If either you or your casual sexual partner used the pill, would you be willing to have sexual intercourse without a condom?

Definitely No      1      2      3      4      5      Definitely Yes

If both you and your casual partner did not have any condoms available, would you be willing to have sex without a condom?

Definitely No      1      2      3      4      5      Definitely Yes

Within the last 30 days, did you have oral sex?

- A. No, have never done this sexual act
- B. No, have done this act but not in last 30 days
- C. Yes

Within the last 30 days, did you have vaginal intercourse?

- A. No, have never done this sexual act
- B. No, have done this act but not in last 30 days
- C. Yes

Within the last 30 days, did you have anal intercourse?

- A. No, have never done this sexual act
- B. No, have done this act but not in last 30 days
- C. Yes

Within the last 30 days, how often did you or your partners use a condom during vaginal or anal intercourse?

- A. N/A, never did this sexual activity
- B. Have not during the last 30 days
- C. Never
- D. Rarely
- E. Sometimes
- F. Most of the Time
- G. Always

The last time you had sexual intercourse; did you or your partner use a condom?

- A. No
- B. Yes

The last time you had sexual intercourse, what method did you or your partner use to prevent pregnancy? (Select all that apply)

- A. I have never had sexual intercourse
- B. No method was used to prevent pregnancy
- C. Birth control pills
- D. Condoms
- E. Depo-Provera (or any injectable birth control), Nuva Ring (or any birth control ring), Implanon (or any implant), or any IUD
- F. Withdrawl
- G. Some other method
- H. Not sure

Within in the last 12 months, have you been tested by a professional for Chlamydia, Genital Herpes, Genital Warts (HPV), Gonorrhea, Hepatitis B or C?

- A. No
- B. Yes
- C. Not sure

Have you ever been tested for the Human Immunodeficiency Virus (HIV) infection?

- A. No
- B. Yes
- C. Not sure



Within in the last 12 months, have you been diagnosed or treated by a professional for Chlamydia, Genital Herpes, Genital Warts (HPV), Gonorrhea, Hepatitis B or C?

- A. No
- B. Yes

During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is, within a couple of hours?

- A. 0 days
- B. 1 day
- C. 2 days
- D. 3-5 days
- E. 6-9 days
- F. 10-19 days
- G. 20 or more days

Within the last thirty days, on how many days did you use alcohol (beer, wine, liquor)?

- A. Never used
- B. Have used, but not in last 30 days
- C. 1-2 days
- D. 3-5 days
- E. 6-9 days
- F. 10-19 days
- G. 20-29 days
- H. Used daily

Did you drink alcohol or use drugs before you had sexual intercourse the last time?

- A. N/A, don't drink
- B. No
- C. Yes

Within the last 12 months, have you experienced any of the following consequences of your drinking: Unprotected sex?

- A. N/A, don't drink
- B. No
- C. Yes

What is your year in school?

- A. 1<sup>st</sup> year undergraduate
- B. 2<sup>nd</sup> year undergraduate
- C. 3<sup>rd</sup> year undergraduate
- D. 4<sup>th</sup> year undergraduate
- E. 5<sup>th</sup> year or more undergraduate
- F. Graduate

What is your age?

\_\_\_\_\_ years old

How do you usually describe yourself?

- A. White- not Hispanic
- B. Black- not Hispanic
- C. Hispanic or Latino
- D. Asian or Pacific Islander
- E. American Indian or Alaska
- F. Biracial or Multi-Racial
- G. Other

Are you an international student?

- A. No
- B. Yes

What is your sexual orientation?

- A. Heterosexual
- B. Gay/Lesbian
- C. Bisexual
- D. Unsure

What is your relationship status?

- A. Not in a relationship
- B. In relationship and not living together
- C. In relationship and living together

What is your marital status?

- A. Single
- B. Married/Partnered
- C. Separated
- D. Divorced
- E. Other

Are you a member of a social fraternity or sorority?

- A. No
- B. Yes

Where do you currently live?

- A. Campus residence hall
- B. Fraternity or sorority house
- C. Other college/University housing
- D. Parent/Guardian's house
- E. Other off-campus housing
- F. Other

What is your enrollment status?

