The Prediction of Sexual Risk Behaviors among College Students

Using the Theory of Planned Behavior

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This dissertation titled

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Abstract

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Sexual risk behaviors, which can lead to a number of negative health consequences, continue to be a problem on college campuses (e.g., Grello, Welsh, & Harper, 2006; Gullette & Lyons, 2006; Ravert et al., 2009). The theory of planned behavior (TPB; Ajzen, 1985; 1991) has been shown to be effective in predicting sexual risk behavior (e.g., Albarracín, Johnson, Fishbein, & Muellerleile, 2001; Godin & Kok, 1996), as well as a range of other behaviors (e.g., Ajzen, 1991; Armitage & Conner, 2001). The predictive validity of the TPB has been shown to increase when other variables are included and therefore an extended version of the TPB was examined in the current study to aid in the prediction of condom use, contraceptive use, dual use (condom use plus another contraceptive method), and casual sex among college students. Structural equation modeling was utilized to test both sufficiency models as predicted by the TPB and extended models where six additional variables were allowed to have direct paths to both intentions and behavior. Specifically, the first goal of the study was to examine both the TPB sufficiency models and the extended TPB models for each of the seven behaviors to determine whether the six added variables (past sexual risk behavior, anticipated affect, moral norms, sexual excitation, sexual inhibition, and sensation seeking) had direct relationships with intentions and/or behavior and to assess which of the two types of models provide a better fit to the data.
Given that there is often a discrepancy between intentions and behaviors (e.g., Sheeran, 2002), the current study also sought to further the research on factors that predict intention-behavior consistency by exploring a set of variables that may discriminate between 1) those who intended to engage in safe sex behaviors and did so and 2) those who intended to engage in safe sex behavior and did not engage in such behavior. Specifically, the second goal of the study was to determine if characteristics of students’ last sexual encounter can aid in predicting whether those students who intended to use condoms, contraception, or dual use did so in their last sexual encounter over the past 2 months with both relationship and casual partners. The seven tested variables were condom planning and preparatory behaviors, mood, sexual arousal, substance use, perceived partner attractiveness, intention certainty, and intention stability.

Approximately eighty-eight percent of the 530 college students who participated in the baseline assessment returned for the follow-up. In relation to the first goal, none of the TPB sufficiency structural equation models demonstrated an adequate fit to the data, whereas the extended structural equation models for casual sex, casual condom use, casual dual use, relationship condom use, and relationship dual use demonstrated good fits for the respective data. In general, the additional paths in the extended TPB models also allowed for more variance accounted for in both intentions and behaviors compared to those in the sufficiency models. None of the models for casual or relationship contraception use were shown to have an acceptable fit to the data. In relation to the second goal, the six discriminant function analyses examining the intention-behavior relationship were able to correctly classify between 74% to 92% of the participants concerning whether or not these intenders engaged in safe sex behaviors or not. The
variables that best discriminated between behavior engagement or not over the six analyses were intention stability, intention certainty, and engagement in condom preparatory behaviors.

Implications for future research on the prediction of sexual risk behaviors, the utility of the TPB, and the intention-behavior relationship are discussed. The implications of these results for sexual risk prevention and intervention research are reviewed.

Approved: _____________________________________________________________

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**Introduction**

Increased responsible sexual behavior has been included among the Surgeon General's Public Health Priorities, is currently one of the Department of Health’s *Healthy People 2010* Ten Leading Health Indicators for the Nation, and is likely to continue to be a priority area for *Healthy People 2020* (U.S. Department of Health and Human Services, 2000, 2010; Office of the Surgeon General, 2001). Risky sexual behavior among college students remains a serious problem despite various efforts to decrease these behaviors. Casual sex is common on college campuses and "hookups" are considered a normal sexual practice among college students (Grello, Welsh, & Harper, 2006; Paul & Hayes, 2002). A recent study of 1,690 college students from nine universities found that 19.5% reported having casual sex, 37.3% reported having sex with 2 or more partners, and 46.6% reported engaging in sex while drunk or high in the past 30 days (Ravert et al., 2009). A significant percentage of college students enrolled at 4-year institutions report engaging in risky sexual behaviors such as using drugs or alcohol prior to or during sexual activity, not engaging in safe sex communication, having sex with multiple partners, and inconsistently using condoms during vaginal and anal intercourse (Baldwin & Baldwin, 2000; Centers for Disease Control [CDC], 2003; Flannery, Ellingson, Votaw, & Schaefer, 2003; Gullette & Lyons, 2006; Laska, Pasch, Lust, Story, & Ehlinger, 2009; Lewis, Malow, & Ireland, 1997). Given the fact that these behaviors can lead to negative consequences such as sexually transmitted infections (STIs) and unintended pregnancies, these data underscore the importance of understanding and addressing the sexual behaviors of the approximately 7 million college students aged 15-24 enrolled full-time in 4-year institutions in the United States (U.S. Census Bureau, 2008).
The current study aims to further the research on sexual risk taking among college students as they are an at-risk group for STIs and unintended pregnancies, and there is a paucity of well implemented prevention and intervention programs for this group (e.g., Jaworski & Carey, 2001). This paucity of programming exists despite research indicating that many prevention and intervention programs, especially those focusing on behavioral skills and which are theoretically-based, have demonstrated some positive, lasting effects in reducing STI and HIV risk behaviors among college students and other populations (e.g., Albarracín et al., 2005; Jaworski & Carey, 2001; Kamb et al, 1998; Kirby, Laris, & Rolleri, 2007; Sikkema, Winett, & Lombard, 1995; Wolitski et al, 2006). In addition, despite research indicating the importance of theory, a large percentage of sexual behavior studies have been atheoretical and researchers have called for the need for more theory-based investigations in the field (Weis, 2002).

In an attempt to further a more theoretical understanding of sexual risk taking, the theory of planned behavior (TPB; Ajzen, 1985;1991) was utilized in the current study in order to predict intent to engage and engagement in condom use, any form of birth control, dual use (e.g., use of condoms and another contraceptive), and casual sex. The TPB was developed based on the assumption that attitudes, subjective normative beliefs and perceived behavioral control (also conceptualized by some as self-efficacy) predict intentions to engage in a behavior. Further, intentions and possibly perceived behavior control predict actual behavior (see Figure 1). The TPB has been widely used in predicting sexual risk behavior and has been shown to be effective in predicting these behaviors (e.g., Albarracín, Johnson, Fishbein, & Muellerleile, 2001; Godin & Kok, 1996), as well as a range of other behaviors (e.g., Ajzen, 1991; Armitage & Conner,
2001). Although the majority of the studies utilizing the TPB to predict sexual risk taking have focused on condom use, the current study will provide additional information on other forms of sexual risk taking and allow for the comparison of the predictive ability of the TPB across different risk behaviors.

Although the TPB has proven to be a useful model in explaining intentions to engage and actual engagement in a number of health behaviors, many researchers have encouraged the use of additional variables outside of the TPB framework in order to better predict intentions and health behaviors (e.g., Conner & Armitage, 1998). A number of researchers have noted limitations of the TPB in that it does not provide a sufficient prediction of behavior intentions (see O'Keefe, 2002 for a review). The original developer of the TPB, Ajzen (1991), stated that the TPB is open to the inclusion of additional variables if they are shown to reliably increase the model's ability to predict a behavior beyond the original variables. In fact, a number of variables, such as past behavior, affective beliefs, personal norms, and moral beliefs, have been shown to account for an additional amount of variance in sexual risk intentions and behaviors beyond the original TPB components (e.g., Albarracín et al., 2001; Beadnell et al., 2007; Conner & Flesch, 2001; Kok, Hopers, Hapterink, & De Zwart, 2007; Myklestad & Rise, 2007).

Additionally, few studies have examined the mediational effects of the TPB variables on other variables, such as interpersonal, situational, and personality variables, related to sexual risk behaviors (Beadnell et al., 2007). Beadnell et al. (2007) concluded that distal variables that are indirectly related to intentions and behavior through their relationships with attitudes, social norms, and self-efficacy may be particularly important to sexual risk intervention and prevention programs because they may improve efforts to
change attitudes, social norms, and self-efficacy if they can be changed through other interpersonal and intrapersonal variables. Also, since several variables (i.e., smoking, moral beliefs, pressure to have sex, parent communication, number of friends who have had sex) studied by Beadnell et al. in a study of adolescents showed direct effects on intentions and behavior, variables that have influences on sexual behavior that are not mediated by the TPB variables may be especially important in the development and implementation of programs designed to reduce risky sexual behavior. Including additional variables also aids in testing the sufficiency of the TPB in predicting sexual risk taking. If variables are not mediated by the TPB variables as the theory assumes, and have direct effects on intentions and/or behavior, then the TPB is not sufficient in its predictive ability. The current study will test the sufficiency of the TPB by including additional variables that may aid in extending the theory in predicting sexual risk if they are found to have direct effects on intentions and/or behavior (see Figure 2). Thus, the present study added six variables that have been shown to be related to risky sexual behavior in the literature: 1) past sexual risk behavior (e.g., Albarracín et al., 2001; Conner & Armitage, 1998; Gallois, Terry, Timmins, Kashima, & McCamish, 1994); 2) anticipated affect (e.g., Conner & Armitage, 1998; Kok et al., 2007; Sanchez, Caballero, Carrera, Blanco, & Pizarro, 2001); 3) moral norms (e.g., Godin, Conner, and Sheeran, 2005; Godin, Gagnon, & Lambert, 2003); 4) sexual excitation (e.g., Carpenter, Janssen, Graham, Vorst, & Wicherts, 2008; Janssen, Vorst, Finn & Bancroft, 2002); 5) sexual inhibition (e.g., Bancroft et al., 2003; Carpenter et al., 2008; Janssen et al, 2002); and 6) sensation seeking (e.g., Hoyle, Fejfar, & Miller, 2000; Zuckerman, 2007).
The TPB and related theoretical models assume that intentions predict actual behaviors. Meta-analyses of condom use, for example, support this claim, finding a correlation of .44 to .45 between intentions to use a condom and actual condom use (Albarracín et al., 2001; Sheeran & Orbell, 1998). Although intentions do show a substantial relationship with actual behavior, this relationship is not as impressive in the context of clinical interventions (Bauman, Karasz, & Hamilton, 2007). Many studies have found that there are often a substantial number of individuals who intend to engage in a behavior, such as condom use, but do not actually put these intentions into practice. For example, Gallois et al. (1992) found that although there was a correlation of .44 between intentions and subsequent condom use, 57% of the participants who intended to use a condom failed to do so. This indicates that although the TPB is helpful in predicting sexual risk behaviors, future research is needed to understand what factors determine the intention-behavior relationship (see Figure 3).

Despite the substantial gap between people's intentions and subsequent behavior (Sheeran, 2002), only a few studies have explored differences between groups whose intentions correspond to personal behavior and those whose do not. It is believed that exploring intention-behavior discrepancies can be important to further understanding intentions in the context of health promotion interventions (Abraham et al., 1999). Researchers, in a retrospective study, examined differences in condom use among those who intended to use condoms during the first time they had vaginal intercourse with their last partner and found that several variables (e.g., condom availability, several safe sex self-efficacy and planning measures) were able to successfully discriminate between those who actually used condoms and those who did not (Abraham et al., 1999). One
cross-sectional study has also provided some support that those with high intentions and those with low intentions to engage in unprotected anal intercourse report different reasons for engaging in this risk behavior (Kok et al., 2007), which may suggest there are individual differences among these groups. No known prospective studies have examined differences between groups formed by the interaction of intentions and subsequent behavior. The current study seeks to further the research on factors that predict intention-behavior consistency by exploring variables that may discriminate between 1) those who intended to engage in safe sex behaviors and did so and 2) those who intended to engage in safe sex behaviors and did not. The following variables were selected based on a review of the literature: intention certainty (e.g., Sheeran & Abraham, 2003), intention stability (e.g., Conner, Norman, & Bell, 2002; Conner, Sheeran, Norman, & Armitage, 2000), planning and preparatory behaviors (e.g., Abraham et al., 1999; Bryan, Fisher, & Fisher, 2002), mood before/during the sexual experience (e.g., Bartz, Shew, Ofner, & Fortenberry, 2007; MacDonald & Martineau, 2002), sexual arousal (e.g., Boldero, Moore, & Rosenthal, 1992; Janssen et al., 2002), substance use (e.g., Cooper, 2002; Ross & Williams, 2001), and perceived partner attractiveness (e.g., Kelaher, Ross, Drury, & Clarkson, 1994; Kruse & Fromme, 2005).

The current study utilized a prospective design in order to explore the prediction of sexual risk taking behaviors over an 8-week period. Many researchers have noted the there are a lot of cross-sectional and retrospective studies of sexual risk behaviors, and that studies within this area utilizing prospective designs are needed (Albarracín et al., 2001; Gerrard, Gibbons, & Bushman, 1996; Godin & Kok, 1996; Sheeran, Abraham, & Orbell., 1999). The use of a prospective design as opposed to a cross-sectional design is
important as longitudinal designs permit one to make stronger inferences concerning the relationship of TPB variables and risky sexual behavior. The current study also distinguished between sexual behaviors with relationship versus casual partners as partner type may be related to different levels of risk and has been shown to change the predictive ability of the TPB in relation to sexual risk behaviors (Baker, Morrison, Carter, & Verdon, 1996; Maticka-Tyndale & Herold, 1999; Morrison, Gillmore, & Baker, 1995).

Specific aims of the current study

**Aim 1**: To examine the prediction of intentions and use of condoms, birth control, dual use, and the engagement of casual sex among college students using the TPB sufficiency model (no direct paths from distal variables to intentions or behavior). See Figure 2.

**Aim 2**: To examine the prediction of intentions and the use of condoms, birth control, dual use, and the engagement of casual sex among college students using an extended version of the TPB (allowing distal variables to have direct effects on intentions and behavior). See Figure 2.

**Aim 3**: To explore the factors that differentiate between those college students who intended to engage in safe sex practices and then engaged in these practices and those who intended to engage in safe sex practices but failed to engage in these practices (see Figure 3).

**Methods**

**Participants**

Participants were 520 undergraduate men and women from a mid-sized Midwestern University, the majority of whom were between the ages of 18 and 21 ($M = \ldots$)
19). The majority of the participants indicated they were female (67%), heterosexual (97%), Caucasian (87%), never married (99%), Christian (67%), and 85% of them were in their first or second year of college. The majority of participants reported having experienced vaginal sex (79%) and oral sex (84%) during their lifetimes, whereas fewer reported experiencing anal sex (18%). See Table 1 for an overview of the demographics of the sample.

**Attrition rate.** Attrition rates were acceptable during the course of the study. Approximately 87.9% (N = 457) of the students who participated in Time 1 of the study at the beginning of the academic quarter returned for Time 2 of the study at the end of the academic quarter. A number of chi-square analyses were conducted to assess whether students who withdrew were significantly different from those who completed the study. There were no significant differences in the demographics or sexual histories between participants who withdrew and those who returned for Time 2. The data of four additional participants were removed from further analyses because of large amount of missing data, leaving 453 participants in the final sample. Among those participants who returned for the follow-up, 40% reported having at least one incident of casual sex (oral, vaginal, or anal sex) over the previous 2 months and 53% reported having had vaginal or anal sex with a relationship partner over the follow-up. Specifically, 53% reported having vaginal sex with a relationship partner, 27% reported vaginal sex with a casual partner, 1% reported anal sex with a casual partner, 6% reported anal sex with a relationship partner, and 25% reported oral sex with a casual partner.
Measures

See Table 2 at the end of this section for a list of all variables and measures that were utilized and analyzed in this study. See Tables 3 and 4 for a list of the means and standard deviations for each variable. Measures were given in a fixed order and were self-administered. The items on each of the scales were summed to obtain an item total score unless otherwise noted. For the few instances where data were missing, mean substitution was used (Tabachnick & Fidell, 2007).

Demographics sheet (Appendix C-1). This is a brief 32-item questionnaire used to collect relevant personal information regarding basic participant characteristics such as age, ethnicity and race, religious background, sexual orientation, parents’ income, sexual habits, and sexual history.

Past behavior (Appendix C-2). Past behavior for each of the 4 types of risky sex behaviors was assessed using one item inquiring about the participants’ behavior in the past 6 months. For example, to assess for past behavior concerning condom use during sex with casual partners, the following question was used: “In the past 6 months during vaginal and/or anal sex, did you use a condom?”. Items were rated on a 7-point Never to Always scale with the exception of casual sex which was assessed by the following item “In the past 6 months, with how many casual sex partners have you had oral, vaginal, and/or anal sex? _______. Higher scores indicated safer sex behavior with the exception of the casual sex item which indicates greater risk behavior.

Attitudes (Appendices C-3 & C-4). Five items were developed to measure attitudes towards condom use with casual and relationship partners, contraceptive use with casual and relationship partners, dual use with casual and relationship partners, and
casual sex in accordance with guidelines from Ajzen (1991). In relation to each behavior, participants were asked to rate five pairs of words—pleasant-unpleasant, healthy-unhealthy, bad-good, beneficial-harmful, pleasurable-not pleasurable—on a 1 to 7 scale. Higher scores indicate more positive attitudes towards the safe sex behavior or casual sex. The internal consistency of the attitude measures of condom use with casual partners, condom use with relationship partners, contraceptive use with casual partners, contraceptive use with relationship partners, dual use with casual partners, dual use with relationship partners, and casual sex were .82, .75, .84, .82, .82, .80, and .91, respectively.

**Subjective norms** (Appendices C-3 & C-4). Four items were developed to measure a person’s social group’s beliefs towards his or her condom use with casual and relationship partners, contraceptive use with casual and relationship partners, dual use with casual and relationship partners, and casual sex in accordance with guidelines from Ajzen (1991). In relation to each behavior, participants were asked to rate how much important people in one’s life think one should engage in each behavior and how much social pressure they feel on a 1 to 7 scale. Higher scores indicated increased social norms to engage in the behavior, including casual sex. The internal consistency of the subjective norms measures of condom use with casual partners, condom use with relationship partners, contraceptive use with casual partners, contraceptive use with relationship partners, dual use with casual partners, dual use with relationship partners, and casual sex were .82, .81, .90, .79, .75, .85, and .89, respectively.

**Perceived behavioral control** (Appendices C-3 & C-4). Three items were developed to measure perceived behavioral control of condom use with casual and relationship partners, contraceptive use with casual and relationship partners, dual use
with casual and relationship partners, and casual sex in accordance with guidelines from Ajzen (1991). In relation to each behavior, participants were asked to rate how much behavioral control and self-efficacy they feel on a scale from 1 to 7. Higher scores indicated higher perceived control over engaging in the behavior. The internal consistency of the perceived behavioral control measures of condom use with casual partners, condom use with relationship partners, contraceptive use with casual partners, contraceptive use with relationship partners, dual use with casual partners, dual use with relationship partners, and casual sex were .74, .75, .76, .79, .79, .81, and .74, respectively.

