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DEMOGRAPHIC AND PERSONALITY FACTORS AS PREDICTORS OF HIV/STD PARTNER-SPECIFIC RISK PERCEPTIONS: IMPLICATIONS FOR INTERVENTIONS

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Abstract

Although risk perception as a motivator of precautionary behavior is a key component of several health behavior theories, this motivational hypothesis has found mixed support in the HIV/AIDS area. This may be, in part, because risk perceptions are more complex than they are treated in many studies of the motivational hypothesis. The current study examines demographic, personality, and sexual risk factors as predictors of partner-specific (main vs. casual) HIV/STD risk perceptions in a sample of 1,489 young adults. As expected, perceptions of HIV/STD risk were higher in the context of “casual” as compared with “main” partnerships. Although univariate analyses demonstrated that gender, race/ethnicity, sensation seeking, impulsivity, number of partners, and condom use all influenced HIV/STD risk perceptions, only gender, condom use, and race/ethnicity remained significant in multivariate analyses. Implications of these results for the design of efficacious HIV prevention interventions are discussed.

The relationship between risk perception and precautionary behavior is a central component of many health behavior theories where precautionary health behavior is predicated on heightened perceptions of risk. This has been called the motivational hypothesis (Gerrard, Gibbons, & Bushman, 1996), because perceived risk is a primary motivation for undertaking preventive behavior. This hypothesis has been tested extensively in the area of sexual behavior with mixed results (Gerrard et al., 1996; Kowaleski, Henson, & Longshore, 1997; Poppen & Reisen, 1997). Risk perception has been tested primarily as an explanatory variable to predict various sexual behaviors. In this article we will examine the predictors of risk perception itself. It is important to understand risk perception as many sexually transmitted disease (STD)/HIV interventions and media campaigns are based on the presumption of the risk-behavior relationship, and because risk perception has been found to be a key motivator of precautionary behavior in several health domains (Reisen & Poppen, 1999).

RISK PERCEPTION IN HEALTH BEHAVIOR THEORIES

The health belief model (HBM; Janz & Becker, 1984) was the first major theory of health behavior that focused on perceived risk of a health threat as a primary motivator of

precautionary behavior. In the HBM the risk perception component is called perceived threat and is the product of perceived susceptibility of contracting a disease and perceived severity of the potential disease. The key tenet of the HBM is that a person must feel personally threatened by a health condition in order to be motivated to take action to prevent that health condition. Weinstein's precaution adoption process model (PAPM; Weinstein & Sandman, 2002) is another theory in which risk perception is a key variable. The PAPM is a five-stage model. It is theorized that individuals arrive at an appraisal of personal vulnerability to a health threat in stages. The extended parallel process model (Witte, 1992), an extension of protection motivation theory (Rogers, 1975), is a fear appeal theory whereby fear arousal (leading to risk perception) leads to one of three behavioral outcomes; danger control (threat perception and perceived self-efficacy high), which leads to active precautionary behavioral measures; fear control (high threat perception and low perceived self-efficacy), which leads to denial of the seriousness of the threat and continuation of risky behaviors; or ignoring the threat if it is perceived as low severity and irrelevant (Witte, 1992). Risk perception thus involves a cost-benefit analysis of one's behavior with regard to specific behavioral outcomes and is proposed as a key motivator of precautionary behavior in several theories.

RISK PERCEPTION AS A PREDICTOR OF PRECAUTIONARY/RISKY SEXUAL BEHAVIOR

Gerrard et al. (1996) contended that the motivational hypothesis is an incomplete conceptualization of the risk-behavior relationship in the safer sex area. They argued that perceptions of risk lead to future preventive behavior and risk perception itself is a reflection of "current and recent behavior," thus describing a reciprocal relationship between the two. Gerard et al. tested these two hypotheses in a meta-analysis, examining the risk-behavior causal link and the behavior-risk causal link; they found weak support for the latter and none for the former. Recent studies have suggested more mixed evidence for the risk perception-precautionary behavior hypothesis, with some reporting non-significant findings (Ruiz, 1997), some finding strong support for it (Norton, Bogart, Cecil, & Pinkerton, 2005), and others (Baume, 2000) supporting both the hypotheses.

Gerrard et al. (1996) qualified that this seemingly contradictory risk-behavior causal link in the safer sex area may be due to special characteristics of HIV/AIDS such as (a) emotionally charged decisions associated with sex that impede rational decision making; (b) social behavior, such as negotiating safer sex options with one's partner; (c) symptom delay or long incubation period of the disease, which leads to lower perception of risk or lower motivational power of risk perception to initiate precautionary behavior; (d) and, the low probability and uncertainty of infection. They also raise methodological issues such as use of cross-sectional study designs instead of prospective longitudinal designs to test the risk perception-behavior relationship as reasons for the lack of support for the motivational hypothesis.