A. Full-time

B. Part-time

C. Other

## APPENDIX D: PILOT SURVEY ALPHAS

### Construct Alphas

Pilot alphas for each of the items measuring each TPB construct per principle:

Principle	Construct	Cronbach's Alpha
Liking	Subjective Norm	$\alpha = .96$
Liking	Perceived Behavioral Control	$\alpha = .76$
Liking	Attitudes	$\alpha = .90$
Authority	Subjective Norm	$\alpha = .97$
Authority	Perceived Behavioral Control	$\alpha = .82$
Authority	Attitudes	$\alpha = .96$
Reciprocity	Subjective Norm	$\alpha = .97$
Reciprocity	Perceived Behavioral Control	$\alpha = .87$
Reciprocity	Attitudes	$\alpha = .94$
Social Proof	Subjective Norm	$\alpha = .96$
Social Proof	Perceived Behavioral Control	$\alpha = .88$
Social Proof	Attitudes	$\alpha = .97$
Consistency	Subjective Norm	$\alpha = .96$
Consistency	Perceived Behavioral Control	$\alpha = .81$
Consistency	Attitudes	$\alpha = .96$
Scarcity	Subjective Norm	$\alpha = .98$
Scarcity	Perceived Behavioral Control	$\alpha = .87$
Scarcity	Attitudes	$\alpha = .94$

## APPENDIX E: CHAPTER 4 TABLES

**Table 4.1. Factor Loadings for Indicator Variables in Measurement Models.**

Latent Factor and Items	(1)	(2)	(3)	(4)	(5)	(6)
Attitude <sub>1</sub>	.95	.98	.92	.97	.95	.98
Attitude <sub>2</sub>	.97	.98	.96	.96	.96	.98
Attitude <sub>3</sub>	.97	.99	.97	.97	.95	.98
Subjective Norm <sub>1</sub>	.91	.96	.77	.90	.89	.94
Subjective Norm <sub>2</sub>	.92	.93	.84	.94	.92	.96
Subjective Norm <sub>3</sub>	.92	.96	.85	.90	.92	.96
Perceived Behavioral Control <sub>1</sub>	.94	.97	.91	.94	.89	.97
Perceived Behavioral Control <sub>2</sub>	.53	.51	.51	.52	.49	.55
Intention <sub>1</sub>	.96	.91	.94	.96	.95	.92
Intention <sub>2</sub>	.98	.99	.98	.96	.98	.97
Intention <sub>3</sub>	.97	.99	.96	.97	.98	.99

*Note.* 1 = Authority, 2 = Consistency, 3 = Liking, 4 =Reciprocity, 5 = Scarcity, and 6 = Social Proof.

**Table 4.2. Means, Standard Deviations, and Correlations among Variables in Authority Model (N = 388).**

<i>Variable</i>	(1)	(2)	(3)	(4)
(1)	1.0			
(2)	.63*	1.0		
(3)	.56*	.43*	1.0	
(4)	.67*	.67*	.61*	1.0
<i>M</i>	-1.37	-1.40	-.91	-1.45
<i>SD</i>	1.02	.96	1.21	.98

*Note.* 1 = Attitude, 2 =Subjective Norm, 3 = Perceived Behavioral Control, and 4 = Intention.  
 \* = significance at  $p < .01$  (2-tailed)

**Table 4.3. Means, Standard Deviations, and Correlations among Variables in Consistency Model (N = 388).**

<i>Variable</i>	(1)	(2)	(3)	(4)
(1)	1.0			
(2)	.53*	1.0		
(3)	.45*	.33*	1.0	
(4)	.57*	.53*	.49*	1.0
<i>M</i>	-1.26	-1.50	-1.0	-1.44
<i>SD</i>	1.23	.89	1.17	1.0

*Note.* 1 = Attitude, 2 =Subjective Norm, 3 = Perceived Behavioral Control, and 4 = Intention.  
 \* = significance at  $p < .01$  (2-tailed)

**Table 4.4. Means, Standard Deviations, and Correlations among Variables in Liking Model (N = 388).**

<i>Variable</i>	(1)	(2)	(3)	(4)
(1)	1.0			
(2)	.55*	1.0		
(3)	.44*	.39*	1.0	
(4)	.54*	.47*	.48*	1.0
<i>M</i>	-1.50	-1.44	-.77	-1.44
<i>SD</i>	.87	.74	1.19	1.0

*Note.* 1 = Attitude, 2 = Subjective Norm, 3 = Perceived Behavioral Control, and 4 = Intention.  
 \* = significance at  $p < .01$  (2-tailed)

**Table 4.5. Means, Standard Deviations, and Correlations among Variables in Reciprocity Model (N = 388).**

<i>Variable</i>	(1)	(2)	(3)	(4)
(1)	1.0			
(2)	.58*	1.0		
(3)	.47*	.45*	1.0	
(4)	.69*	.58*	.58*	1.0
<i>M</i>	-1.43	-1.50	-.99	-1.51
<i>SD</i>	.97	.83	1.21	.95

*Note.* 1 = Attitude, 2 = Subjective Norm, 3 = Perceived Behavioral Control, and 4 = Intention.  
 \* = significance at  $p < .01$  (2-tailed)

**Table 4.6. Means, Standard Deviations, and Correlations among Variables in Scarcity Model (N = 388).**

<i>Variable</i>	(1)	(2)	(3)	(4)
(1)	1.0			
(2)	.67*	1.0		
(3)	.56*	.49*	1.0	
(4)	.70*	.63*	.58*	1.0
<i>M</i>	-1.39	-1.38	-.94	-1.45
<i>SD</i>	.94	.88	1.14	.95