**Intentions** (Appendix C-3 & C-4). Three questions were used to measure intentions for each of the 4 sexual risk behaviors and for both casual and relationship partners. For example, the following were used to assess condom use intentions with a casual partner: “If you have sex with a casual partner over the next 2 months, do you intend to use a condom?”,” “If you have sex with a casual partner over the next 2 months, do you expect to use a condom?”,” and “How likely is it that you will use a condom if you have vaginal and/or anal sex with a casual partner in the next 2 months?”. All items were rated on a 7-point scale with higher scores indicating increased intentions to engage in the behavior, including casual sex, over the next 2 months. For contraception use, participants who intended to use contraception were asked to list the expected method of contraception in order to distinguish between effective and ineffective (e.g., withdrawal) methods. The internal consistencies for these measures at Time 1 were .90, .97, .89, .93, .97, .98, and .95, respectively, for condom use with a casual partner, condom use with a relationship partner, contraception use with a casual partner, contraception use with a relationship partner, dual use with a casual partner, dual use with a relationship partner,
and casual sex. At Time 2 the alphas were .90, .97, .80, .93, .82, .98, and .90, respectively.

**Intention certainty** (Appendix C-3 & C-4). Intention certainty was assessed using one question for each of the sexual behaviors. For instance, for casual sex: “How certain are you about your intentions you just indicated above about engaging in casual sex in the next 2 months?”. Participants were asked to indicate their certainty on a 1 Very Uncertain to 7 Very Certain scale.

**Zuckerman-Kuhlman Personality Questionnaire** (ZKPQ; Appendix C-5). The 99-item measure assesses personality characteristics in five areas: sociability, neuroticism-anxiety, aggression-hostility, impulsive sensation seeking and activity (Zuckerman & Kuhlman, 2000). For the purposes of this study, only the 19-item Impulsive Sensation Seeking Scale was used. This scale includes question such as "I like to have new and exciting experiences and sensations even if they are a little frightening" and "I would like to take off on a trip with no preplanned or definite routes or timetables". Participants indicate whether each statement is characteristic ("true") or uncharacteristic of themselves. The total score can range from 0 to 19, with higher scores indicating greater agreement with high sensation seeking items. The Impulsive Sensation Seeking Scale (ISSS) has shown high internal consistency (alpha = .80; Ball, 1995). Test-retest reliability for the five scales of the ZKPQ has been found to be high, ranging from .82 to .87 over a two-month interval (Zuckerman & Kuhlman, 2000). Validity of the Impulsive Sensation Seeking Scale has been shown to be good based on its high correlations with the novelty seeking subscale of Cloninger's Temperment and Character Inventory (r=.68; Zuckerman & Cloninger, 1996) and with the Sensation Seeking Form
V (r=.66; McDaniel & Zuckerman, 2003). In the current study, the internal consistency for the ISSS was .84.

**Sexual Excitation Scale/Sexual Inhibition Scales** (SES/SIS; Appendix C-6).
The 20-item Sexual Excitation Scale (Janssen et al., 2002) was developed to measure a man's propensity to get sexually aroused across various situations. The Sexual Inhibition Scale (Janssen et al., 2002) was developed to measure a person's propensity to be sexually inhibited across various situations. The SIS consists of two subscales, the first deals with inhibition due to threat of performance failure and the second assesses sexual inhibition due to threat of performance consequences (i.e. unintended pregnancy). Only the second subscale, SIS2, with 11 items was used in the current study. For three samples of men, the internal consistency was found to be good for both scales: SES (.89, .89, .88) and SIS2 (.73, .69, .75) (Janssen et al., 2002). Test-retest reliability has been found to be adequate with coefficients ranging from .62 to .76 across samples and studies for the three scales with an average of approximately seven weeks between administrations (Gaither & Wilson, 1997; Janssen et al., 2002). Specifically, for one study with a mean of 6.9 weeks between administrations (range 2-13 weeks) the coefficients were .76 for SES and .74 for SIS2 (Janssen et al., 2002). These scales have also evidenced convergent and discriminant validity (Janssen et al., 2002). The measures have also been recently used in a large sample of undergraduate women and found to have a similar factor structure and psychometric properties (Carpenter et al., 2008). In the current study, the internal consistency alphas were .91 and .81 for the SES and SIS2, respectively.

**Moral norms** (Appendix C-7). Three questions were developed to measure moral norms in relation to condom use with casual and relationship partners, contraceptive use
with casual and relationship partners, dual use with casual and relationship partners, and casual sex based on Ajzen’s (1991) definition of moral norms—“personal feelings of …responsibility to perform, or refuse to perform, a certain behavior” (p. 199)—and previous scales of moral and personal norms. Each item was rated on a 1 to 7 scale with higher scores indicating higher moral norms supporting contraception use and avoidance of casual sex. The internal consistency of the moral norms measures of condom use with casual partners, condom use with relationship partners, contraceptive use with casual partners, contraceptive use with relationship partners, dual use with casual partners, dual use with relationship partners, and casual sex were .94, .80, .94, .93, .84, .96, and .95, respectively.

**Anticipated affect** (Appendix C-8). Six items were developed to measure anticipated affect in relation to not using a condom with casual and relationship partners, not using contraception with casual and relationship partners, dual use with casual and relationship partners, and casual sex. For example: “If I had casual sex, I think that I would feel __________ after sex (vaginal, anal, or oral) with a casual partner”. For each sexual behavior, 6 affect words are listed—regret, satisfaction, worry, relaxed, upset, happy—and participants were asked to rate them on a 1 *Very Unlikely* to 7 *Very Likely* scale. Items were recoded so that higher scores reflect higher levels of positive anticipated affect. The internal consistency of the anticipated affect measures of condom use with casual partners, condom use with relationship partners, contraceptive use with casual partners, contraceptive use with relationship partners, dual use with casual partners, dual use with relationship partners, and casual sex were .89, .94, .93, .91, .91, .95, and .91, respectively.
Behavior over quarter (Appendix C-9). Behavior over the quarter for each of the four types of risky sex behaviors were assessed using one item inquiring about the participants’ behavior in the past 2 months. For example, to assess behavior concerning condom use during sex with casual partners, the following question was used: “In the past 2 months during vaginal and/or anal sex, did you use a condom?”. Items were rated on a 7-point Never to Always scale with the exception of casual sex which was assessed by the following item “In the past 2 months, how many casual sex partners have you had oral, vaginal, and/or anal sex? _______”. Higher scores indicate safer sex behavior with the exception of the casual sex analysis where higher scores indicate a greater number of casual sex partners.

Characteristics of last sexual experience (Appendix C-10). Participants were asked to indicate if they have had sex with a relationship partner and/or a casual sex partner in the past two months. If so, participants then completed a series of questions about the last sexual experience with both types of partners. A series of questions assessed whether a condom or other form of contraception was used, planning and preparatory behaviors related to condom use, mood before the sexual experience, sexual arousal, and perceived physical attractiveness of the partner. The information concerning the last incident of vaginal sex with both relationship and casual partners was used in the analyses of condom use, dual use, and contraceptive use if the participants have had vaginal sex in the past two months. However, if a participant did not have vaginal sex with either a casual or relationship partner, the last incident of anal sex was used for analyses predicting condom use. If a participant did not have vaginal or anal sex, no information was entered in the analyses.
**Intention stability.** Intention stability has been measured in previous research (e.g., Sheeran, Norman, & Orbell, 1999; Sheeran & Abraham, 2003), indicating the agreement between one’s reported intentions across time points. In the current study, this was calculated using a difference score between participants’ Time 1 Intentions score and their Time 2 Intentions score (see above for scoring and reliability of Intentions scores).

**Procedure**

Participants were enrolled in psychology courses at a mid-sized Midwestern university and had the choice of volunteering to participate in psychology experiments or write a brief summary of a journal article in exchange for credit applied toward their course grade. Sessions were held in classrooms in the university psychology department and conducted in groups of twenty-five or fewer participants. The study was entitled “Social Behaviors and Personality” in the online psychology experiment signup system.

Prior to administering the surveys, informed consent forms were explained by the investigator, signed by the participants, and collected. During the first session participants were given packets containing surveys assessing demographics, attitudes, subjective norms, perceived behavioral control, intentions to engage in various sexual behaviors, intention certainty, past sexual behavior, sensation seeking, moral norms, anticipated affect, sexual inhibition, and sexual excitation. In order to protect their identity, subjects identified themselves only with the number attained using the Subject Number Calculation Form (Appendix B). This form allowed the participant to obtain a unique number that cannot be tied to the participants’ identification information, but can be used to match participants’ data at the initial session and at the eight-week follow-up. The
researcher informed the participants of the coding procedure for the Subject Number Calculation Form.

Approximately 8 weeks later, the same participants were administered surveys assessing intentions to engage in various sexual behaviors, sexual behavior over the past 2 months, and characteristics of the participants’ most recent sexual experience(s). The participants’ surveys from the first session were matched to their second set of surveys from their second session. The surveys took approximately 45 minutes to complete at Time 1 and approximately 20 minutes at Time 2. Once participants completed the surveys and returned them in the manila envelope directly to the research assistant, they were given a debriefing form listing local sexual health resources. Participants received course credit for their participation.

Results

Bivariate correlations were conducted between all variables in each of the 7 extended TPB models to examine the direct relationships between all variables (see Tables 5-11). Further, correlations were conducted between intentions, behavior at last sexual encounter, and the variables thought to affect this relationship for each of the safe sex behaviors (see Table 12-17).

Structural Equation Models

In order to test the TPB sufficiency models, seven structural equation models were constructed and tested in relation to each of the safe sex behaviors (see Figure 2) using the variables specified by the TPB and six additional variables (i.e., past behavior, anticipated affect, moral norms, sexual excitation and inhibition, and sensation seeking). All variables were measured as manifest variables. The models were constructed and
testing using AMOS 16.0.1 (Arbuckle, 2007). The six distal variables were only allowed to have direct paths to attitudes, subjective norms, and perceived behavioral control to test the sufficiency model of the TPB. Non-significant paths were deleted. In the identification of the structural models, the hypothesized models met the minimum condition of identifiability, where the number of known values in the model exceed or equal the number of freed parameters in the model.

Seven additional structural equation models were then constructed to test an extended version of the TPB. These models also meet the minimum condition of identifiability. In the extended models, paths between the distal variables (i.e., past behavior, anticipated affect, moral norms, sexual excitation and inhibition, and sensation seeking) and intentions and behavior were freed one at a time. Direct paths from the distal variables to intentions and behavior were freed based on which had the largest modification index and expected parameter change statistics. Non-significant paths were deleted.

AMOS 16.0.1 (Arbuckle, 2007) was used to test the fit of the TPB sufficiency and extended models (Figures 1 and 2) to the data. The goodness-of-fit chi-square statistic was used to provide a test of each model; a non-significant chi-square statistic is desirable because it indicates that there is not a significant difference between a model and the associated data. However, the chi-square statistic can be influenced by trivial differences, especially in large samples, so it is not always a straightforward assessment of fit (Tabachnick & Fidell, 2007). Three goodness of fit indices were also utilized in order to examine the fit of the models to the data. These include the Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and Root Mean Square Error Approximation
(RMSEA). For the CFI and TLI, values close to 0.95 and higher are evidence of an appropriate fit; for the RMSEA, values close to 0.06 and lower are evidence of an appropriate fit (Hu & Bentler, 1999; Loehlin, 2004 Tabachnick & Fidell, 2007). Also, when both sufficiency and extended models are significant for the same behavior, Akaike Information Criterion (AIC) will be used to determine the best model fit as the AIC can be used to determine the best fitting model if the same sample is used (Burnham & Anderson, 2002). The AIC is not a standardized measure, so the smaller AIC value is indicative of a better fitting model only when compared to another model’s AIC as the absolute value has little meaning. See Table 21 for a summary of all of the SEM analyses.

Casual sex sufficiency model. The initial TPB sufficiency model indicated a poor fit, $\chi^2(18, N = 453) = 255.77, p < .001; \text{CFI} = 0.88; \text{TLI} = 0.56; \text{RMSEA} = 0.17$. After deleting non-significant paths from the model, the final TPB sufficiency analysis still indicated an unacceptable fit to the data, $\chi^2(18, N = 453) = 259.87, p < .001; \text{CFI} = 0.87; \text{TLI} = 0.74; \text{RMSEA} = 0.17; \text{AIC} = 331.87$ (see Figure 4 for model and regression weights). Sexual excitation and sensation seeking were deleted from the model because they were not significantly related to any of the TPB variables in the model. The final model accounted for 46% of the variance in attitudes, 47% of the variance in social norms, 29% of the variance in perceived behavioral control, 51% in intentions, and 19% of the variance in casual sex.

Casual sex extended model. The extended TPB model was then run allowing for direct paths between the six distal variables to both intentions and casual sex. Sexual excitation and sensation seeking were deleted from the model because they were not significantly related to any of the TPB variables in the model. Based on suggested
modification indices, extra paths were added from past behaviors to casual sex partners and from past behavior, anticipated affect, and moral norms to intentions. The final extended model demonstrated a good fit with the data, $X^2(14, N = 453) = 23.10, p = .04; CFI = 0.99; TLI = 0.99; \text{RMSEA} = 0.04; \text{AIC} = 135.94$ (see Figure 5). The final extended model accounted for 46% of the variance in attitudes, 47% of the variance in social norms, 29% of the variance in perceived behavioral control, 60% in intentions, and 38% of the variance in engagement in casual sex over the quarter.

**Casual condom use sufficiency model.** The initial TPB sufficiency model indicated a poor fit, $X^2(19, N = 154) = 105.77, p < .001; CFI = 0.78; TLI = 0.38; \text{RMSEA} = 0.17$. After deleting non-significant paths from the model, the final TPB sufficiency analysis still indicated an unacceptable fit to the data, $X^2(10, N = 154) = 88.55, p < .001; CFI = 0.77; TLI = 0.52; \text{RMSEA} = 0.23; \text{AIC} = 124.55$ (see Figure 6 for model and regression weights). Sexual excitation, sexual inhibition, and sensation seeking were deleted from the model because they were not significantly related to any of the TPB variables in the model. Social norms was also deleted from the model because it was not significantly related to intentions or condom use in the model. The final model accounted for 20% of the variance in attitudes, 23% of the variance in perceived behavioral control, 34% in intentions, and 21% of the variance in condom use during casual sex.

**Casual condom use extended model.** The extended TPB model was then tested allowing for direct paths between the six distal variables to both intentions and condom use. Sexual excitation, sexual inhibition, and sensation seeking were deleted to the model because they were not significantly related to any of the TPB variables in the model. Attitudes and social norms were also deleted from the model because they were not
significantly related to intentions or condom use in the model. Based on suggested modification indices, extra paths were added from past behaviors to casual condom use and from past behavior and moral norms to intentions. The final extended model demonstrated a good fit with the data, $X^2(4, N = 154) = 5.32, p = .26; \text{CFI} = 0.99; \text{TLI} = 0.98; \text{RMSEA} = 0.05; \text{AIC} = 39.32$ (see Figure 7). The final extended model accounted for 33% of the variance in perceived behavioral control, 60% in intentions, and 25% of the variance in condom use during casual sex.

Casual contraception use sufficiency model. The initial TPB sufficiency model indicated a poor fit, $X^2(18, N = 154) = 101.99, p < .001; \text{CFI} = 0.78; \text{TLI} = 0.31; \text{RMSEA} = 0.18$. After deleting non-significant paths from the model, the final TPB sufficiency analysis still indicated an unacceptable fit to the data, $X^2(18, N = 154) = 141.48, p < .001; \text{CFI} = 0.62; \text{TLI} = 0.41; \text{RMSEA} = 0.21; \text{AIC} = 177.48$ (see Figure 8 for model and regression weights). Sexual excitation and sexual inhibition were deleted from the model because they were not significantly related to any of the TPB variables in the model. Attitudes was also deleted from the model because it was not significantly related to intentions or contraception use in the model. The final sufficiency model accounted for 9% of the variance in social norms, 28% of the variance in perceived behavioral control, 41% in intentions, and 7% of the variance in contraception use during casual sex.

Casual contraception use extended model. The extended TPB model was then tested allowing for direct paths between the six distal variables to both intentions and contraception use. Anticipated affect, sexual excitation, sexual inhibition, and sensation seeking were deleted from the model because they were not significantly related to any of the TPB variables in the model. Attitudes was also deleted from the model because it was
not significantly related to intentions or contraception use. Based on suggested modification indices, extra paths were added from past behaviors and moral norms to casual contraception use and from moral norms to intentions. The final extended model demonstrated an unacceptable fit with the data, $X^2(6, N = 154) = 25.71, p < .001; \text{CFI} = 0.93; \text{TLI} = 0.82; \text{RMSEA} = 0.15; \text{AIC} = 55.71$ (see Figure 9). The final model accounted for 9% of the variance in social norms, 26% of the variance in perceived behavioral control, 55% in intentions, and 24% of the variance in contraception use during casual sex.

**Casual dual use sufficiency model.** The initial TPB sufficiency model indicated a poor fit, $X^2(17, N = 154) = 126.13, p < .001; \text{CFI} = 0.76; \text{TLI} = 0.24; \text{RMSEA} = 0.21$. After deleting non-significant paths from the model, the final TPB sufficiency analysis still indicated an unacceptable fit to the data, $X^2(8, N = 154) = 102.95, p < .001; \text{CFI} = 0.74; \text{TLI} = 0.51; \text{RMSEA} = 0.28; \text{AIC} = 128.95$ (see Figure 10 for model and regression weights). Anticipated affect, sexual excitation, sexual inhibition, and sensation seeking were deleted from the model because they were not significantly related to any of the TPB variables in the model. Attitudes was also deleted from the model because it was not significantly related to intentions or dual use in the model. The final sufficiency model accounted for 21% of the variance in social norms, 32% of the variance in perceived behavioral control, 45% in intentions, and 31% of the variance in dual use during casual sex.

**Casual dual use extended model.** The extended TPB model was then tested allowing for direct paths between the six distal variables to both intentions and dual use. Anticipated affect and sensation seeking were deleted to the model because they were not
significantly related to any of the TPB variables in the model. Social norms was also
deleted from the model because it was not significantly related to intentions or dual use.
Based on suggested modification indices, extra paths were added from past behaviors and
sexual inhibition to casual dual use and from past behavior, moral norms, and sexual
excitation to intentions. The final extended model demonstrated a good fit with the data,
$\chi^2(15, N = 154) = 20.13, p = .17; \text{CFI} = 0.99; \text{TLI} = 0.97; \text{RMSEA} = 0.05; \text{AIC} = 62.13$
(see Figure 11). The model accounted for 5% of the variance in attitudes, 32% of the
variance in perceived behavioral control, 68% of the variance in intentions, and 38% of
the variance in dual use during casual sex.

**Relationship condom use sufficiency model.** The initial TPB sufficiency model
indicated a poor fit, $\chi^2(18, N = 240) = 263.74, p < .001; \text{CFI} = 0.75; \text{TLI} = 0.24; \text{RMSEA} = 0.24$. After deleting non-significant paths from the model, the final TPB sufficiency
analysis still indicated an unacceptable fit to the data, $\chi^2(21, N = 240) = 274.94, p < .001;$
$\text{CFI} = 0.73; \text{TLI} = 0.53; \text{RMSEA} = 0.23; \text{AIC} = 322.94$ (see Figure 12 for model and
regression weights). Sexual inhibition and sensation seeking were deleted from the model
because they were not significantly related to any of the TPB variables in the model. The
final model accounted for 46% of the variance in attitudes, 47% of the variance in social
norms, 29% of the variance in perceived behavioral control, 60% of the variance in
intentions, and 38% of the variance in condom use during relationship sex.