Reisen and Poppen (1999) and Kowaleski et al. (1997) argued that instead of discrediting the motivational hypothesis, attention needs to be directed toward accurate definition and measurement of risk perception. Instead of using what they call global measures, specific and well-defined measures of risk perception such as partner-specific-risk-perception

measures (which make a distinction between the risks posed by main versus a casual sexual partner) need to be used.

PREDICTORS OF RISK PERCEPTION IN SEXUAL BEHAVIOR

Recent studies suggest that risk perception is perhaps more complex than originally thought. Demographic variables such as race (Klien, Elifson, & Sterk, 2003), gender (Theall, Elifson, Sterk, & Klein, 2003) sexual context variables (Hou, 2004), and previous precautionary behavior (Prohaska, 1990) seem to be important when assessing perceptions of risk. In this article we examine the importance of demographic (gender, age, race) variables, sexual context variables such as relationship length and number of sex partners, and previous precautionary behavior as suggested by previous research. Additionally we assess partnership characteristics (main versus casual) and individual differences (sensation seeking and impulsive decision-making) in understanding risk perception of contracting STDs and HIV.

PARTNERSHIP CHARACTERISTICS—MAIN VERSUS CASUAL PARTNERS

It is widely believed that being in a secure, intimate relationship has many salutary effects, including health benefits such as less stress, tension, depression, anxiety (Zimmer-Gembeck, Siebenbruner, & Collins, 2001). However, there is increasing evidence that the very facets of secure relationships that provide a buffer against several physical and mental health problems have negative repercussions on STD/HIV preventive behavior. For instance, the security of monogamous relationships that protects against mental health problems prevents couples from broaching the topic of protected sex for fear of offending their partner (Wingood, Hunter-Gamble, & DiClemente, 1993). Moreover, the concept of monogamy itself has several qualifiers as research indicates that people often engage in several concurrent monogamous relationships (Kelly & Kalichman, 1995), thus unknowingly becoming a part of a wider sexual web of relationships (Ford, Sohn, & Lepkowski, 2002).

Research indicates that people in secure, intimate relationships engage in precautionary/preventive sexual behavior less so than do those in casual relationships (Misovich, Fisher, & Fisher, 1997; Noar, Zimmerman, & Atwood, 2004). This has been attributed to several factors such as personality theories (Williams et al., 1992 as cited in Misovich et al., 1997) (people estimate the risk posed by a prospective sexual partner based on external characteristics such as “dress, demeanor and personality”). If a person does not fit the cognitive prototype of an HIV-positive person, then the person is assessed to be of little or no risk (Hammer et al., 1996). Another factor (Misovich et al., 1997) is that of AIDS prevention heuristics (such as “known partners are safe partners” and “monogamous sex is safe sex”). Comer and Nemeroff (2000) argued that people employ emotional or non-rational strategies in estimating perceived health threats of HIV and STDs and that this is more common in main relationships than in casual sexual relationships.

In a study examining the casual/regular partner distinction among young adults, Comer and Nemeroff (2000) found that casual partners were described as those that a person does not know very well and “met generally at a bar or party” (p. 2475). Casual relationships were generally viewed as those in which there were no expectations of monogamy, commitment,

or obligations and that were not likely to develop into serious long-term relationships. In the same study, a regular partner was described as someone with whom a person feels comfortable and has open and free communication. In addition, in regular relationships people tend to know each other's habits, respect each other's values and morals, and often plan for a future together. They also typically agree to have a monogamous relationship. This dichotomy of main versus casual relationships has emerged as an important aspect of distinctively different approaches to HIV prevention behaviors.

INDIVIDUAL DIFFERENCES-SENSATION SEEKING AND IMPULSIVE DECISION MAKING

There has been extensive research on the relationship of personality factors of impulsivity (Eysenck & Eysenck, 1977) and sensation seeking (Zuckerman, 1984) with involvement in risky behaviors. In a comprehensive review of the relationship between personality factors and sexual risk taking, Hoyle, Fejfar, and Miller (2000) found sensation seeking and impulsivity to be highly correlated with sexual risk taking and unprotected sex. According to Zuckerman (1994), sensation seeking is a "trait defined by the seeking of varied, novel, complex, and intense sensations and experiences, and the willingness to take physical, social, legal and financial risks for the sake of such experiences." Donohew et al. (2000) described impulsive decision making as a dimension derived from the trait of impulsivity whereby individuals with an impulsive decision making style tend to make more rash and unplanned decisions than do individuals who have a rational decision making style. Donohew and colleagues further (2000) found that individuals who score high on both of these traits (sensation seeking, impulsivity) are likely to engage in more risky sexual activity than those who score high on only one of these. Whether differences that have been found in sensation seekers and impulsive decision makers sexual risk behavior also correspond to differences in levels of risk perception has seldom been directly examined

PURPOSE OF THE CURRENT STUDY

The purpose of the current study was to test the explanatory power of demographic, personality, and sexual risk factors with respect to risk perception relative to contracting HIV/AIDS and STDs. Perceived risk of pregnancy was also included for comparison purposes. This was tested in a sample of $N = 1,489$ young adults. Specifically, we were interested in determining the impact of gender and race/ethnicity (demographics), sensation seeking and impulsive decision making (personality), and relationship length, number of sex partners and past condom usage (sexual risk) on partner-specific (main vs. casual partner) HIV and STD risk perceptions.