*Note.* 1 = Attitude, 2 = Subjective Norm, 3 = Perceived Behavioral Control, and 4 = Intention.  
 \* = significance at  $p < .01$  (2-tailed)

**Table 4.7. Means, Standard Deviations, and Correlations among Variables in Social Proof Model (N = 388).**

<i>Variable</i>	(1)	(2)	(3)	(4)
(1)	1.0			
(2)	.64*	1.0		
(3)	.47*	.41*	1.0	
(4)	.59*	.52*	.55*	1.0
<i>M</i>	-1.30	-1.26	-.97	-1.49
<i>SD</i>	1.10	1.08	1.18	.93

*Note.* 1 = Attitude, 2 = Subjective Norm, 3 = Perceived Behavioral Control, and 4 = Intention.  
 \* = significance at  $p < .01$  (2-tailed)



**Table 4.8. Means, Standard Deviations, t-Statistics and Significance among Variables Measuring Attitude (N = 388).**

<i>Variable</i>	(1)	(2)	(3)	(4)	(5)	(6)
(1)						
(2)	-2.06					
(3)	2.64*	4.0*				
(4)	1.50	3.41*	-1.35			
(5)	.29	2.30	-2.87*	-1.41		
(6)	-1.41	.85	-3.41*	-2.62*	-1.67	
<i>M</i>	-1.37	-1.26	-1.49	-1.43	-1.39	-1.30
<i>SD</i>	1.02	1.23	.87	.97	.94	1.10

*Note.* 1 = Authority, 2 = Consistency, 3 = Liking, 4 =Reciprocity, 5 = Scarcity, and 6 = Social Proof.

\* = significance at  $p < .003$

**Table 4.9. Means, Standard Deviations, t-Statistics and Significance among Variables Measuring Subjective Norm (N = 388).**

<i>Variable</i>	(1)	(2)	(3)	(4)	(5)	(6)
(1)						
(2)	2.28					
(3)	1.0	-1.38				
(4)	2.52	.19	1.75			
(5)	-.48	-3.04*	-1.76	-3.33*		
(6)	-2.94*	-5.14*	-3.68*	-4.96*	-2.43	
<i>M</i>	-1.40	-1.49	-1.44	-1.50	-1.38	-1.26
<i>SD</i>	.96	.89	.74	.83	.89	1.08

*Note.* 1 = Authority, 2 = Consistency, 3 = Liking, 4 =Reciprocity, 5 = Scarcity, and 6 = Social Proof.

\* = significance at  $p < .003$

**Table 4.10. Means, Standard Deviations, t-Statistics and Significance among Variables Measuring Perceived Behavioral Control (N = 388).**

<i>Variable</i>	(1)	(2)	(3)	(4)	(5)	(6)
(1)						
(2)	1.78					
(3)	-2.66*	-4.27*				
(4)	1.64	-.31	4.09*			
(5)	.57	-1.55	3.28*	-1.24		
(6)	1.09	-.78	3.43*	-.44	.72	
<i>M</i>	-.91	-1.00	-.77	-.99	-.94	-.97
<i>SD</i>	1.21	1.17	1.19	1.21	1.14	1.18

*Note.* 1 = Authority, 2 = Consistency, 3 = Liking, 4 =Reciprocity, 5 = Scarcity, and 6 = Social Proof.

\* = significance at  $p < .003$

**Table 4.11. Means, Standard Deviations, t-Statistics and Significance among Variables Measuring Intention (N = 388).**

<i>Variable</i>	(1)	(2)	(3)	(4)	(5)	(6)
(1)						
(2)	-.12					
(3)	-.18	-.07				
(4)	1.56	1.53	1.60			
(5)	.00	.12	.20	-1.67		
(6)	.98	1.15	1.15	-.46	1.19	
<i>M</i>	-1.45	-1.44	-1.44	-1.51	-1.45	-1.49
<i>SD</i>	.98	1.0	1.0	.95	.95	.93

*Note.* 1 = Authority, 2 = Consistency, 3 = Liking, 4 =Reciprocity, 5 = Scarcity, and 6 = Social Proof.

\* = significance at  $p < .003$

**Table 4.12. F statistics for Gender Differences in Subjective Norms and Intentions across the Principles of Social Influence.**

Items	(1)	(2)	(3)	(4)	(5)	(6)	df
Subjective Norm	64.8*	20.5*	42.7*	24.9*	40.8*	11.8*	(1, 386)
Intention	63.8*	28.5*	21.8*	28.4*	24.0*	24.5*	(1, 386)

*Note.* 1 = Authority, 2 = Consistency, 3 = Liking, 4 =Reciprocity, 5 = Scarcity, and 6 = Social Proof.

\* = significance at  $p < .008$