**Relationship condom use extended model.** The extended TPB model was then
tested allowing for direct paths between the six distal variables to both intentions and
condom use. Sensation seeking was deleted to the model because it was not significantly
related to any of the TPB variables in the model. Social norms was also deleted from the
Based on suggested modification indices, extra paths were added from past behaviors and anticipated affect to relationship condom use and from past behavior, moral norms, anticipated affect, and sexual inhibition to intentions. The final extended model demonstrated a good fit with the data, $\chi^2(15, N = 240) = 32.04, p = .01; \text{CFI} = 0.99; \text{TLI} = 0.97; \text{RMSEA} = 0.05; \text{AIC} = 92.04$ (see Figure 13). The final extended model accounted for 18% of the variance in attitudes, 31% of the variance in perceived behavioral control, 70% in intentions, and 65% of the variance in condom use during relationship sex.  

**Relationship contraception use sufficiency model.** The initial TPB sufficiency model indicated a poor fit, $\chi^2(18, N = 240) = 258.05, p < .001; \text{CFI} = 0.70; \text{TLI} = 0.09; \text{RMSEA} = 0.21$. After deleting non-significant paths from the model, the final TPB sufficiency analysis still indicated an unacceptable fit to the data, $\chi^2(14, N = 240) = 122.36, p < .001; \text{CFI} = 0.81; \text{TLI} = 0.61; \text{RMSEA} = 0.18; \text{AIC} = 166.36$ (see Figure 14 for model and regression weights). Sexual excitation and past behavior were deleted from the model because they were not significantly related to any of the TPB variables in the model. Attitudes was also deleted from the model because it was not significantly related to intentions or contraception use in the model. The final sufficiency model accounted for 20% of the variance in social norms, 24% of the variance in perceived behavioral control, 43% in intentions, and 28% of the variance in contraception use during relationship sex.  

**Relationship contraception use extended model.** The extended TPB model was then tested allowing for direct paths between the six distal variables to both intentions and contraception use. No variables were deleted from the model although a direct path
was added between attitudes and contraception use. Based on suggested modification indices, extra paths were also added from past behaviors, moral norms, and sexual inhibition to relationship contraception use and from past behavior, moral norms, and sensation seeking to intentions. The final extended model demonstrated an unacceptable fit to the data, $X^2(26, N = 240) = 124.92, p < .001$; CFI = 0.88; TLI = 0.74; RMSEA = 0.13; AIC = 204.92 (see Figure 15). The final model accounted for 18% of the variance in attitudes, 19% of the variance in social norms, 23% of the variance in perceived behavioral control, 61% of the variance in intentions, and 50% of the variance in contraception use during relationship sex.

**Relationship dual use sufficiency model.** The initial TPB sufficiency model indicated a poor fit, $X^2(18, N = 240) = 261.43, p < .001$; CFI = 0.74; TLI = 0.22; RMSEA = 0.24. After deleting non-significant paths from the model, the final TPB sufficiency analysis still indicated an unacceptable fit to the data, $X^2(20, N = 240) = 262.95, p < .001$; CFI = 0.70; TLI = 0.46; RMSEA = 0.23; AIC = 312.95 (see Figure 16 for model and regression weights). Anticipated affect and sexual excitation were deleted from the model because they were not significantly related to any of the TPB variables in the model. The final sufficiency model accounted for 17% of the variance in attitudes, 22% of the variance in social norms, 26% of the variance in perceived behavioral control, 43% in intentions, and 40% of the variance in dual use during casual sex.

**Relationship dual use extended model.** The extended TPB model was then tested allowing for direct paths between the six distal variables to both intentions and dual use. Anticipated affect, sexual inhibition, and sensation seeking were deleted to the model because they were not significantly related to any of the TPB variables in the
model. Attitudes was also deleted from the model because it was not significantly related to intentions or dual use. Based on suggested modification indices, extra paths were added from past behaviors to relationship dual use and from past behavior, moral norms, and sexual excitation to intentions. The final extended model demonstrated an acceptable fit with the data, $X^2(9, N = 240) = 16.30, p = .06$; CFI = 0.99; TLI = 0.98; RMSEA = 0.06; AIC = 77.41 (see Figure 17). The model accounted for 20% of the variance in social norms, 26% of the variance in perceived behavioral control, 73% in intentions, and 54% of the variance in dual use during relationship sex.

**Discriminant Function Analyses**

Six stepwise discriminant analyses were performed to determine if intention certainty, intention stability, condom use planning and preparatory behaviors, mood before/during the sexual experience, sexual arousal, substance use, and perceived partner attractiveness can discriminate among 1) those who intended to engage in each of the three safe sex behaviors and did engage in such behavior and 2) those who intended to engage in each type of safe sex behavior and did not engage in such behavior based on respondents’ last sexual event over the past 2 months. All participants who did not engage in either casual sex or relationship sex were removed from the analyses. Intentions was recoded into a dichotomous variable with those who are above the midpoint in intentions (score >12) to engage in each behavior labeled as “intenders” for the study. Then the “intenders” were divided into those who engaged in the sexual behavior and those who did not at the last sexual event. See Table 22 for a summary of all the discriminant function analyses.
**Frequencies.** Descriptive data revealed that of those who intended to engage in each behavior with a casual partner, 10.4% failed to use contraception, 28.4% failed to use a condom, and 54.9% failed to engage in dual use during their last sexual encounter. For those who intended to engage in each behavior with a relationship partner, 7.2% failed to use contraception, 29.7% failed to use a condom, and 49% failed to engage in dual use.

**Casual sex condom use.** Two cases were removed after running diagnostics. The stepwise discriminant function analysis for casual condom use generated one significant function, Wilks’s lambda = .70, $\chi^2(2, N = 116) = 40.26, p < .001$. Condom use explained 30% of the variability of the function. Only two of the seven variables—condom preparatory behaviors and intention certainty—were entered into the function. The correlation coefficients and standardized function coefficients show that both variables were closely related to the function (see Table 18). The function was labeled Preparation and Certainty of Condom Use. It was calculated that based on the group sizes, 59.3% of the youth would be correctly classified by chance. Classification results revealed that the original grouped cases were classified with 79.3% overall accuracy. Accuracy was 48.5% for those who did not use a condom and 91.6% for those who used a condom. The cross-validated results supported original accuracy level with 79.3% correctly classified overall. The group means for the function indicated that students with fewer condom preparatory behaviors and lower intention certainty were likely to be classified as not having used a condom (see Table 20).

**Casual sex contraception use.** Two cases were removed after running diagnostics. The stepwise discriminant function analysis for casual contraception use
generated one significant function, Wilks’s lambda = .79, $\chi^2(3, N = 115) = 34.36, p < .001$. Condom use explained 26.5% of the variability of the function. Three of the seven variables—sexual arousal, intention stability, and intention certainty—were entered into the function. The correlation coefficients and standardized function coefficients reveal that all three variables were similarly related to the function (see Table 18). The function was labeled Intention Accuracy and Arousal. It was calculated that based on the group sizes, 81.3% of the youth would be correctly classified by chance. Classification results revealed that the original grouped cases were classified with 91.3% overall accuracy. Accuracy was 33.3% for those who did not use contraception and 98.1% for those who did use contraception. The cross-validated results revealed a slightly lower accuracy level with 33.3% for those who did not use contraception, 96.1% for those who used contraception, and 89.6% overall. The group means for the function indicated that youth with lower sexual arousal, intentional certainty, and intention stability were likely to be classified as not having used contraception (see Table 20).

Casual sex dual use. The stepwise discriminant function analysis for casual dual use generated one significant function, Wilks’s lambda = .74, $\chi^2(3, N = 91) = 26.51, p < .001$. Dual use explained 26.1% of the variability of the function. Three of the seven variables—condom preparatory behaviors, intention stability, and intention certainty—were entered into the function. The correlation coefficients and standardized function coefficients show that the three variables were the most related to the function (see Table 18). The function was labeled Condom Intention Accuracy and Preparation. It was calculated that based on the group sizes, 50.5% of the youth would be correctly classified by chance. Classification results revealed that the original grouped cases were classified
with 74.7% overall accuracy. Accuracy was 76% for those who did not use a condom and another contraceptive method and 73.2% for those who did. The cross-validated results revealed a slightly lower accuracy level with 74% for those who did not engage in dual use, 73.6% for those who engaged in dual use, and 73.6% correctly classified overall. The group means for the function indicated that youth with high condom preparatory behaviors scores, intention stability, and intention certainty were likely to be classified as those who engaged in dual use during their last casual sex encounter, and those with lower scores on these three variables were likely to be classified as not having engaged in dual use (see Table 20).

**Relationship sex condom use.** Three cases were removed after running diagnostics. The stepwise discriminant function analysis for casual condom use generated one significant function, Wilks’s lambda = .68, $\chi^2(2, N = 182) = 69.54, p < .001$. Condom use explained 32% of the variability of the function. Only two of the seven variables—condom preparatory behaviors and intention stability—were entered into the function. The correlation coefficients and standardized function coefficients show that condom preparatory behaviors and intention stability were most closely related to the function (see Table 19). The function was labeled Preparation and Intention Accuracy to Use a Condom. It was calculated that based on the group sizes, 58.3% of the youth would be correctly classified by chance. Classification results revealed that the original grouped cases were classified with 80.2% overall accuracy. Accuracy was 57.4% for those who did not use a condom and 89.8% for those who used a condom. The cross-validated results was slightly lower than the original accuracy level with 51.9% for those who did not use a condom, 89.8% for those who did use a condom, and 79.3% correctly classified
overall. The group means for the function indicated that students who engaged in fewer condom preparatory behaviors and had lower intention stability were likely to be classified as not having used a condom (see Table 20).

**Relationship sex contraception use.** Five cases were removed after running diagnostics. The stepwise discriminant function analysis for relationship contraception use generated one significant function, Wilks’s lambda = .86, $\chi^2(3, N = 222) = 32.71, p < .001$. Contraception use explained only 13.9% of the variability of the function. Three of the seven variables—sexual arousal, intention stability, and intention certainty—were entered into the function. The correlation coefficients and standardized function coefficients show that intention certainty, intention stability, and sexual arousal were most closely related to the function (see Table 19). The function was labeled Intention Accuracy and Arousal. It was calculated that based on the group sizes, 86.7% of the youth would be correctly classified by chance. Classification results revealed that the original grouped cases were classified with 92.3% overall accuracy. Accuracy was 31.2% for those who did not use contraception and 97.1% for those who used contraception. The cross-validated results were revealed a slightly lower accuracy level with 18.8% for those who did not use contraception, 96.1% for those who used contraception, and 90.5% overall. The group means for the function indicated those with lower sexual arousal, intention certainty, and intention stability were likely to be classified as not having used contraception (see Table 20).

**Relationship sex dual use.** The stepwise discriminant function analysis for relationship dual use generated one significant function, Wilks’s lambda = .67, $\chi^2(4, N = 157) = 61.23, p < .001$. Dual use explained 33.1% of the variability of the function. Four
of the seven variables—condom preparatory behaviors, mood, intention stability, and intention certainty—were entered into the function. The correlation coefficients and standardized function coefficients show that intention stability, condom preparatory, affect, and intention certainty was most closely related to the function (see Table 19). The function was labeled Preparation and Intention Accuracy to Use a Condom. It was calculated that based on the group sizes, 50% of the youth would be correctly classified by chance. Classification results revealed that the original grouped cases were classified with 76.4% overall accuracy. Accuracy was 71.2% for those who did not use a condom and another contraceptive method and 81.8% for those who did. The cross-validated results revealed a slightly lower accuracy level with 68.8% for those who did not engage in dual use, 79.2% for those who engaged in dual use, and 73.9% correctly classified overall. The group means for the function indicated that students who had a more positive mood, engaged in more preparatory behaviors scores, higher intention stability, and higher intention certainty were likely to be classified as those who used engaged in dual use during their last relationship sex encounter, and those with lower scores on these four variables were likely to be classified as not having engaged in dual use (see Table 20).

Discussion

Given that college students are an at-risk population for sexual risk behaviors which can lead to unintended pregnancies and sexually transmitted infections, the current study sought to examine the ability of the TPB to predict sexual risk taking. The TPB has been shown to be effective in predicting sexual risk behaviors (e.g., Albarracín et al., 2001; Godin & Kok, 1996), and past research has shown that the addition of outside variables can increase the predictive ability of the TPB (e.g., Albarracín et al., 2001;
Conner & Armitage, 1998; Beadnell et al., 2007). Therefore, extended models of the TPB were used to predict safe sex/risky behaviors with both relationship and casual partners in college students over a 2-month period to examine whether or not six additional variables had direct effects on intentions and behavior. A secondary and more exploratory goal of the current study was to examine the intention-behavior relationship in those who intended to engage in safe sex behaviors.

The current study did not support the ability of the TPB model alone in successfully predicting safe sex/risky sexual behaviors. In fact, none of the seven TPB sufficiency models were found to adequately fit the data. However, the current study found support for the use of extended versions of the TPB with at least a few of the additional variables having direct effects on intentions and/or behavior in each of the extended TPB models. All of the extended TPB models were found to have a good fit to the data except those predicting contraception use with casual and relationship partners. It is likely that these two models were not found to have an adequate fit because only a small percentage of students did not use contraception in the current study. Although none of the sufficiency models were found to have an adequate fit, the AIC values clearly indicate that the extended models provided a better fit to the data in the sample than the sufficiency models (with the exception of relationship contraception use). The sufficiency models accounted for 34% to 60% of the variance in intentions and 7% to 40% of the variance in behavior, whereas the extended models accounted for 55% to 73% of the variance in intentions and 24% to 65% of the variance in behavior.

The results from the current study support the addition of variables to the TPB model that are both supported by the literature as correlates of risky sexual behaviors and
which are specific to the predicted behavior. Past behavior, anticipated affect, and moral norms (as well as the original TPB variables) were all measured separately and specifically for each sexual behavior, and were found to have stronger relationships with both intentions and behaviors across analyses compared to sexual inhibition, sexual excitation, and sensation seeking which are more general personality traits. Past behavior had a direct relationship with each of the five predicted behaviors in the good-fitting models, which is consistent with previous research showing that it accounts for additional variance beyond the contributions of the TPB variables (e.g., Albarracín et al., 2001; Gallois et al., 1994). Past behavior was the only consistent additional variable to directly predict behavior in the presence of the other variables and had a stronger relationship with behavior than did intentions in the models predicting casual sex and relationship condom use. Also of note, both past behavior and moral norms had a direct relationship with intentions in all five of the extended TPB models with a good fit.

In all five analyses demonstrating a good fit, the additional variables showed both indirect and direct effects, supporting the use of the extended models. Past engagement in the behavior, positive anticipated affect, higher moral norms, and higher sexual inhibition were generally positively related to intentions and engagement in safe sex behaviors, while higher sexual excitation and sensation seeking were generally negatively related. The directionality of these relationships is, of course, a bit different in the prediction of casual sex and is based on the scoring of each variable in relation to this risk behavior (e.g., for instance moral norms is negatively related to intentions to engage in casual sex because higher moral norms is related to stronger beliefs that casual sex should be avoided). Past behavior had a direct effect on intentions and behavior in all five SEM
analyses resulting in a good fit. Anticipated affect had a direct effect on intentions in predicting casual sex and relationship condom use and a direct effect on behavior when predicting relationship condom use. Moral norms had a direct effect on intentions when predicting all five behaviors. Sexual excitation had a direct effect on intentions in predicting both casual and relationship dual use. Sexual inhibition had a direct effect on intention in predicting relationship condom use and on behavior in predicting casual dual use. Sensation seeking did not have a direct relationship with intentions or behaviors in any of the five models with a good fit.

Although an exploration of each of the significant variables for each analysis is beyond the intended scope of the current study, some general trends were noted. Past behavior and intentions were the strongest predictors of behavior. Past behavior and moral norms were the only two distal variables that consistently improved model fit and were included across all the extended models. Sensation seeking was arguably the weakest predictor and was excluded in all of the five models. Of attitudes, social norms, and perceived behavioral control, only perceived behavioral control remained in all of the models once the distal variables were allowed to have direct paths to intentions and behavior. Unlike behaviors such as wearing one’s seatbelt or flossing one’s teeth, the measured sexual behaviors are complex behaviors that involve another person, are often unplanned, and generally provoke some degree of affect and arousability, which likely makes one’s level of control (whether actual or just perceived) very important. None of the five extended models included the same set of variables, indicating that researchers should not assume that the same set of predictors are equally predictive of each safe sex/risky sexual behavior. Similarly, the importance of separating behaviors by partner
type is highlighted in these analyses as both the rates of engagement and predictive variables are different for casual and relationship partners. This finding of partner type differences is consistent with previous research which has found that partner type can affect the strength of the relationship between TPB variables and sexual risk behaviors (Baker et al., 1996; Maticka-Tyndale & Herold, 1999; Morrison et al., 1995). Separating analyses by sex would likely also show differences in model fit and predictive ability, however; the current sample was not large enough to allow for such analyses.

Although intentions was amongst the strongest predictors of safe sexual practices across the SEM analyses, the data show that even among those with intentions to engage in a safe sex behavior, between 7% and 55% did not do so at their last sexual encounter. These data underscore the importance of being able to increase the predictability of behaviors beyond using only intentions. The six discriminant function analyses examining the intention-behavior relationship were able to correctly classify between 74% and 92% of the participants concerning whether or not intenders engaged in safe sex behaviors or not. When taking group sizes into account, the ability to accurately classify students into those who engaged and did not engage increased by 6% to 26% beyond chance alone. Although the functions were able to increase predictability over chance and in most cases also over intentions alone (45% to 93% in the current study), the predictive ability in the current study would not be very impressive in the context of a clinical intervention.

The variables that best discriminated between behavior engagement or not over the six analyses were intention stability, intention certainty, and engagement in condom preparatory behaviors. Sexual arousal was found to aid in discriminating amongst casual
and relationship contraception intenders while mood was helpful in discriminating amongst relationship dual use intenders. Consistent with past literature, increased intention stability (e.g., Conner et al., 2002; Conner et al., 2000), greater intention certainty (e.g., Sheeran & Abraham, 2003), more condom preparatory behaviors (Abraham et al., 1999; Bryan et al., 2002), and being in a more positive mood at the time of the encounter (Bartz et al., 2007; MacDonald & Martineau, 2002) are related to increased use of safe sex behaviors. Unexpectedly, increased sexual arousal was related to increased contraception use for both casual and relationship partners. The only known study of the impact of sexual arousal on condom use found a direct negative relationship (Boldero et al., 1992); however, no known studies have examined it in relation to all types of contraception use. Perhaps students who were more aroused were cued by the arousal to use a contraceptive method or perhaps those who subjectively experience more arousal are more prepared in general to have sex (for instance these students may be more likely to carry condoms and women may be more likely to use birth control that require preparation such as pills, injections, and patches). Substance use and perceived partner attractiveness did not add to the discriminative ability of the other four variables in separating those who engaged in safe sex behavior and those who did not. It should be noted that this is the first known study to examine intention stability and intention certainty in relation to sexual risk behaviors and is the first time all of these variables have been examined in relation to sexual risk intention-behavior consistency except condom preparatory behaviors. Therefore these relationships are more exploratory than confirmatory.
There are a few limitations to the current study. The generalizability of the present study is limited due to the use of a convenience sample of undergraduate students from a medium-sized Midwestern university, which is fairly homogeneous. The current study also relied on the use of a self-report survey which can be subject to participation bias, inaccurate interpretations of the questions, and memory distortion. There were considerably more females in the study than males which may have affected the results. Also, there were not enough participants in the current sample to split analyses by gender. Lastly, given that only 16.9% and 17.1% of those who had sex with casual and relationship partners, respectively, over the 2 months reported a “4” on a 1 to 7 scale of how often they used contraception, the low percentage of those who did not use contraception may have affected the ability of the structural equation models to adequately predict contraception use. Similarly, of those who intended to use contraception only 10.4% and 7.2% of students did not for casual and relationship partners, respectively, which may have affected the ability of the discriminant function analyses to adequately classify participants. It should also be noted that although this is a prospective study, the reported intentions at Time 2 were likely influenced by participants’ actual behavior over the quarter which likely affected the variable intention stability.

The current study provides support for the utility of an extended version of the TPB in predicting sexual risk behaviors in college students. Future research on the TPB in relation to sexual risk taking should consider the addition of the significant variables in the current study to improve predictive ability. This study also highlights the need for behavior-specific variables and the need to separate analyses by both risk behavior and
behavior type. Future researchers should also consider extending the current research by collecting enough data to either separate analyses by gender or do a comparison by gender using structural equation modeling.

The current research also supports the notion that although intentions are important and are a major variable in several theoretical models of behavior (e.g., Theory of Reasoned Action, Azjen & Fishbein, 1980; TPB, Azjen, 1985; 1991; Triandis Theory of Interpersonal Behavior, Triandis, 1980), they are often not sufficient alone in predicting behavior. Additional variables were found to have direct effects on five of the seven behaviors and the addition of extra variables was able to explain more variance in behavior prediction than intentions alone. There is a paucity of investigations specifically focused on the intention-behavior relationship in sexual risk taking and thus these results are more exploratory than confirmatory in nature. Future research should replicate these analyses in other samples and possibly include other variables that may improve the prediction of behavior.

Although the current research is perhaps not directly applicable to sexual risk prevention and intervention programs, it is hoped that these findings may be used to inform the content and implementation of such programming. For instance, this study indicates the need to discuss specific behaviors in the context of both relationship and casual partners and that simply changing attitudes or intentions may not lead to behavioral change. This study also provides further support for the use of the TPB in predicting sexual risk behaviors. Currently, on most college campuses, there are no well-implemented theory-based STI or HIV prevention or intervention programs in place (e.g., Jaworski & Carey, 2001). However, research has indicated that many prevention and
intervention programs, especially those that are theoretically based and focus on behavioral skills, have had some positive, lasting effects in reducing STI and HIV risk behaviors among college students and other populations (e.g., Albarracín et al., 2005; Jaworski & Carey, 2001; Kamb et al, 1998; Kirby et al., 2007; Sikkema et al., 1995; Wolitski et al, 2006).

Although the current results suggest a number of variables that may be important for intervention efforts, some are likely going to be more difficult to affect than others. For instance, past behavior cannot be changed, while moral norms, sensation seeking, sexual excitation and sexual inhibition are unlikely to be greatly impacted by any short-term programming. The influence of past behavior, in particular, on future behavior engagement underlies the need for prevention efforts. However, anticipated affect, attitudes, social norms, and perceived behavior control may be more amendable to change. All of these variables had a direct relationship with intentions and therefore changing them may then affect intentions and through intentions affect behavior as well. Given that perceived behavior control was a consistent predictor of intentions in all the good-fitting models, this may be a particularly important variable to examine in relation to sexual risk taking intervention and prevention efforts. It is theorized to take into account both external (e.g., availability, practice, support, resources) and internal factors (e.g., information, skills, knowledge) that make it easier or more difficult to perform a given behavior (e.g., Ajzen, 1991). Such intervention and prevention efforts could focus on increasing control and self-efficacy by providing information (e.g., how to use contraceptive methods), practicing skills (e.g., applying condoms, assertiveness, safe sex communication strategies), and providing one with knowledge concerning available
resources in their community (e.g., clinic that offers free condoms). It is hoped that the current study and other research supporting the effectiveness of the TPB in both predicting and preventing sexual risk behaviors (e.g., Albarracín et al., 2005; Albarracín, Durantini, & Earl, 2006; Godin et al., 1996; Kirby et al., 2007) will inform practice and aid in the content and implementation of successful college programming in sexual risk prevention and intervention.
References


Appendix A-1
Informed Consent – Time 1 & 2
Ohio University Consent Form

Title of Research: Social Behaviors and Personality
Researcher: Jessica A. Turchik, M.S.

You are being asked to participate in research. For you to be able to decide whether you want to participate in this project, you should understand what the project is about, as well as the possible risks and benefits in order to make an informed decision. This process is known as informed consent. This form describes the purpose, procedures, possible benefits, and risks. It also explains how your personal information will be used and protected. Once you have read this form and your questions about the study are answered, you will be asked to sign it. This will allow your participation in this study. You should receive a copy of this document to take with you.

Explanation of Study
The purpose of these procedures is to examine a variety of social, sexual, and personality characteristics in college students.

This is a two-part study. The first session should take approximately one hour. You will be asked to fill out questionnaires concerning sexual experiences, social behaviors and personality characteristics. All participants will be asked to return for an eight-week follow up. This session will involve filling out a few surveys concerning social and sexual behaviors and should take only 15-20 minutes.

Risks and Discomforts
The primary risk is that participants may experience discomfort in discussing personal or private information. However, any disclosure is completely voluntary.

Benefits
The study can help further research in the field of sexual health by providing a better understanding of sexual behavior. Potential benefits of participation in the program for participants may include a greater awareness of their own sexual or social behaviors, and possibly a want to change any emotionally or physically harmful behaviors. Participants will also be exposed to the conduct of scientific research and will be able to be a part of the research process.
**Confidentiality and Records**

Every effort will be made by the research to protect the confidentiality of each individual concerning their responses. Confidentiality of written responses will be protected by the private calculation of a personal subject number. Participants will be asked to recalculate this each time you participate. All raw data will be kept in a locked file cabinet. These procedures are implemented in order to protect the rights and privacy of the participants.

Additionally, while every effort will be made to keep your study-related information confidential, there may be circumstances where this information must be shared with:

* Federal agencies, for example the Office of Human Research Protections, whose responsibility is to protect human subjects in research; and

* Representatives of Ohio University (OU), including the Institutional Review Board, a committee that oversees the research at OU.

**Compensation**

You will receive one credit point for participating in the first session. At the end of session two, participants will be given another credit point toward their research requirement in their psychology class for participation in the second part of the study.

**Contact Information**

If you have any questions regarding this study, please contact Jessica Turchik, the principal investigator, at jt865504@ohio.edu or Dr. Christine Gidycz at (740) 593-1092 or by e-mail gidycz@ohiou.edu.

If you have any questions regarding your rights as a research participant, please contact Jo Ellen Sherow, Director of Research Compliance, Ohio University, (740)593-0664.

By signing below, you are agreeing that:

- you have read this consent form (or it has been read to you) and have been given the opportunity to ask questions
- known risks to you have been explained to your satisfaction.
- you understand Ohio University has no policy or plan to pay for any injuries you might receive as a result of participating in this research protocol
- you are 18 years of age or older
- your participation in this research is given voluntarily
- you may change your mind and stop participation at any time without penalty or loss of any benefits to which you may otherwise be entitled.
Signature ___________________________ Date ____________

Printed Name ____________________________
Appendix A-2
Debriefing Form (Time 1)

Thank you for your participation in this research project. The study’s objective is to examine people’s personal and social life events, including psychological, social, and sexual experiences. As such, the current study utilized a larger number of questionnaires in order to assess a wide range of social, sexual and personality variables.

The information provided by these questionnaires will help us in understanding how past, current, and future experiences are related to each other and to a variety of social, sexual and personality factors.

This is a two-part study. Therefore, you will be asked to return to participate in a follow-up session in eight weeks.

As a reminder, all of your questionnaire responses will remain strictly confidential. If you have any further questions regarding the nature of this study, or would like to request details of the results of the study, please feel free to contact one of the following:

Graduate Researcher: Jessica Turchik
Porter Hall – Office 44E
jt865504@ohio.edu

Faculty Researcher: Dr. Christine Gidycz
Porter Hall - Office 231
593-1092

In addition, if you are concerned about the study materials used or questions asked and wish to speak with a professional, please contact one of the following resources:

Ohio University Counseling and Psychological Services (CPS) 593-1616
- Campus Agency that can give further assistance or information
Tri-County Mental Health Services 592-3091
- Community agency that can provide assistance or information
Hudson Health Center – Ohio University’s Student Health Service 593-1660
Sexual Abuse Examiners Phone 593-5551

**Operating Hours:** Mon. through Fri. 8am - 4:30pm, except Thursday 9am - 4:30pm
Hours are slightly different in the summer and during winter and spring breaks. Closed on university holidays.

Department of Health Education and Wellness 593-4742
• Located at 233 Hudson Health Center
• Information on STIs, sexual health, sexual assault prevention & other issues
• Offers Sexual Health Seminars

Planned Parenthood (1005 East State Street, Athens) 593-3375
• Provides a wide array of services including gynecological exams, birth control, emergency contraception, pregnancy testing, pregnancy options education, STI testing/treatment, anonymous HIV testing and more
Appendix A-3
Debriefing Form (Time 2)

Thank you for your participation in this research project. The study’s objective is to gain a better understanding of the relationship between social factors, attitudes, personal beliefs, personality factors, and sexual behavior. The information provided by these questionnaires will help psychology researchers and clinicians learn more about the relationship between various different constructs. In doing so, psychologists will better be able to better understand a variety of relationship and attitude factors.

One reason that sexual research is so important in college students is the high rates of sexual risk taking that occurs in this population. Sexual risk taking can have very serious personal and social consequences, such as unintended pregnancies and STIs, including HIV. By developing a better measure of sexual risk taking behaviors, more effective prevention and intervention programs can be developed to deal with these issues.

As a reminder, all of your questionnaire responses will remain strictly confidential. If you have any further questions regarding the nature of this study, or would like to request details of the results of the study, please feel free to contact one of the following:

Graduate Researcher: Jessica Turchik
Porter Hall – Office 44E
jt865504@ohio.edu

Faculty Researcher: Dr. Christine Gidycz
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Department of Health Education and Wellness  593-4742

- Located at 233 Hudson Health Center
- Information on STIs, sexual health, sexual assault prevention & other issues
- Offers Sexual Health Seminars

Planned Parenthood (1005 East State Street, Athens)  593-3375

- Provides a wide array of services including gynecological exams, birth control, emergency contraception, pregnancy testing, pregnancy options education, STI testing/treatment, anonymous HIV testing and more
Appendix B-1
Subject Number Calculation Form (TIME 1)

Please write down the last 4 digits of your social security number: _____ _____ _____ _____

Record the month and day of your birth date. Add this 4 digit figure to your SS # above. If the month or day is only 1 digit, please put a '0' in the first space. For example, if you were born on January 1, you should record it as '01/01':

+ _____ / _____
   M      M      D      D

Add a "0" at the beginning if it's only 4 numbers long, so that it is 5 digits.
= _____ _____ _____ _____

Add the number of letters in your mother's FULL FIRST name. Do not use nicknames. For example, if your mother's first name is Christine, but she goes by the nickname Chris, you should record it as ‘09’, the number of letters in CHRISTINE.: 

+ _____

______

Make sure your number is 5-digits long. Add a zero if it is only 4. Please record this number on the surveys.

Please check over your calculations. Next time you come in you will fill this sheet out again and should be able to get the same 5-digit number.

Please put this sheet back in the manila envelope provided. Fill out all questionnaires. If you have any questions, please ask the researcher.
Appendix B-2
Subject Number Calculation Form (TIME 2)

Please write down the **last 4 digits** of your social security number: _____  _____  _____  _____

Record the **month** and **day** of your birth date. Add this **4 digit** figure to your SS # above. If the month or day is only 1 digit, please put a '0' in the first space. For example, if you were born on January 1, you should record it as '01/01':

\[ \text{+ } ____ / ____ \]
\[ \text{M M D D} \]

________________________________

Add a "0" at the beginning if it's only 4 numbers long, so that it is 5 digits.

\[ = _____  _____  _____  _____  _____ \]

Add the number of letters in your mother's **FULL FIRST** name. Do not use nicknames. For example, if your mother's first name is Christine, but she goes by the nickname Chris, you should record it as ‘09’, the number of letters in CHRISTINE.: 

\[ \text{+ } ____ \]

________________________________

____ ____ ____ ____ ____

Make sure your number is 5-digits long. Add a zero if it is only 4. Please record this number on the surveys.

Please go back and check your calculations. This number needs to match the number you calculated last time.

Please put this sheet back in the manila envelope provided. Fill out all questionnaires. If you have any questions, please ask the researcher.
Appendix C-1

Demographics Questionnaire

1. What is your age?
   A. 18  D. 21  G. 24
   B. 19  E. 22  H. 25
   C. 20  F. 23  I. over 25

2. What is your sex?
   A. Male
   B. Female

3. What is your current year in school?
   A. First Year  D. Senior
   B. Sophomore  E. Graduate
   C. Junior  F. Other

4. What is your race?
   A. American Indian or Alaska Native  E. White/Caucasian
   B. Asian  F. Multiracial
   C. Black or African American  G. Middle Eastern
   D. Native Hawaiian or Other Pacific Islander  H. Other _______________

5. What is your ethnicity?
   A. Hispanic or Latino
   B. Not Hispanic or Latino

6. In what religion were you raised?
   A. Catholic (Christian)  E. None/Atheist
   B. Protestant (Christian)  F. Muslim
   C. Jewish  G. Buddhist
   D. Nondenominational  H. Other ______________

7. What is your sexual orientation?
   A. Heterosexual
   B. Homosexual
   C. Bisexual

8. What is your current marital status?
   A. Never married  C. Divorced
   B. Married  D. Widowed
9. What is your current dating status?  
   A. I do not date.  
   B. Currently, I am not seeing anyone but I am looking.  
   B. I date a lot of different people  
   C. I date only a couple of the same people  
   D. I date only one person  
   E. I am involved in a long-term monogamous relationship (more than 6-months)  
   F. I am engaged.  
   G. I am married.

10. Are you currently involved in an exclusive romantic/dating relationship or marriage?  
    A. Yes  
    B. No

11. Have you ever cheated on your current partner?  
    A. N/A – do not have an exclusive partner  
    B. Yes, it was kissing/making out with another person (no sex)  
    C. Yes, it was oral sex with another person (did not include vaginal/anal sex)  
    D. Yes, and it included vaginal and/or anal sex with another person  
    E. No, I've never cheated on my current partner

12. Have you ever cheated on a partner (had oral, vaginal or anal sex with another person)?  
    A. Yes  
    B. No

13. How old were you when you first willingly had sexual intercourse (vaginal sex)?  
    A. I have never willingly had sexual intercourse  
    B. 13 years or younger  
    C. 14  
    D. 15  
    E. 16  
    F. 17  
    G. 18  
    H. 19 years or older

14. How many partners have you had sexual intercourse with?  
    A. 0  
    B. 1 - 2  
    C. 3 - 4  
    D. 5 - 7  
    E. 8 -10  
    F.11-15  
    G. 15 – 20  
    H. 21-25  
    I. 26 – 35  
    J. 36 - 50  
    K. over 50
15. Did you use a condom or birth control the last time you had sexual intercourse?
A. N/A – I have never had vaginal sex
B. No
C. My partner and I used a condom
D. I used a birth control method only (not a condom)
E. My partner and I used both a condom and another form of birth control method
F. Don't know

16. What type of birth control method (if any) do you or your usual partner typically use?
A. I have sexual intercourse but do not usually use birth control
B. I am abstinent (do not have sexual intercourse)
C. I am a lesbian and do not have sexual intercourse
D. Male Condoms (regular condoms that cover the penis)
E. Female Condoms (condoms for women that are inserted into the vagina)
F. Withdrawal method (take out penis from vagina before ejaculation—"pulling out")
G. Diaphragm
H. Birth Control Pill/Patch
I. Norplant implant
J. Depo-Provera (an injected hormonal birth control)
K. IUD
L. Cervical Cap
M. Spermicide (only)
N. Contraceptive Sponge
O. Vaginal Cap
P. Other ______________
Q. Don't know

17. How old were you when you first willingly had oral sex?
A. I have never willingly had oral sex
B. 13 years or younger
C. 14
D. 15
E. 16
F. 17
G. 18
H. 19 years or older

18. How many partners have you had oral sex with?
A. 0       F. 11-15       K. 51 - 75
B. 1 - 2   G. 15 – 20     L. 75+
C. 3 - 4   H. 21-25
D. 5 - 7   I. 26 – 35
E. 8 -10   J. 36 - 50
19. How old were you when you first willingly had anal sex?
   A. I have never willingly had anal sex
   B. 13 years or younger
   C. 14
   D. 15
   E. 16
   F. 17
   G. 18
   H. 19 years or older

20. How many partners have you had anal sex with?
   A. 0               F. 11-15         K. over 50
   B. 1 - 2         G. 15 – 20
   C. 3 - 4         H. 21-25
   D. 5 - 7          I. 26 – 35
   E. 8 - 10        J. 36 - 50

21. How many total consensual (not forced) sex partners (vaginal/anal/oral) have you had?
   A. 0  E. 7–10  I. 20 – 25  M. 75 - 100
   B. 1 - 2  F. 10 – 12  J. 26 – 35  N. 100+
   C. 3 - 4  G. 13-15  K. 36 - 50
   D. 5 - 7  H. 16 – 20  L. 50 - 75

22. Have you ever felt that you were pressured or coerced into having sex (oral/anal/vaginal) with someone when you really didn't want to?
   A. Yes
   B. No

23. Have you ever been forced to have sex (oral/anal/vaginal) with someone?
   A. Yes
   B. No

24. How many consensual partners have you engaged in sexual behavior with (but not sexual intercourse)?
   A. 0               F. 11-15         K. 51 - 75
   B. 1 - 2         G. 15 – 20         L. 75+
   C. 3 - 4         H. 21-25
   D. 5 - 7          I. 26 – 35
   E. 8 - 10        J. 36 - 50

25. If you have not had vaginal or anal sex (if you are a lesbian also include oral sex) with someone, what are you reasons for not engaging in sex? (Circle the best reason).
A. I have had anal or vaginal sex
B. I am a lesbian and have had oral sex
C. I am waiting until marriage
D. I am waiting until long term relationship/commitment
E. I have not found the right person
F. I have not found someone I love yet
G. My partner(s) will not have sex with me, but I want to
H. I have not had the opportunity to, but want to
I. I am afraid or getting pregnant or getting someone pregnant
J. I am afraid of getting a sexually transmitted infection
K. I do not want to ever have sex
L. Other ________________________________

26. Do you experience any of the following sexual problems at least 25% of the time during sexual situations (circle all that apply):
A. Lack of Sexual Desire
B. Difficulty getting or keeping an adequate erection until end of sexual activity (males only)
C. Premature Ejaculation, ejaculating early (males only)
D. Inability to ejaculate (males only)
E. Lack of orgasm
F. Aversion to sexual contact with partners, don't want sexual contact
G. Pain associated with sex
H. Difficulty getting or keeping adequately lubricated ("wet") during sex (females only)
I. Tightening of the vaginal muscles that interferes with sex (females only)

27. How often do you have sexual fantasies (daydreams that are sexually or romantically pleasing)?
A. Never    E. A few times a week
B. Less than once a month F. Four or more days a week
C. Once a month  G. Every day
D. Once a week   H. More than once a day

28. How often do you usually masturbate?
A. Never    E. A few times a week
B. Less than once a month F. Four or more days a week
C. Once a month  G. Every day
D. Once a week   H. More than once a day

29. Which of the following best describes your sexual preferences/feelings?
0- Exclusively heterosexual with no homosexual
1- Predominantly heterosexual, only incidentally homosexual
2- Predominantly heterosexual, but more than incidentally homosexual
3- Equally heterosexual and homosexual
4- Predominantly homosexual, but more than incidentally heterosexual
5- Predominantly homosexual, only incidentally heterosexual
6- Exclusively homosexual

30. Approximately what is your parents’ yearly income?
   A. Unemployed or disabled   F. $41,000-50,000
   B. under $10,000   G. $51,000-75,000
   C. $10,000-20,000   H. $76,000-100,000
   D. $21,000-30,000   I. $100,000-200,000
   E. $31,000-40,000   J. over $200,000

31. My father’s education is:
   A. Graduate of professional degree   F. Partial high school (10th-12th grade)
   B. Partial graduate training   G. Partial Junior high school (7th or 9th grade)
   C. College graduate   H. Elementary School (6th grade or lower)
   D. Partial college training   I. Don’t know
   E. High school graduate (technical or training school)

32. My mother’s education is:
   A. Graduate of professional degree   F. Partial high school (10th-12th grade)
   B. Partial graduate training   G. Partial Junior high school (7th or 9th grade)
   C. College graduate   H. Elementary School (6th grade or lower)
   D. Partial college training   I. Don't know
   E. High school graduate (technical or training school)
Appendix C-2

Past Sexual Behaviors

Directions: The following questions ask about behaviors you have engaged in during the past 6 months with both relationship or regular partners (someone with whom you know well and you are/were involved in a committed relationship or steady dating relationship) and with casual partners (partner with whom you did not know well and did not intend to have a committed romantic relationship—although you may have later engaged in a relationship). Please read questions carefully and give your most accurate and honest answer. If you have not engaged in a behavior over the past 6 months, circle N/A and go to the next item.

1. In the past 6 months, how many casual sex partners have you engaged in oral, vaginal, or anal sex? ______ (write in number)

2. In the past 6 months when you had vaginal sex with a casual sex partner, did you use contraception (e.g., condom, birth control pill/patch, diaphragm, etc.)?

   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | N/A |
---|---|---|---|---|---|---|---|-----|
Never | | | | | | | | did not have vaginal sex w/ casual partner
Always | | | | | | | | 

3. In the past 6 months when you had vaginal and/or anal sex with a casual sex partner, did you use a condom?

   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | N/A |
---|---|---|---|---|---|---|---|-----|
Never | | | | | | | | did not have vaginal/anal sex w/ casual partner
Always | | | | | | | | 

4. In the past 6 months when you had vaginal sex with a casual sex partner, did you use both a condom AND another form of contraception (e.g., birth control pill/patch, diaphragm, etc.)?

   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | N/A |
---|---|---|---|---|---|---|---|-----|
Never | | | | | | | | did not have vaginal sex w/ casual partner
Always | | | | | | | | 

5. Have you had vaginal or anal sex with a relationship partner in the past 6 months? YES or NO

6. In the past 6 months when you had vaginal sex with a relationship partner, did you use contraception (e.g., condom, birth control pill/patch, IUD, etc.)?

   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | N/A |
---|---|---|---|---|---|---|---|-----|
Never | | | | | | | | did not have vaginal sex w/ regular partner
Always | | | | | | | | 

7. In the past 6 months when you had vaginal and/or anal sex with a relationship partner, did you use a condom?

   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | N/A |
---|---|---|---|---|---|---|---|-----|
Never | | | | | | | | did not have vaginal/anal sex w/ regular partner
Always | | | | | | | | 
8. In the past 6 months when you had vaginal sex with a relationship partner, did you use both a condom AND another form of contraception?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>N/A- did not have vaginal sex w/ regular partner</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td>Never</td>
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<td></td>
<td></td>
<td>Always</td>
</tr>
</tbody>
</table>


Appendix C-3
TPB Measures for Casual Partners

Directions: The following questions will ask about various aspects of sexual relationships and behaviors with a casual sex partner, or a partner with whom you do not know well and do not intend to have a committed romantic relationship. Please read each question carefully and try to answer each question as honestly as possible. If you feel that a question is irrelevant or does not apply to you, please try to answer it as best as you can.

ATTITUDES

1. Having casual sex is:
   a.) 1 2 3 4 5 6 7 Very Pleasant (for me) Very Unpleasant (for me)
   b.) 1 2 3 4 5 6 7 Very Healthy Very Unhealthy
   c.) 1 2 3 4 5 6 7 Very Bad Very Good
   d.) 1 2 3 4 5 6 7 Very Beneficial Very Harmful
   e.) 1 2 3 4 5 6 7 Very Pleasurable Not Pleasurable At All

2. Using a contraceptive method (e.g., condom, birth control pill/patch, diaphragm, etc.) during vaginal sex with a casual partner is:
   a.) 1 2 3 4 5 6 7 Very Pleasant (for me) Very Unpleasant (for me)
   b.) 1 2 3 4 5 6 7 Very Healthy Very Unhealthy
   c.) 1 2 3 4 5 6 7 Very Bad Very Good
   d.) 1 2 3 4 5 6 7 Very Beneficial Very Harmful
   e.) 1 2 3 4 5 6 7
3. Using a condom during vaginal and/or anal casual sex is:

a.) 1 2 3 4 5 6 7
Very Pleasant (for me) Very Unpleasant (for me)

b.) 1 2 3 4 5 6 7
Very Healthy

Very Unhealthy

c.) 1 2 3 4 5 6 7
Very Bad

Very Good

d.) 1 2 3 4 5 6 7
Very Beneficial

Very Harmful

e.) 1 2 3 4 5 6 7
Very Pleasurable

Not Pleasurable At All

4. Using both a condom and another contraceptive method during vaginal sex with a casual partner is:

a.) 1 2 3 4 5 6 7
Very Pleasant (for me) Very Unpleasant (for me)

b.) 1 2 3 4 5 6 7
Very Healthy

Very Unhealthy

c.) 1 2 3 4 5 6 7
Very Bad

Very Good

d.) 1 2 3 4 5 6 7
Very Beneficial

Very Harmful

e.) 1 2 3 4 5 6 7
Very Pleasurable

Not Pleasurable At All

SUBJECTIVE NORMS

1. Most people who are important to me think that ______________ have casual sex

1 2 3 4 5 6 7
I Should I Should Not
2. It is expected of me that I avoid casual sex
   1 2 3 4 5 6 7
   Strongly Disagree   Strongly Agree

3. People who are important to me want me to avoid casual sex
   1 2 3 4 5 6 7
   Strongly Disagree   Strongly Agree

4. Most people who are important to me think that _____________ use a contraceptive method during vaginal sex with a casual partner
   1 2 3 4 5 6 7
   I Should   I Should Not

5. It is expected of me that I use a contraceptive method during vaginal sex with a casual partner
   1 2 3 4 5 6 7
   Strongly Disagree   Strongly Agree

6. People who are important to me want me to use a contraceptive method during vaginal sex with a casual partner
   1 2 3 4 5 6 7
   Strongly Disagree   Strongly Agree

7. Most people who are important to me think that _____________ use a condom during vaginal and/or anal sex with a casual partner
   1 2 3 4 5 6 7
   I Should   I Should Not

8. It is expected of me that I use a condom during vaginal and/or anal sex with a casual partner
   1 2 3 4 5 6 7
   Strongly Disagree   Strongly Agree

9. People who are important to me want me to use a condom during vaginal and/or anal sex with a casual partner
   1 2 3 4 5 6 7
   Strongly Disagree   Strongly Agree

10. Most people who are important to me think that _____________ use both a condom and another contraceptive method during vaginal sex with a casual partner
   1 2 3 4 5 6 7
    I Should   I Should Not
11. It is expected of me that I use both a condom and another contraceptive method during vaginal sex with a casual partner

1 2 3 4 5 6 7

Strongly Disagree Strongly Agree

12. People who are important to me want me to use both a condom and another contraceptive method during vaginal sex with a casual partner

1 2 3 4 5 6 7

Strongly Disagree Strongly Agree

Perceived Behavioral Control

1. For me to avoid casual sex is

1 2 3 4 5 6 7

Easy Difficult

2. I am confident that I would avoid casual sex if I wanted to

1 2 3 4 5 6 7

Strongly Disagree Strongly Agree

3. How much control do you feel you have concerning whether or not you engage in casual sex

1 2 3 4 5 6 7

Strongly Disagree Strongly Agree

4. For me to use contraception during vaginal sex with a casual partner is

1 2 3 4 5 6 7

Easy Difficult

5. I am confident that I would use a method of contraception during vaginal sex with a casual partner if I wanted to

1 2 3 4 5 6 7

Strongly Disagree Strongly Agree

6. How much control do you feel you have concerning the use of a method of contraception during vaginal sex with a casual partner

1 2 3 4 5 6 7

No Control A Lot of Control

7. For me to use a condom during vaginal or anal sex with a casual partner is

1 2 3 4 5 6 7

Easy Difficult
8. I am confident that I would use a **condom during vaginal or anal sex** with a casual partner if I wanted to

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td>Strongly Agree</td>
<td></td>
<td></td>
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</table>

9. How much control do you feel you have concerning the use of a **condom during vaginal or anal sex** with a casual partner

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<tr>
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<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Control</td>
<td>A Lot of Control</td>
<td></td>
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</table>

10. For me to use a **condom plus another method of contraception during vaginal sex** with a casual partner is

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<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy</td>
<td>Difficult</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

11. I am confident that I would use a **condom plus another method of contraception during vaginal sex** with a casual partner if I wanted to

<table>
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<tr>
<th>1</th>
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<th>3</th>
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<th>5</th>
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<th>7</th>
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<tbody>
<tr>
<td>Strongly Disagree</td>
<td>Strongly Agree</td>
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</table>

12. How much control do you feel you have concerning the use of a **condom plus another method of contraception during vaginal sex** with a casual partner

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<thead>
<tr>
<th>1</th>
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<th>4</th>
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<th>6</th>
<th>7</th>
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<tbody>
<tr>
<td>No Control</td>
<td>A Lot of Control</td>
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</table>

**INTENTIONS & INTENTION CERTAINTY**

1. Over the next 2 months, do you intend to have sex with a casual sex partner?

<table>
<thead>
<tr>
<th>1</th>
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<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definitely</td>
<td>Definitely Not</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

2. Over the next 2 months, do you expect to have sex with a casual sex partner?

<table>
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<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definitely</td>
<td>Definitely Not</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

3. How likely is it that you will have sex with a casual partner in the next 2 months?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Unlikely</td>
<td>Very Likely</td>
<td></td>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>
4. How certain are you about your intentions you just indicated above (items 1-3) about engaging in casual sex in the next 2 months?

1 2 3 4 5 6 7
Very Uncertain Very Certain

5. If you have vaginal sex with a casual partner over the next 2 months, do you intend to use contraception?

1 2 3 4 5 6 7
Never Always

6. If you have vaginal sex with a casual partner over the next 2 months, do you expect to use contraception?

1 2 3 4 5 6 7
Never Always

7. How likely is it that you will use a contraceptive if you have vaginal sex with a casual partner in the next 2 months?

1 2 3 4 5 6 7
Very Unlikely Very Likely

8. If you intend to use contraception if you have vaginal sex with a casual partner over the next 2 months, what type(s) of contraceptive method do you expect to use? (i.e., condom, pill, diaphragm, etc.)? _________________________________

9. How certain are you about your intentions you just indicated above (items 5-7) about using a contraceptive if you have vaginal sex with a casual partner in the next 2 months?

1 2 3 4 5 6 7
Very Uncertain Very Certain

10. If you have vaginal and/or anal sex with a casual partner over the next 2 months, do you intend to use a condom?

1 2 3 4 5 6 7
Never Always

11. If you have vaginal and/or anal sex with a casual partner over the next 2 months, do you expect to use a condom?

1 2 3 4 5 6 7
Never Always
12. How likely is it that you will a condom if you have vaginal and/or anal sex with a casual partner in the next 2 months?

1 2 3 4 5 6 7
Very Unlikely Very Likely

13. How certain are you about your intentions you just indicated above (items 10-12) about using a condom if you have vaginal and/or anal sex with a casual partner in the next 2 months?

1 2 3 4 5 6 7
Very Uncertain Very Certain

14. If you have vaginal sex with a casual partner over the next 2 months, do you intend to use both a condom and another contraceptive method?

1 2 3 4 5 6 7
Never Always

15. If you have vaginal sex with a casual partner over the next 2 months, do you expect to use both a condom and another contraceptive method?

1 2 3 4 5 6 7
Never Always

16. How likely is it that you will use both a condom and a contraceptive if you have vaginal sex with a casual partner in the next 2 months?

1 2 3 4 5 6 7
Very Unlikely Very Likely

17. How certain are you about your intentions you just indicated above (items 14-16) about using both a condom and contraceptive if you have vaginal sex with a casual partner in the next 2 months?

1 2 3 4 5 6 7
Very Uncertain Very Certain
Appendix C-4
TPB Measures for Relationship Partners

**Directions:** The following questions will ask about various aspects of sexual relationships and behaviors with a **relationship partner**, or a partner with whom you do know well and with whom you have a committed romantic relationship or steady dating relationship. Please read each question carefully and try to answer each question as honestly as possible. If you feel that a question is irrelevant or does not apply to you, please try to answer it as best as you can.

**ATTITUDES:**

1. **Using a contraceptive method during vaginal sex with a relationship partner is:**
   
   a.) 1 2 3 4 5 6 7  
   Very Pleasant (for me)  Very Unpleasant (for me)  
   
   b.) 1 2 3 4 5 6 7  
   Very Healthy  Very Unhealthy  
   
   c.) 1 2 3 4 5 6 7  
   Very Bad  Very Good  
   
   d.) 1 2 3 4 5 6 7  
   Very Beneficial  Very Harmful  
   
   e.) 1 2 3 4 5 6 7  
   Very Pleasurable  Not Pleasurable At All  

2. **Using a condom during vaginal and/or anal sex with a relationship partner is:**
   
   a.) 1 2 3 4 5 6 7  
   Very Pleasant (for me)  Very Unpleasant (for me)  
   
   b.) 1 2 3 4 5 6 7  
   Very Healthy  Very Unhealthy  
   
   c.) 1 2 3 4 5 6 7  
   Very Bad  Very Good  
   
   d.) 1 2 3 4 5 6 7  
   Very Beneficial  Very Harmful  
   
   e.) 1 2 3 4 5 6 7  
   Very Pleasurable  Not Pleasurable At All  

3. Using both a condom and another contraceptive method during vaginal sex with a relationship partner is:

a.) 1 2 3 4 5 6 7
Very Pleasant (for me) Very Unpleasant (for me)

b.) 1 2 3 4 5 6 7
Very Healthy Very Unhealthy

c.) 1 2 3 4 5 6 7
Very Bad Very Good

d.) 1 2 3 4 5 6 7
Very Beneficial Very Harmful

e.) 1 2 3 4 5 6 7
Very Pleasurable Not Pleasurable At All

SUBJECTIVE NORM

1. Most people who are important to me think that ___________ have use a contraceptive method during vaginal sex with a relationship partner

1 2 3 4 5 6 7
I Should I Should Not

2. It is expected of me that I use a contraceptive method during vaginal sex with a relationship partner

1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

3. People who are important to me want me to use a contraceptive method during vaginal sex with a relationship partner

1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

4. Most people who are important to me think that ___________ use a condom during vaginal and/or anal sex with a relationship partner

1 2 3 4 5 6 7
I Should I Should Not

5. It is expected of me that I use a condom during vaginal and/or anal sex with a relationship partner

1 2 3 4 5 6 7
Strongly Disagree Strongly Agree
6. People who are important to me want me to use a condom during vaginal and/or anal sex with a relationship partner

   Strongly Disagree                      Strongly Agree
   1  2  3  4  5  6  7

7. Most people who are important to me think that ____________ use both a condom and another contraceptive method during vaginal sex with a relationship partner

   I Should                                         I Should Not
   1  2  3  4  5  6  7

8. It is expected of me that I use both a condom and another contraceptive method during vaginal sex with a relationship partner

   Strongly Disagree                      Strongly Agree
   1  2  3  4  5  6  7

9. People who are important to me want me to use both a condom and another contraceptive method during vaginal sex with a relationship partner

   Strongly Disagree                      Strongly Agree
   1  2  3  4  5  6  7

Perceived Behavioral Control

1. For me to use contraception during vaginal sex with a relationship partner is

   Easy                                     Difficult
   1  2  3  4  5  6  7

2. I am confident that I would use a method of contraception during vaginal sex with a relationship partner if I wanted to

   Strongly Disagree                      Strongly Agree
   1  2  3  4  5  6  7

3. How much control do you feel you have concerning the use of a method of contraception during vaginal sex with a relationship partner

   No Control                        A Lot of Control
   1  2  3  4  5  6  7

4. For me to use a condom during vaginal or anal sex with a relationship partner is

   Easy                                     Difficult
   1  2  3  4  5  6  7
5. I am confident that I would use a condom during vaginal or anal sex with a relationship partner if I wanted to

   1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

6. How much control do you feel you have concerning the use of a condom during vaginal or anal sex with a relationship partner

   1 2 3 4 5 6 7
No Control A Lot of Control

7. For me to use a condom plus another method of contraception during vaginal sex with a relationship partner is

   1 2 3 4 5 6 7
Easy Difficult

8. I am confident that I would use a condom plus another method of contraception during vaginal sex with a relationship partner if I wanted to

   1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

9. How much control do you feel you have concerning the use of a condom plus another method of contraception during vaginal sex with a relationship partner

   1 2 3 4 5 6 7
No Control A Lot of Control

Intentions & Intention Certainty

1. If you have vaginal sex with a relationship partner over the next 2 months, do you intend to use contraception?

   1 2 3 4 5 6 7
Never Always

2. If you have vaginal sex with a relationship partner over the next 2 months, do you expect to use contraception?

   1 2 3 4 5 6 7
Never Always
3. How likely is it that you will use a contraceptive if you have vaginal sex with a relationship partner in the next 2 months?

1 2 3 4 5 6 7
Very Unlikely Very Likely

4. If you intend to use contraception if you have vaginal sex with a relationship partner over the next 2 months, what type(s) of contraceptive method do you expect to use? (i.e., condom, pill, diaphragm, etc.)? _________________________________

5. How certain are you about your intentions you just indicated above (items 1-3) about using contraception if you have vaginal sex with a relationship partner in the next 2 months?

1 2 3 4 5 6 7
Very Uncertain Very Certain

6. If you have vaginal and/or anal sex with a relationship partner over the next 2 months, do you intend to use a condom?

1 2 3 4 5 6 7
Never Always

7. If you have vaginal and/or anal sex with a relationship partner over the next 2 months, do you expect to use a condom?

1 2 3 4 5 6 7
Never Always

8. How likely is it that you will use a condom if you have vaginal and/or anal sex with a relationship partner in the next 2 months?

1 2 3 4 5 6 7
Very Unlikely Very Likely

9. How certain are you about your intentions you just indicated above (items 6-8) about using a condom if you have vaginal and/or anal sex with a relationship partner in the next 2 months?

1 2 3 4 5 6 7
Very Uncertain Very Certain

10. If you have vaginal sex with a relationship partner over the next 2 months, do you intend to use both a condom plus another form of contraception?

1 2 3 4 5 6 7
Never Always
11. If you have vaginal sex with a relationship partner over the next 2 months, do you expect to use both a condom and another form of contraception?

1 2 3 4 5 6 7
Never                                  Always

12. How likely is it that you will use both a condom and a contraceptive if you have vaginal sex with a relationship partner in the next 2 months?

1 2 3 4 5 6 7
Very Unlikely                                Very Likely

13. How certain are you about your intentions you just indicated above (items 10-12) about using a condom if you have vaginal and/or anal sex with a relationship partner in the next 2 months?

1 2 3 4 5 6 7
Very Uncertain                                Very Certain
Appendix C-5
Zuckerman-Kuhlman Personality Questionnaire

**DIRECTIONS:** In the following survey, you will find a series of statements that persons might use to describe themselves. Read each statement and decide whether or not it describes you. Then indicate your answer. If you agree with a statement or decide that it describes you, circle TRUE. If you disagree with a statement or feel that it is not descriptive of you, circle FALSE. Answer every statement either TRUE or FALSE even if you are not entirely sure of your answer.

<table>
<thead>
<tr>
<th>Statement</th>
<th>TRUE</th>
<th>FALSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I tend to begin a new job without much planning on how I will do it.</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>2. I usually think about what I am going to do before doing it.</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>3. I often do things on impulse.</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>4. I very seldom spend much time on the detail of planning ahead.</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>5. I like to have new and exciting experiences and sensation even if they are a little frightening.</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>6. Before I begin a complicated job, I make careful plans.</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>7. I would like to take off on a trip with no preplanned or definite routes or timetables.</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>8. I enjoy getting into new situations where you can't predict how things will turn out.</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>9. I like doing things just for the thrill of it.</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>10. I tend to change interests frequently.</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>11. I sometimes like to do things that are a little frightening.</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>12. I'll try anything once.</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>13. I would like the kind of life where one is on the move and traveling a lot, with lots of change and excitement.</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>15. I like to explore a strange city or section of town by myself, even if it means getting lost.</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>16. I prefer friends who are excitingly unpredictable.</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>17. I often get so carried away by new and exciting things and ideas that I never think of possible complications.</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>18. I am an impulsive person.</td>
<td>T</td>
<td>F</td>
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<tr>
<td>19. I like &quot;wild&quot; uninhibited parties.</td>
<td>T</td>
<td>F</td>
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Appendix C-6
Sexual Excitation/Sexual Inhibition Scales

Instructions: In the following two questionnaires, you will find statements about how you might react to various sexual situations, activities or behaviors. Obviously, how you react will often depend on the circumstances, but we are interested in what would be the most likely reaction for you. Please read each statement carefully and decide how you would most likely react. Then circle the number that corresponds with your answer. Please try to respond to every statement. Sometimes you may feel that none of the responses seem completely accurate. Sometimes you may read a statement which you feel in "not applicable". In these cases, please circle a response which you would choose if it were applicable to you. In many statements you will find words describing reactions such as "sexually aroused" or "aroused". With these words we mean to describe "feelings of sexual excitement", feeling "sexually stimulated", "horny", "hot" or "turned on". Don't think too long before answering, please give your first reaction. Try not to skip any questions. Try to be as honest as possible.

Sexual Excitation

1. When I think of a very attractive person, I easily become sexually aroused.
   1 Strongly Agree  2 Agree  3 Disagree  4 Strongly Disagree

2. When a sexual attractive strange looks me straight in the eye, I become aroused.
   1 Strongly Agree  2 Agree  3 Disagree  4 Strongly Disagree

3. When I see an attractive person, I start fantasizing about having sex with him/her.
   1 Strongly Agree  2 Agree  3 Disagree  4 Strongly Disagree

4. When I talk to someone on the telephone who has a sexy voice, I become sexually aroused.
   1 Strongly Agree  2 Agree  3 Disagree  4 Strongly Disagree

5. When I have a quiet candlelight dinner with someone I find sexually attractive, I get aroused.
   1 Strongly Agree  2 Agree  3 Disagree  4 Strongly Disagree

6. When an attractive person flirts with me, I easily become sexually aroused.
   1 Strongly Agree  2 Agree  3 Disagree  4 Strongly Disagree

7. When I see someone I find attractive dressed in a sexy way, I easily become sexually aroused.
   1 Strongly Agree  2 Agree  3 Disagree  4 Strongly Disagree
8. When I think someone sexually attractive wants to have sex with me, I quickly become sexually aroused.
   1 Strongly Agree  2 Agree  3 Disagree  4 Strongly Disagree

9. When a sexually attractive stranger accidentally touches me, I easily become aroused.
   1 Strongly Agree  2 Agree  3 Disagree  4 Strongly Disagree

10. When I see others engaged in sexual activities, I feel like having sex myself.
    1 Strongly Agree  2 Agree  3 Disagree  4 Strongly Disagree

11. If I am with a group of people watching an X-rated film, I quickly become sexually aroused.
    1 Strongly Agree  2 Agree  3 Disagree  4 Strongly Disagree

12. If I am on my own watching a sexual scene in a film, I quickly become sexually aroused.
    1 Strongly Agree  2 Agree  3 Disagree  4 Strongly Disagree

13. When I look at erotic pictures, I easily become sexually aroused.
    1 Strongly Agree  2 Agree  3 Disagree  4 Strongly Disagree

14. When I feel sexually aroused, I usually have a genital response.
    1 Strongly Agree  2 Agree  3 Disagree  4 Strongly Disagree

15. When I start fantasizing about sex, I quickly become sexually aroused.
    1 Strongly Agree  2 Agree  3 Disagree  4 Strongly Disagree

16. Just thinking about a sexual encounter I have had is enough to turn me on sexually.
    1 Strongly Agree  2 Agree  3 Disagree  4 Strongly Disagree

17. When I feel interested in sex, I usually become sexually aroused.
    1 Strongly Agree  2 Agree  3 Disagree  4 Strongly Disagree

18. When I am taking a bath or shower, I easily become sexually aroused.
    1 Strongly Agree  2 Agree  3 Disagree  4 Strongly Disagree

19. When I wear something I feel attractive in, I am likely to become sexually aroused.
    1 Strongly Agree  2 Agree  3 Disagree  4 Strongly Disagree

20. Sometimes I become sexually aroused just by lying in the sun.
    1 Strongly Agree  2 Agree  3 Disagree  4 Strongly Disagree
Sexual Inhibition

1. If I am masturbating on my own and I realize that someone is likely to come into the room at any moment, I will lose my sexual arousal.
   1 Strongly Agree  2 Agree  3 Disagree  4 Strongly Disagree

2. If I can be heard by others while having sex, I am unlikely to stay sexually aroused.
   1 Strongly Agree  2 Agree  3 Disagree  4 Strongly Disagree

3. If I am having sex in a secluded, outdoor place and I think that someone is nearby, I am not likely to get very aroused.
   1 Strongly Agree  2 Agree  3 Disagree  4 Strongly Disagree

4. If I can be seen by others while having sex, I am unlikely to stay sexually aroused.
   1 Strongly Agree  2 Agree  3 Disagree  4 Strongly Disagree

5. If I realize that there is a risk of catching a sexually transmitted disease, I am unlikely to stay sexually aroused.
   1 Strongly Agree  2 Agree  3 Disagree  4 Strongly Disagree

6. If there is a risk of unwanted pregnancy, I am unlikely to get sexually aroused.
   1 Strongly Agree  2 Agree  3 Disagree  4 Strongly Disagree

7. If my new sexual partner does not want to use a condom, I am unlikely to stay aroused.
   1 Strongly Agree  2 Agree  3 Disagree  4 Strongly Disagree

8. If having sex will cause my partner pain, I am unlikely to stay sexually aroused.
   1 Strongly Agree  2 Agree  3 Disagree  4 Strongly Disagree

9. If I discovered someone I find sexually attractive is too young, I would have difficulty getting sexually aroused with him/her.
   1 Strongly Agree  2 Agree  3 Disagree  4 Strongly Disagree

10. If I feel like I am being rushed, I am unlikely to get very aroused.
    1 Strongly Agree  2 Agree  3 Disagree  4 Strongly Disagree

11. If I think that having sex will cause me pain, I will lose my sexual arousal.
    1 Strongly Agree  2 Agree  3 Disagree  4 Strongly Disagree
Appendix C-7
Moral Norms Measures

Condom Use – Relationship Partner
1. I feel morally obligated to always use a condom during sex with a relationship partner.
   1 2 3 4 5 6 7
   Strongly Disagree  Strongly Agree

2. I feel that it is my personal responsibility to always use a condom during sex with a relationship partner.
   1 2 3 4 5 6 7
   Strongly Disagree  Strongly Agree

3. It is my belief that I should always use a condom during sex with a relationship partner.
   1 2 3 4 5 6 7
   Strongly Disagree  Strongly Agree

Condom Use – Casual Partner
1. I feel morally obligated to always use a condom during sex with a casual sex partner.
   1 2 3 4 5 6 7
   Strongly Disagree  Strongly Agree

2. I feel that it is my personal responsibility to always use a condom during sex with a casual sex partner.
   1 2 3 4 5 6 7
   Strongly Disagree  Strongly Agree

3. It is my belief that I should always use a condom during sex with a casual sex partner.
   1 2 3 4 5 6 7
   Strongly Disagree  Strongly Agree

Contraception – Relationship Partner
1. I feel morally obligated to always use contraception during sex with a relationship sex partner.
   1 2 3 4 5 6 7
   Strongly Disagree  Strongly Agree

2. I feel that it is my personal responsibility to use contraception during sex with a relationship partner.
   1 2 3 4 5 6 7
   Strongly Disagree  Strongly Agree
3. It is my belief that I should always use contraception during sex with a relationship partner.

1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

**Contraception – Casual partner**

1. I feel morally obligated to always use contraception during sex with a casual sex partner.

1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

2. I feel that it is my personal responsibility to use contraception during sex with a casual sex partner.

1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

3. It is my belief that I should always use contraception during sex with a casual partner.

1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

**Dual Use – Relationship Partner**

1. I feel morally obligated to use both a condom and another contraceptive method during sex with a relationship partner.

1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

2. I feel that it is my personal responsibility to use both a condom and another contraceptive method during sex with a relationship partner.

1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

3. It is my belief that I should always use a condom and another contraceptive method during sex with a relationship partner.

1 2 3 4 5 6 7
Strongly Disagree Strongly Agree

**Dual Use – Casual partner**

1. I feel morally obligated to use both a condom and another contraceptive method during sex with a casual sex partner.

1 2 3 4 5 6 7
Strongly Disagree Strongly Agree
2. I feel that it is my personal responsibility to use both a condom and another contraceptive method during sex with a casual sex partner.

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<tr>
<td>Strongly Disagree</td>
<td>Strongly Agree</td>
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3. It is my belief that I should always use a condom and another contraceptive method during sex with a casual sex partner.

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<td>Strongly Disagree</td>
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**Casual Sex**

1. I feel morally obligated to avoid casual sex.

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<tr>
<td>Strongly Disagree</td>
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2. I feel that it is my personal responsibility to not engage in casual sex.

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<tr>
<td>Strongly Disagree</td>
<td>Strongly Agree</td>
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3. It is my belief that I should never have casual sex.

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<tr>
<td>Strongly Disagree</td>
<td>Strongly Agree</td>
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Appendix C-8
Anticipated Affect Measures

CAUSAL SEX
1. If I had casual sex, I think that I would feel __________ after sex (vaginal, anal, or oral) with a casual partner

a.) Regret

Very Unlikely 1 2 3 4 5 6 7

Very Likely

b.) Satisfaction

Very Unlikely 1 2 3 4 5 6 7

Very Likely

c.) Worry

Very Unlikely 1 2 3 4 5 6 7

Very Likely

d.) Relaxed

Very Unlikely 1 2 3 4 5 6 7

Very Likely

e.) Upset

Very Unlikely 1 2 3 4 5 6 7

Very Likely

f.) Happy

Very Unlikely 1 2 3 4 5 6 7

Very Likely

CASUAL PARTNER- DUAL USE
2. If I did not use both a condom and another form of contraceptive during vaginal sex with a casual partner, I think that I would feel __________ after sex

a.) Regret

Very Unlikely 1 2 3 4 5 6 7

Very Likely

b.) Satisfaction

Very Unlikely 1 2 3 4 5 6 7

Very Likely

c.) Worry

Very Unlikely 1 2 3 4 5 6 7

Very Likely

d.) Relaxed

Very Unlikely 1 2 3 4 5 6 7

Very Likely

e.) Upset

Very Unlikely 1 2 3 4 5 6 7

Very Likely
f.) Happy
1 2 3 4 5 6 7
Very Unlikely        Very Likely

CASUAL PARTNER - CONDOM
3. If I did not use a condom during vaginal and/or anal sex with a casual partner, I think that I would feel __________ after sex
a.) Regret
1 2 3 4 5 6 7
Very Unlikely        Very Likely
b.) Satisfaction
1 2 3 4 5 6 7
Very Unlikely        Very Likely
c.) Worry
1 2 3 4 5 6 7
Very Unlikely        Very Likely
d.) Relaxed
1 2 3 4 5 6 7
Very Unlikely        Very Likely
e.) Upset
1 2 3 4 5 6 7
Very Unlikely        Very Likely
f.) Happy
1 2 3 4 5 6 7
Very Unlikely        Very Likely

CASUAL PARTNER - CONTRACEPTION
4. If I did not use contraception during vaginal sex with a casual partner, I think that I would feel __________ after sex
a.) Regret
1 2 3 4 5 6 7
Very Unlikely        Very Likely
b.) Satisfaction
1 2 3 4 5 6 7
Very Unlikely        Very Likely
c.) Worry
1 2 3 4 5 6 7
Very Unlikely        Very Likely
d.) Relaxed
1 2 3 4 5 6 7
Very Unlikely        Very Likely
RELATIONSHIP PARTNER - CONTRACEPTION

5. If I did not use contraception during vaginal sex with a relationship partner, I think that I would feel ____________ after sex

a.) Regret
   1 2 3 4 5 6 7
   Very Unlikely Very Likely

b.) Satisfaction
   1 2 3 4 5 6 7
   Very Unlikely Very Likely

c.) Worry
   1 2 3 4 5 6 7
   Very Unlikely Very Likely

d.) Relaxed
   1 2 3 4 5 6 7
   Very Unlikely Very Likely

e.) Upset
   1 2 3 4 5 6 7
   Very Unlikely Very Likely

f.) Happy
   1 2 3 4 5 6 7
   Very Unlikely Very Likely

RELATIONSHIP PARTNER - CONDOM

6. If I did not use a condom during vaginal and/or anal sex with a relationship partner, I think that I would feel ____________ after sex

a.) Regret
   1 2 3 4 5 6 7
   Very Unlikely Very Likely

b.) Satisfaction
   1 2 3 4 5 6 7
   Very Unlikely Very Likely

c.) Worry
   1 2 3 4 5 6 7
   Very Unlikely Very Likely

d.) Relaxed
   1 2 3 4 5 6 7
   Very Unlikely Very Likely
RELATIONSHIP PARTNER - DUAL USE
7. If I did not use both a condom and contraception during vaginal sex with a relationship partner, I think that I would feel __________ after sex
   a.) Regret
       1  2  3  4  5  6  7
   b.) Satisfaction
       1  2  3  4  5  6  7
   c.) Worry
       1  2  3  4  5  6  7
   d.) Relaxed
       1  2  3  4  5  6  7
   e.) Upset
       1  2  3  4  5  6  7
   f.) Happy
       1  2  3  4  5  6  7
Appendix C-9
Sexual Behavior over the Quarter

Directions: The following questions ask about behaviors you have engaged in during the past 2 months (8 weeks) with both relationship/regular partners (someone with whom you know well and you are/were involved in a committed relationship or steady dating relationship) and with casual partners (partner with whom you did not know well and did not intend to have a committed romantic relationship—although you may have later engaged in a relationship). Please read questions carefully and give your most accurate and honest answer. If you have not engaged in a behavior over the past 2 months, circle N/A and go to the next item.

1. In the past 2 months, how many casual sex partners have you engaged in oral, vaginal, or anal sex? ______ (write in number)

2. In the past 2 months when you had vaginal sex with a casual sex partner, did you use contraception (e.g., condom, birth control pill/patch, diaphragm, etc.)?
   
   1 2 3 4 5 6 7 N/A- did not have vaginal sex w/ casual partner
   
   Never Always

2a. If you have used contraception in the past 2 months, what type of contraception did you use during vaginal sex with a casual sex partner over the past 2 months (i.e., condom, pill, diaphragm, etc.)? _________________________________

3. In the past 2 months when you had vaginal and/or anal sex with a casual sex partner, did you use a condom?

   1 2 3 4 5 6 7 N/A- did not have vaginal/anal sex w/ casual partner

   Never Always

4. In the past 2 months when you had vaginal sex with a casual sex partner, did you use both a condom and another form of contraception (e.g., birth control pill/patch, diaphragm, etc.)?

   1 2 3 4 5 6 7 N/A- did not have vaginal sex w/ casual partner

   Never Always

5. Have you had vaginal or anal sex with a relationship partner in the past 2 months? YES or NO

6. In the past 2 months when you had vaginal sex with a relationship partner, did you use contraception (e.g., condom, birth control pill/patch, IUD, etc.)?

   1 2 3 4 5 6 7 N/A- did not have vaginal sex w/ regular partner

   Never Always
6a. If you have used contraception in the past 2 months, what type of contraception did you use during vaginal sex with a relationship partner over the past 2 months (i.e., condom, pill, diaphragm, etc.)? _______________________________

7. In the past 2 months when you had vaginal and/or anal sex with a relationship partner, did you use a condom?

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<th>7</th>
<th>N/A- did not have vaginal/anal sex w/ regular partner</th>
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<tr>
<td>Never</td>
<td>Always</td>
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8. In the past 2 months when you had vaginal sex with a relationship partner, did you use both a condom and another form of contraception?

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<th>N/A- did not have vaginal sex w/ regular partner</th>
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<tr>
<td>Never</td>
<td>Always</td>
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Appendix C-10
Characteristics of Last Sexual Event

Directions: Take a moment and think about your sexual experiences over the past 2 months (8 weeks) and your sexual partners. If you have had multiple sexual experiences, think about the most recent experiences and try to think about the details that happened before, during, and after these events.

#1. Have you had vaginal sex with a relationship partner over the past 2 months? YES or NO

**If you answered YES, think about the last time you had vaginal sex with a relationship partner and try to answer the following questions as honestly as you can. If you answered NO, please skip the next few questions until you get to question #2. **

a. The last time you had vaginal sex with a regular/relationship partner, did you use a condom? YES or NO

b. Did you use a contraceptive/method of birth control other than a condom? YES or NO
   • If yes, what method(s) of birth control did you use (e.g., birth control pill or patch, diaphragm, IUD)?

   _________________________________________

c. Was there a condom available at the time of intercourse? YES or NO

d. Did you carry/bring a condom with you the last time you had vaginal sex you’re your relationship partner? YES or NO

e. Had you discussed condom use with your sexual partner prior to sex? YES or NO

f. How sexually aroused did you feel right before the sexual event took place?

   1 2 3 4 5 6 7
   Not Aroused       Extremely Aroused

g. How much alcohol had you consumed before or during sex?
   a. No alcoholic drinks
   b. 1-2 drinks
   c. 3-5 drinks
   d. 5-7 drinks
   e. 7-10 drinks
   f. Over 10 drinks

h. Did you take any recreational drugs before or during sex? YES or NO

Think about your mood prior to having sex. What had happened that day? How did you feel? I felt_____

i. Upset or Angry

   1 2 3 4 5 6 7
   Not at all       Very Much So
j. Happy
   1 2 3 4 5 6 7
   Not at all
   Very Much So

k. Excited
   1 2 3 4 5 6 7
   Not at all
   Very Much So

l. Disappointed
   1 2 3 4 5 6 7
   Not at all
   Very Much So

m. Sad
   1 2 3 4 5 6 7
   Not at all
   Very Much So

n. Content
   1 2 3 4 5 6 7
   Not at all
   Very Much So

o. I found my partner ___________ before having sex
   1 2 3 4 5 6 7
   Unattractive
   Extremely Attractive

p. I found my partner ___________ before having sex
   1 2 3 4 5 6 7
   Undesirable
   Extremely Desirable

2. Have you had anal sex with a relationship partner over the past 2 months? YES or NO
   **If you answered YES, think about the last time you had anal sex with a relationship partner and try to answer the following questions as honestly as you can. If you answered NO, please skip the next few questions until you get to question #3.**
   a. The last time you had anal sex with a regular/relationship partner, did you use a condom? YES or NO
   b. Was there a condom available at the time of anal intercourse? YES or NO
   c. Did you carry/bring a condom with you the last time you had anal sex you’re relationship partner? YES or NO
   d. Had you discussed condom use with your sexual partner prior to sex? YES or NO
   e. How sexually aroused did you feel right before the sexual event took place?
      1 2 3 4 5 6 7
      Not Aroused
      Extremely Aroused
   f. How much alcohol had you consumed before or during sex?
      a. No alcoholic drinks
      b. 1-2 drinks
      c. 3-5 drinks
      d. 5-7 drinks
      e. 7-10 drinks
      f. Over 10 drinks
g. Did you take any recreational drugs before or during sex? YES or NO

Think about your mood prior to having sex. What had happened that day? How did you feel? I felt _____

h. Upset or Angry
   1 2 3 4 5 6 7
Not at all
   1 2 3 4 5 6 7
Very Much So

i. Happy
   1 2 3 4 5 6 7
Not at all
   1 2 3 4 5 6 7
Very Much So

j. Excited
   1 2 3 4 5 6 7
Not at all
   1 2 3 4 5 6 7
Very Much So

k. Disappointed
   1 2 3 4 5 6 7
Not at all
   1 2 3 4 5 6 7
Very Much So

l. Sad
   1 2 3 4 5 6 7
Not at all
   1 2 3 4 5 6 7
Very Much So

m. Content
   1 2 3 4 5 6 7
Not at all
   1 2 3 4 5 6 7
Very Much So

n. I found my partner ___________ before having sex
   1 2 3 4 5 6 7
Unattractive
   1 2 3 4 5 6 7
Extremely Attractive

o. I found my partner ___________ before having sex
   1 2 3 4 5 6 7
Undesirable
   1 2 3 4 5 6 7
Extremely Desirable

#3. Have you had vaginal sex with a casual sex partner over the past 2 months? YES or NO

**If you answered YES, think about the last time you had vaginal sex with a casual partner and try to answer the following questions as honestly as you can. If you answered NO, please skip the next few questions until you get to question #4. **

a. The last time you had vaginal sex with a casual partner, did you use a condom? YES or NO

b. Did you use a contraceptive/method of birth control other than a condom? YES or NO
   a. If yes, what method(s) of birth control did you use (e.g., birth control pill or patch, diaphragm, IUD)?

c. Was there a condom available at the time of intercourse? YES or NO

d. Did you carry/bring a condom with you the last time you had vaginal sex you’re your relationship partner? YES or NO
e. Had you discussed condom use with your sexual partner prior to sex? YES or NO
f. How sexually aroused did you feel right before the sexual event took place?
   1 2 3 4 5 6 7
   Not Aroused              Extremely Aroused

g. How much alcohol had you consumed before or during sex?
   a. No alcoholic drinks
   b. 1-2 drinks
   c. 3-5 drinks
   d. 5-7 drinks
   e. 7-10 drinks
   f. Over 10 drinks

h. Did you take any recreational drugs before or during sex? YES or NO

Think about your mood prior to having sex. What had happened that day? How did you feel? I felt_____

   i. Upset or Angry
   1 2 3 4 5 6 7
   Not at all              Very Much So
   j. Happy
   1 2 3 4 5 6 7
   Not at all              Very Much So
   k. Excited
   1 2 3 4 5 6 7
   Not at all              Very Much So
   l. Disappointed
   1 2 3 4 5 6 7
   Not at all              Very Much So
   m. Sad
   1 2 3 4 5 6 7
   Not at all              Very Much So
   n. Content
   1 2 3 4 5 6 7
   Not at all              Very Much So
   o. I found my partner _________ before having sex
   1 2 3 4 5 6 7
   Unattractive              Extremely Attractive
   p. I found my partner _________ before having sex
   1 2 3 4 5 6 7
   Undesirable              Extremely Desirable

#4. Have you had anal sex with a casual sex partner over the past 2 months? YES or NO

**If you answered YES, think about the last time you had anal sex with a casual partner and try to answer the following questions as honestly as you can. If you answered NO, please skip the next few questions until you get to question #5. **
a. The last time you had anal sex with a casual partner, did you use a condom? YES or NO
b. Was there a condom available at the time of anal intercourse? YES or NO
c. Did you carry/bring a condom with you the last time you had anal sex you’re your relationship partner? YES or NO
d. Had you discussed condom use with your sexual partner prior to sex? YES or NO
e. How sexually aroused did you feel right before the sexual event took place?

   1  2  3  4  5  6  7
   Not Aroused   Extremely Aroused

f. How much alcohol had you consumed before or during sex?
   a. No alcoholic drinks
   b. 1-2 drinks
   c. 3-5 drinks
   d. 5-7 drinks
   e. 7-10 drinks
   f. Over 10 drinks

g. Did you take any recreational drugs before or during sex? YES or NO

h. Upset or Angry
   1  2  3  4  5  6  7
   Not at all   Very Much So

i. Happy
   1  2  3  4  5  6  7
   Not at all   Very Much So

j. Excited
   1  2  3  4  5  6  7
   Not at all   Very Much So

k. Disappointed
   1  2  3  4  5  6  7
   Not at all   Very Much So

l. Sad
   1  2  3  4  5  6  7
   Not at all   Very Much So

m. Content
   1  2  3  4  5  6  7
   Not at all   Very Much So

n. I found my partner ___________ before having sex
   1  2  3  4  5  6  7
   Unattractive   Extremely Attractive

o. I found my partner ___________ before having sex
   1  2  3  4  5  6  7
   Undesirable   Extremely Desirable
#5. Have you had oral sex with a causal sex partner over the past 2 months? YES or NO

**If you answered YES, think about the last time you had oral sex with a casual partner and try to answer the following questions as honestly as you can. If you answered NO, please skip the next few questions.**

a. The last time you had oral sex with a casual partner, did you use a condom? YES or NO
b. Was there a condom available at the time of intercourse? YES or NO
c. Did you carry/bring a condom with you the last time you had oral sex you’re your relationship partner? YES or NO
d. Had you discussed condom use with your sexual partner prior to sex? YES or NO
e. How sexually aroused did you feel right before the sexual event took place?
   1  2  3  4  5  6  7
   Not Aroused                      Extremely Aroused

f. How much alcohol had you consumed before or during sex?
   a. No alcoholic drinks
   b. 1-2 drinks
   c. 3-5 drinks
   d. 5-7 drinks
   e. 7-10 drinks
   f. Over 10 drinks

g. Did you take any recreational drugs before or during sex? YES or NO

Think about your mood prior to having sex. What had happened that day? How did you feel? I felt_____

h. Upset or Angry
   1  2  3  4  5  6  7
   Not at all                      Very Much So

i. Happy
   1  2  3  4  5  6  7
   Not at all                      Very Much So

j. Excited
   1  2  3  4  5  6  7
   Not at all                      Very Much So

k. Disappointed
   1  2  3  4  5  6  7
   Not at all                      Very Much So

l. Sad
   1  2  3  4  5  6  7
   Not at all                      Very Much So

m. Content
   1  2  3  4  5  6  7
   Not at all                      Very Much So
n. I found my partner __________ before having sex
   1  2  3  4  5  6  7
   Unattractive                               Extremely Attractive

o. I found my partner __________ before having sex
   1  2  3  4  5  6  7
   Undesirable                               Extremely Desirable
Table 1

*Sample Demographics (N = 613)*

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<tr>
<th>Demographic/Background Variable</th>
<th>Value</th>
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</tr>
<tr>
<td>Range</td>
<td>18–27</td>
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<tr>
<td>Sex</td>
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<tr>
<td>% Male</td>
<td>32.5</td>
</tr>
<tr>
<td>% Female</td>
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</tr>
<tr>
<td>Year in College</td>
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<tr>
<td>% First year</td>
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<tr>
<td>% Sophomore</td>
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<tr>
<td>% Junior</td>
<td>8.9</td>
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<tr>
<td>% Senior</td>
<td>4.9</td>
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<tr>
<td>% Other</td>
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</tr>
<tr>
<td>% Hispanic/Latino/Latina</td>
<td>2.7</td>
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<tr>
<td>Race</td>
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<tr>
<td>% Caucasian</td>
<td>86.8</td>
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<tr>
<td>% Non-Caucasian</td>
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<td>Sexual Orientation</td>
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<tr>
<td>% Heterosexual</td>
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<tr>
<td>% Lesbian/Gay/Homosexual</td>
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<tr>
<td>% Bisexual</td>
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<tr>
<td>Religion</td>
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<td>% Protestant</td>
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<td>% Catholic</td>
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<tr>
<td>% Other</td>
<td>33.8</td>
</tr>
<tr>
<td>Marital Status</td>
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</tr>
<tr>
<td>% Never married</td>
<td>98.9%</td>
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<tr>
<td>% Married</td>
<td>0.6%</td>
</tr>
<tr>
<td>% Divorce</td>
<td>0.6%</td>
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<tr>
<td>Dating/Relationship Status</td>
<td></td>
</tr>
<tr>
<td>% do not date</td>
<td>2.3</td>
</tr>
<tr>
<td>% not seeing someone, but looking</td>
<td>40.9</td>
</tr>
<tr>
<td>% dating one or more people</td>
<td>26.4</td>
</tr>
<tr>
<td>% 6-month or longer monogamous relationship</td>
<td>30.2</td>
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<tr>
<td>-------------------------------------------</td>
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**Sexual Experience History**

<table>
<thead>
<tr>
<th>% reported vaginal sex</th>
<th>78.7</th>
</tr>
</thead>
<tbody>
<tr>
<td>% reported oral sex</td>
<td>84.2</td>
</tr>
<tr>
<td>% reported anal sex</td>
<td>17.7</td>
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</table>

**Parents' Annual Income**

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<tr>
<th>% $30,000 or less</th>
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<td>% $31,000-$50,000</td>
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<td>% $51,000-$100,000</td>
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<tr>
<td>% $101,000 or greater</td>
<td>29.3</td>
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### Table 2

*Proposed Variables & Measures at Time 1 and Time 2*

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<tr>
<th>Time 1</th>
<th>Time 2</th>
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<tbody>
<tr>
<td>Demographics including Drinking &amp; Drug Habits Questionnaire</td>
<td>Intentions</td>
</tr>
<tr>
<td>Attitudes</td>
<td>Sexual Behavior over past 2 months</td>
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<tr>
<td>Subjective Norms</td>
<td>Characteristics of Last Sexual Event with Relationship and/or Casual Partner (e.g., substance use, sexual arousal, planning behaviors)</td>
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<tr>
<td>Perceived Behavioral Control</td>
<td></td>
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<tr>
<td>Intentions</td>
<td></td>
</tr>
<tr>
<td>Intention Certainty</td>
<td></td>
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<tr>
<td>Sexual Behaviors over past 6 months</td>
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<tr>
<td>Sensation Seeking – Zuckerman-Kuhlman</td>
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<tr>
<td>Personality Questionnaire</td>
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<td>Anticipated Affect</td>
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<tr>
<td>Moral Norms</td>
<td></td>
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<tr>
<td>Sexual Inhibition – Sexual Inhibition Scale 2:</td>
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<tr>
<td>Threat of Performance Consequences</td>
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<tr>
<td>Sexual Excitation – Sexual Excitation Scale</td>
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*Note.* Intention stability were assessed by a difference score between intentions scores at Time 1 and Time 2.
### Table 3
Means and Standard Deviations of Theory of Planned Behavior Extended Model and Intention Stability and Certainty

<table>
<thead>
<tr>
<th></th>
<th>Casual Sex</th>
<th>Casual Condom Use</th>
<th>Casual Contraception Use</th>
<th>Casual Dual Use</th>
<th>Relationship Condom Use</th>
<th>Relationship Contraception Use</th>
<th>Relationship Dual Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Past Sexual Behavior</td>
<td>.98(1.39)</td>
<td>5.09(2.18)</td>
<td>5.82(1.77)</td>
<td>3.92(2.43)</td>
<td>4.67(2.39)</td>
<td>5.99(1.81)</td>
<td>3.74(2.51)</td>
</tr>
<tr>
<td>Anticipated Affect</td>
<td>18.74(9.13)</td>
<td>34.84(8.43)</td>
<td>34.24(8.96)</td>
<td>33.14(9.07)</td>
<td>26.52(11.24)</td>
<td>27.34(10.46)</td>
<td>26.34(11.31)</td>
</tr>
<tr>
<td>Moral Norms</td>
<td>15.78(5.65)</td>
<td>19.60(3.33)</td>
<td>19.19(3.67)</td>
<td>17.66(5.46)</td>
<td>17.04(5.86)</td>
<td>18.53(3.94)</td>
<td>17.66(5.46)</td>
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<tr>
<td>Sexual Excitation</td>
<td>49.15(9.10)</td>
<td>49.15(9.10)</td>
<td>49.15(9.10)</td>
<td>49.15(9.10)</td>
<td>49.15(9.10)</td>
<td>49.15(9.10)</td>
<td>49.15(9.10)</td>
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<tr>
<td>Sexual Inhibition</td>
<td>33.74(5.33)</td>
<td>33.74(5.33)</td>
<td>33.74(5.33)</td>
<td>33.74(5.33)</td>
<td>33.74(5.33)</td>
<td>33.74(5.33)</td>
<td>33.74(5.33)</td>
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<tr>
<td>Sensation Seeking</td>
<td>8.97(4.37)</td>
<td>8.97(4.37)</td>
<td>8.97(4.37)</td>
<td>8.97(4.37)</td>
<td>8.97(4.37)</td>
<td>8.97(4.37)</td>
<td>8.97(4.37)</td>
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<tr>
<td>Attitudes</td>
<td>16.72(8.48)</td>
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<td>27.83(6.81)</td>
<td>27.39(6.43)</td>
<td>28.26(5.19)</td>
<td>29.79(5.38)</td>
<td>11.42(5.60)</td>
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<tr>
<td>Social Norms</td>
<td>7.42(4.78)</td>
<td>19.34(3.69)</td>
<td>19.15(4.27)</td>
<td>17.75(4.25)</td>
<td>18.79(3.73)</td>
<td>19.05(3.70)</td>
<td>17.63(4.23)</td>
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<tr>
<td>Perceived Behavioral Control</td>
<td>17.97(3.61)</td>
<td>18.98(3.16)</td>
<td>18.89(3.29)</td>
<td>17.73(3.90)</td>
<td>18.43(3.47)</td>
<td>18.97(3.24)</td>
<td>17.45(4.05)</td>
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<tr>
<td>Intentions</td>
<td>7.82(5.77)</td>
<td>19.63(2.93)</td>
<td>19.86(2.81)</td>
<td>16.84(5.32)</td>
<td>17.38(5.47)</td>
<td>19.23(3.60)</td>
<td>15.23(6.09)</td>
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<tr>
<td>Behavior over quarter</td>
<td>.33(.49)</td>
<td>5.30(2.14)</td>
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<td>4.16(2.53)</td>
<td>4.60(2.47)</td>
<td>5.98(1.77)</td>
<td>3.75(2.58)</td>
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<tr>
<td>Intention Stability</td>
<td>17.87(4.04)</td>
<td>19.31(2.93)</td>
<td>19.24(3.72)</td>
<td>17.91(5.21)</td>
<td>18.56(4.50)</td>
<td>19.31(3.04)</td>
<td>17.69(3.94)</td>
</tr>
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</table>
### Table 4
*MMeans and Standard Deviations of Variables used in Discriminant Function Analyses except Intention Stability and Certainty*

<table>
<thead>
<tr>
<th></th>
<th>Relationship Vaginal Sex</th>
<th>Relationship Anal Sex</th>
<th>Casual Vaginal Sex</th>
<th>Casual Anal Sex</th>
<th>Casual Oral Sex</th>
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<tbody>
<tr>
<td><strong>Sexual Arousal</strong></td>
<td>6.05(1.06)</td>
<td>5.83(1.24)</td>
<td>5.68(1.24)</td>
<td>4.78(1.79)</td>
<td>5.54(1.23)</td>
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<tr>
<td><strong>Condon Preparation</strong></td>
<td>1.98(.93)</td>
<td>1.84(1.56)</td>
<td>1.85(1.00)</td>
<td>2.33(.82)</td>
<td>1.02(1.02)</td>
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<tr>
<td><strong>Substance Abuse</strong></td>
<td>.75(1.43)</td>
<td>1.08(1.76)</td>
<td>2.14(1.91)</td>
<td>3.00(2.00)</td>
<td>1.94(1.90)</td>
</tr>
<tr>
<td><strong>Affect</strong></td>
<td>35.41(5.95)</td>
<td>34.48(6.37)</td>
<td>33.43(6.33)</td>
<td>31.00(7.32)</td>
<td>28.32(5.31)</td>
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<td><strong>Partner Attractiveness</strong></td>
<td>12.33(2.09)</td>
<td>11.80(3.11)</td>
<td>10.83(2.39)</td>
<td>11.00(2.61)</td>
<td>11.25(2.21)</td>
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<tr>
<td><strong>Condom Use</strong></td>
<td>.56(.50)</td>
<td>.35(.49)</td>
<td>.68(.47)</td>
<td>.73(.47)</td>
<td>.04(.21)</td>
</tr>
<tr>
<td><strong>Other Contraception</strong></td>
<td>.69(.46)</td>
<td>--</td>
<td>.56(.50)</td>
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Table 5
Correlations among Extended Theory of Planned Behavior Model Predicting Causal Sex in Past 2 Months

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<th>9</th>
<th>10</th>
<th>11</th>
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</thead>
<tbody>
<tr>
<td>1. Past Sexual Behavior</td>
<td>--</td>
<td>.32**</td>
<td>-.37**</td>
<td>.11*</td>
<td>-.14**</td>
<td>.26**</td>
<td>.31**</td>
<td>.28**</td>
<td>-.41**</td>
<td>.49**</td>
<td>.43**</td>
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<td>2. Anticipated Affect</td>
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<td>.22**</td>
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<td>.35**</td>
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<td>.60**</td>
<td>-.46**</td>
<td>.61**</td>
<td>.23**</td>
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<td>3. Moral Norms</td>
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<td>.29**</td>
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<td>.43**</td>
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<td>11. Behavior (Casual Sex)</td>
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n = 453; * p ≤ .05  ** p < .01
Table 6
Correlations among Extended Theory of Planned Behavior Model Predicting Condom Use during Casual Sex in Past 2 months

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<td>1. Past Sexual Behavior</td>
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<td>.47**</td>
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<td>.20*</td>
<td>-.09</td>
<td>.15</td>
<td>.17*</td>
<td>.47**</td>
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<td>3. Moral Norms</td>
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<td>-.03</td>
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<td>5. Sexual Inhibition</td>
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<td>6. Sensation Seeking</td>
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<td>-.12</td>
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<td>7. Attitudes</td>
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<td>8. Social Norms</td>
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<td>9. Perceived Behavioral Control</td>
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<td>11. Behavior (Condom Use)</td>
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\[ n = 154; \text{ } \ast \ p \leq .05 \text{ } \ast \ast \ p < .01 \]
Table 7
*Correlations among Extended Theory of Planned Behavior Model Predicting Contraception Use during Casual Sex in Past 2 months*

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n = 154; *p ≤ .05  **p < .01
Table 8
Correlations among Extended Theory of Planned Behavior Model Predicting Dual Use during Casual Sex in Past two months

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\( n = 154; \) \* \( p \leq .05 \) \** \( p < .01 \)
Table 9
Correlations among Extended Theory of Planned Behavior Model Predicting Condom Use during Relationship Sex in Past 2 months

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\( n = 240; \) \( * p \leq .05 \) \( ** p < .01 \)
### Table 10

*Correlations among Extended Theory of Planned Behavior Model Predicting Contraception Use during Relationship Sex in Past 2 months*

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*n = 240; * p ≤ .05  ** p < .01*
### Table 11

*Correlations among Extended Theory of Planned Behavior Model Predicting Dual Use during Relationship Sex in Past 2 months*

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* * p ≤ .05  ** p < .01
Table 12
*Correlations among Variables for those Intending to Use a Condom during Casual Sex at last Casual Sex Incident in Past 2 Months*

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<td></td>
</tr>
<tr>
<td>7. Intention Stability</td>
<td>--</td>
<td>.28**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>8. Condom Use</td>
<td>--</td>
<td></td>
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<td></td>
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n = 118; * p ≤ .05  ** p < .01
Table 13
Correlations among Variables for those Intending to Use Contraception during Casual Sex at last Casual Sex Incident in Past 2 Months

<table>
<thead>
<tr>
<th></th>
<th>1</th>
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<th>5</th>
<th>6</th>
<th>7</th>
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<td>1. Intention Certainty</td>
<td>--</td>
<td>.21*</td>
<td>.13</td>
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<td>-.01</td>
<td>.29**</td>
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<td>2. Sexual Arousal</td>
<td>--</td>
<td>.24**</td>
<td>.05</td>
<td>.20*</td>
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<td>.21*</td>
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<td>3. Condon Preparation</td>
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<td>-.19*</td>
<td>.08</td>
<td>-.01</td>
<td>.19*</td>
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<td>4. Substance Abuse</td>
<td>--</td>
<td>-.04</td>
<td>-.16</td>
<td>.09</td>
<td>.00</td>
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<td>5. Affect</td>
<td>--</td>
<td>.33**</td>
<td>.09</td>
<td>-.05</td>
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<td>6. Partner Attractiveness</td>
<td>--</td>
<td>.08</td>
<td>.04</td>
<td></td>
<td></td>
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<td>7. Intention Stability</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td>.32**</td>
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<td>8. Contraception Use</td>
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\[n = 117; \ * p \leq .05 \ ** p < .01\]
Table 14
Correlations among Variables for those Intending to use Dual Use during Casual Sex at last Casual Sex Incident in Past 2 Months

<table>
<thead>
<tr>
<th></th>
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<td>.04</td>
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<td>.03</td>
<td>.26*</td>
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<td>--</td>
<td>.08</td>
<td>.02</td>
<td>.28**</td>
<td>.65**</td>
<td>-.12</td>
<td>-.04</td>
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<td>3. Condon Preparation</td>
<td>--</td>
<td>-.14</td>
<td>.19</td>
<td>-.02</td>
<td>.05</td>
<td>.30**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Substance Abuse</td>
<td>--</td>
<td>-.02</td>
<td>-.23*</td>
<td>.06</td>
<td>-.03</td>
<td></td>
<td></td>
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<td>5. Affect</td>
<td>--</td>
<td>.37**</td>
<td>.11</td>
<td>.28**</td>
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<td></td>
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<tr>
<td>6. Partner Attractiveness</td>
<td>--</td>
<td>-.01</td>
<td>.04</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>7. Intention Stability</td>
<td>--</td>
<td></td>
<td>.34**</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>8. Dual Use</td>
<td></td>
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</table>

n = 91; * p ≤ .05  ** p < .01
Table 15
*Correlations among Variables for those Intending to Use a Condom during Relationship Sex at last Relationship Sex Incident in Past 2 Months*

<table>
<thead>
<tr>
<th></th>
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<td>.06</td>
<td>.16*</td>
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<td>.19**</td>
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<td>2. Sexual Arousal</td>
<td>--</td>
<td>.10</td>
<td>-.08</td>
<td>.23**</td>
<td>.49**</td>
<td>.03</td>
<td>.05</td>
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<tr>
<td>3. Condom Preparation</td>
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<td>.00</td>
<td>.08</td>
<td>.19**</td>
<td>.34**</td>
<td>.49**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Substance Abuse</td>
<td>--</td>
<td>-.08</td>
<td>-.22**</td>
<td>.12</td>
<td>.09</td>
<td></td>
<td></td>
<td></td>
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<td>5. Affect</td>
<td>--</td>
<td>.41**</td>
<td>-.04</td>
<td>.06</td>
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<td>6. Partner Attractiveness</td>
<td>--</td>
<td>-.03</td>
<td>.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>7. Intention Stability</td>
<td>--</td>
<td>.41**</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td>8. Condom Use</td>
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\(n = 185; * p \leq .05 \) ** \( p < .01 \)
Table 16
Correlations among Variables for those Intending to Use Contraception during Relationship Sex at last Relationship Sex Incident in Past 2 Months

<table>
<thead>
<tr>
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<td>.14*</td>
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<td>.22**</td>
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<td>--</td>
<td>.06</td>
<td>-.11</td>
<td>.25**</td>
<td>.20**</td>
<td>.28**</td>
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<td>4. Substance Abuse</td>
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<td>.05</td>
<td>-.07</td>
<td>.01</td>
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<td></td>
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</tr>
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<td>5. Affect</td>
<td>--</td>
<td>.22**</td>
<td>.15*</td>
<td>.09</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>6. Partner Attractiveness</td>
<td>--</td>
<td>.18*</td>
<td>-.10</td>
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<td>7. Intention Stability</td>
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<td>.35**</td>
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<td>8. Contraception Use</td>
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\(n = 227; \ * p \leq .05 \ ** p < .01\)
Table 17
*Correlations among Variables for those Intending to Use Dual Use during Relationship Sex at last Relationship Sex Incident in Past 2 Months*

<table>
<thead>
<tr>
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<th>1</th>
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<th>7</th>
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<td>-.06</td>
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<td>.16*</td>
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<td>.22**</td>
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<td>.04</td>
<td>-.13</td>
<td>.25**</td>
<td>.47**</td>
<td>-.07</td>
<td>.02</td>
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<td>3. Condom Preparation</td>
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<td>.13</td>
<td>.20*</td>
<td>.31*</td>
<td>.34**</td>
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<td></td>
</tr>
<tr>
<td>4. Substance Abuse</td>
<td>--</td>
<td>-.10</td>
<td>-.18*</td>
<td>.06</td>
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<td>.05</td>
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<td>7. Intention Stability</td>
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<tr>
<td>8. Condom Use</td>
<td>--</td>
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n = 162; * p ≤ .05  ** p < .01
Table 18
*Standardized Function Coefficients and Correlation Coefficients for Casual Sex Discriminant Analyses*

<table>
<thead>
<tr>
<th></th>
<th>Casual Condom Use</th>
<th>Casual Contraception Use</th>
<th>Casual Dual Use</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Standardized</td>
<td>Correlation</td>
<td>Standardized</td>
</tr>
<tr>
<td></td>
<td>Function Coefficients</td>
<td>with Function</td>
<td>Function Coefficients</td>
</tr>
<tr>
<td>Intention Certainty</td>
<td>.60</td>
<td>.62</td>
<td>.60</td>
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<td>Sexual Arousal</td>
<td>--</td>
<td>.16</td>
<td>.71</td>
</tr>
<tr>
<td>Condom Preparation</td>
<td>.79</td>
<td>.80</td>
<td>--</td>
</tr>
<tr>
<td>Substance Abuse</td>
<td>--</td>
<td>-.22</td>
<td>--</td>
</tr>
<tr>
<td>Affect</td>
<td>--</td>
<td>.07</td>
<td>--</td>
</tr>
<tr>
<td>Partner Attractiveness</td>
<td>--</td>
<td>.19</td>
<td>--</td>
</tr>
<tr>
<td>Intention Stability</td>
<td>--</td>
<td>.15</td>
<td>.49</td>
</tr>
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Table 19  
*Standardized Function Coefficients and Correlation Coefficients for Relationship Sex Discriminant Analyses*

<table>
<thead>
<tr>
<th></th>
<th>Relationship Condom Use</th>
<th>Relationship Contraception Use</th>
<th>Relationship Dual Use</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Correlation Coefficients with Function</td>
<td>Standardized Function Coefficients</td>
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<td>.06</td>
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</tr>
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<td>Condom Preparation</td>
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<td>--</td>
</tr>
<tr>
<td>Substance Abuse</td>
<td>--</td>
<td>.07</td>
<td>--</td>
</tr>
<tr>
<td>Affect</td>
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<td>-.02</td>
<td>--</td>
</tr>
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<td>Partner Attractiveness</td>
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<tr>
<td>Intention Stability</td>
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<td>.67</td>
<td>.52</td>
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Table 20
*Group Means for Casual Sex and Relationship Sex Discriminant Analyses*

<table>
<thead>
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<th>Casual Condom Use</th>
<th>Casual Contraception Use</th>
<th>Casual Dual Use</th>
<th>Relationship Condom Use</th>
<th>Relationship Contraception Use</th>
<th>Relationship Dual Use</th>
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</thead>
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<tr>
<td>Used</td>
<td>-1.03</td>
<td>-1.75</td>
<td>-.53</td>
<td>-1.06</td>
<td>-1.44</td>
<td>-.69</td>
</tr>
<tr>
<td>Did not use</td>
<td>.409</td>
<td>.20</td>
<td>.65</td>
<td>.45</td>
<td>.11</td>
<td>.71</td>
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### Table 21
**Summary of Final Extended SEM Analyses**

<table>
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<tr>
<th>Analysis</th>
<th>Significant</th>
<th>Variables with Direct Paths to Intentions</th>
<th>Variables with Direct Paths to Behavior</th>
<th>Variance Accounted for in Intentions/Behavior</th>
</tr>
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<tbody>
<tr>
<td>Casual Sex</td>
<td>YES</td>
<td>past behavior</td>
<td>past behavior, anticipated affect, moral norms</td>
<td>60%/38%</td>
</tr>
<tr>
<td>Casual Condom</td>
<td>YES</td>
<td>past behavior</td>
<td>past behavior, moral norms</td>
<td>60%/25%</td>
</tr>
<tr>
<td>Casual Contraception</td>
<td>NO</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Casual Dual Use</td>
<td>YES</td>
<td>past behavior, sexual inhibition</td>
<td>past behavior, moral norms, sexual excitation</td>
<td>68%/38%</td>
</tr>
<tr>
<td>Relationship Condom</td>
<td>YES</td>
<td>past behavior, anticipated affect</td>
<td>past behavior, anticipated affect, sexual inhibition</td>
<td>70%/65%</td>
</tr>
<tr>
<td>Relationship Contraception</td>
<td>NO</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Relationship Dual</td>
<td>YES</td>
<td>past behavior</td>
<td>past behavior, moral norms, sexual excitation</td>
<td>73%/54%</td>
</tr>
</tbody>
</table>
Table 22  
*Summary of Discriminant Function Analyses*

<table>
<thead>
<tr>
<th>Intender Type</th>
<th>Statistics</th>
<th>Significant Variables</th>
<th>Classification %</th>
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</thead>
<tbody>
<tr>
<td>Casual Condom</td>
<td>Wilks’s lambda = .70, ( \chi^2(2, N = 116) = 40.26, p &lt; .001 )</td>
<td>condom preparatory behaviors, intention certainty</td>
<td>59.3%/79.3%</td>
</tr>
<tr>
<td>Casual Contraception</td>
<td>Wilks’s lambda = .79, ( \chi^2(3, N = 115) = 34.36, p &lt; .001 )</td>
<td>sexual arousal, intention certainty, intention stability</td>
<td>81.3%/91.3%</td>
</tr>
<tr>
<td>Casual Dual Use</td>
<td>Wilks’s lambda = .74, ( \chi^2(3, N = 91) = 26.51, p &lt; .001 )</td>
<td>condom preparatory behaviors, intention certainty, intention stability</td>
<td>50.5%/74.7%</td>
</tr>
<tr>
<td>Relationship Condom</td>
<td>Wilks’s lambda = .68, ( \chi^2(2, N = 182) = 69.54, p &lt; .001 )</td>
<td>condom preparatory behaviors, intention stability</td>
<td>58.3%/80.2%</td>
</tr>
<tr>
<td>Relationship Contraception</td>
<td>Wilks’s lambda = .86, ( \chi^2(3, N = 222) = 32.71, p &lt; .001 )</td>
<td>sexual arousal, intention certainty, intention stability</td>
<td>86.7%/92.3%</td>
</tr>
<tr>
<td>Relationship Dual</td>
<td>Wilks’s lambda = .67, ( \chi^2(4, N = 157) = 61.23, p &lt; .001 )</td>
<td>condom preparatory behaviors, mood, intention stability, intention certainty</td>
<td>50%/76.4%</td>
</tr>
</tbody>
</table>
Figure 1. Theory of planned behavior model
Figure 2. Theory of planned behavior with additional variables.

*Note:* Unbroken lines and dashed lines represent the sufficiency model and the dotted lines represent an extended model.
Figure 3. The intention-behavior relationship.
Figure 4. The final Theory of Planned Behavior sufficiency model predicting casual sex engagement over the 2-month period.

Notes: Exogenous variable correlations not shown. Casual sex is number of reported casual partners over last 2 months.

***p ≤ .001 **p ≤ .01 *p < .05
Figure 5. The final Theory of Planned Behavior extended model predicting casual sex engagement over the 2-month period.

Notes: Exogenous variable correlations not shown. Casual sex is number of reported casual partners over last 2 months.

***p ≤ .001 **p ≤ .01 *p < .05
Figure 6. The final Theory of Planned Behavior sufficiency model predicting condom use with casual partners over the 2-month period.

Notes: Exogenous variable correlations not shown.
***p ≤ .001 **p ≤ .01 *p < .05
Figure 7. The final Theory of Planned Behavior extended model predicting condom use with casual partners over the 2-month period.

Notes: Exogenous variable correlations not shown.

***p ≤ .001  **p ≤ .01  *p < .05
Figure 8. The final Theory of Planned Behavior sufficiency model predicting contraception use with casual partners over the 2-month period.

Notes: Exogenous variable correlations not shown.

***p ≤ .001  **p ≤ .01  *p < .05
Figure 9. The final Theory of Planned Behavior extended model predicting contraception use with casual partners over the 2-month period.

Notes: Exogenous variable correlations not shown.

*** $p \leq .001$ ** $p \leq .01$ * $p < .05$
Figure 10. The final Theory of Planned Behavior sufficiency model predicting dual use with casual partners over the 2-month period.

Notes: Exogenous variable correlations not shown.
***p ≤ .001 **p ≤ .01 *p < .05
Figure 11. The final Theory of Planned Behavior extended model predicting dual use with casual partners over the 2-month period.

Notes: Exogenous variable correlations not shown.

***$p \leq .001$ **$p \leq .01$ *$p < .05$
Figure 12. The final Theory of Planned Behavior sufficiency model predicting condom use with relationship partners over the 2-month period.

Notes: Exogenous variable correlations not shown.

***p ≤ .001 **p ≤ .01 *p < .05
Figure 13. The final Theory of Planned Behavior extended model predicting condom use with relationship partners over the 2-month period.

Notes: Exogenous variable correlations not shown.

***p ≤ .001 **p ≤ .01 *p < .05
Figure 14. The final Theory of Planned Behavior sufficiency model predicting contraception use with relationship partners over the 2-month period.

Notes: Exogenous variable correlations not shown.

***p ≤ .001 **p ≤ .01 *p < .05
Figure 15. The final Theory of Planned Behavior extended model predicting contraception use with relationship partners over the 2-month period.

Notes: Exogenous variable correlations not shown.

***p < .001 **p < .01 *p < .05
Figure 16. The final Theory of Planned Behavior sufficiency model predicting dual use with relationship partners over the 2-month period.

Notes: Exogenous variable correlations not shown.

***p ≤ .001 **p ≤ .01 *p < .05
Figure 17. The final Theory of Planned Behavior extended model predicting dual use with relationship partners over the 2-month period.

Notes: Exogenous variable correlations not shown.

***$p \leq .001$ **$p \leq .01$ *$p < .05$