RESEARCH QUESTIONS

We sought to answer the following research questions:

1. Which of the three—contracting an STD, contracting HIV, or becoming pregnant—is perceived as most risky when not using condoms?

2. Do partner-specific (main vs. casual) risk perceptions differ according to gender, race/ethnicity, personality factors (sensation seeking, decision-making), sexual context variables (condom usage, relationship length) and number of sexual partners?
3. In a multivariate analysis, how do gender, race/ethnicity, personality factors (sensation seeking, decision making), sexual context variables (condom usage, relationship length), predict partner-specific (main vs. casual) risk perceptions?

METHOD

PARTICIPANTS

The data utilized in this article are part of a larger study of the impact of safer sex mass media campaign targeting young adults in two cities (Palmgreen, Noar, & Zimmerman, 2008; Zimmerman et al., 2007). Data were collected by two university survey research centers using a random digit dial (RDD) procedure. The data examined here are precampaign data that were collected between May and December 2002. The RDD took place using specialized lists from commercial firms that targeted young adults, lists that targeted college students in both communities, as well as standard RDD. Individuals who were called and indicated interest in the survey were then screened. To be included in the study, participants had to be aged 18–26, unmarried, heterosexually active (sex with an opposite sex partner) in the past 3 months, and a citizen of the United States. Of those called, 1,548 individuals in both cities met these criteria and were surveyed in person on a laptop computer. A small number of individuals were excluded from this analysis because their survey data indicated that they had *not* been heterosexually active in the past 3 months ($n = 49$) or were not U.S. residents ($n = 10$). Thus, a sample of 1,489 individuals was utilized for the current study.

MEASURES

All multiple-item scales used 5-point Likert response formats. In addition, items were recoded as necessary so higher scale scores indicated higher endorsement of variables.

Demographics—Individuals were asked general demographic questions including gender, race/ethnicity, and age.

Sexual Descriptors—Individuals were asked questions including whether or not they were in an intimate relationship, the length of this relationship, and how many sexual partners they had had in the past year.

Condom Use—Condom use was measured with a single item where respondents were asked how often one (or one's sexual partner) used condoms in the past 3 months during sexual intercourse with all sex partners. Respondents answered this question on a scale that ranged from "never" to "every time."

Sensation Seeking—Sensation seeking was assessed using Hoyle, Stephenson, Palmgreen, Lorch and Donohew's (2002) eight-item sensation seeking scale. Participants

were asked how much they agreed or disagreed with items such as “I like to do frightening things.” The scale was reliable with a coefficient alpha of .74.

Impulsive Decision Making—Impulsive decision making was measured with the 12-item decision making style scale (Donohew et al., 2000). Items included “I do the first thing that comes into my mind.” Respondents indicated how often these things took place, and this scale was also reliable with a coefficient alpha of .84.

Perceived Risk Items—Perceived risk items as suggested by Janz, Champion, and Strecher (2002) were anchored in a specific behavior and in a specific context (suggested by Reisen & Poppen, 1999). All the risk perception items were anchored in consistent use (“always use condoms”) or nonuse (“never use condoms”) of condoms (specific behavioral anchor) in a main or casual sexual relationship (specific sexual context). For example, with regard to HIV, the following questions were asked: (a) If a person *always* used condoms, how likely do you think it is that they would get HIV in the next year? (b) If a person *never* used condoms with a *main* sexual partner, how likely do you think it is that they would get HIV in the next year? (c) If a person *never* used condoms with a *casual* sexual partner, how likely do you think it is that they would get HIV in the next year?

The same questions were asked with regard to STD and pregnancy, except that in place of “How likely do you think it is that they would get HIV in the next year?” they were asked, “How likely do you think it is that they would get an STD (other than HIV) in the next year?” and “How likely do you think it is that they would get pregnant in the next year?” respectively. For all items, respondents indicated their responses on a 5-point scale ranging from 1 (very unlikely) to 5 (very likely). For ease of interpretation, the five categories were collapsed into three, with “very likely” and “somewhat likely” grouped together and “very unlikely” and “somewhat unlikely” grouped together. The two scales were used in the regression analysis. *Perceived risk of STD/HIV from main partners* was measured by summing items measuring the perceived risk of contracting HIV or other STDs from main sex partners (when not using condoms) in the next year. The scale demonstrated a coefficient alpha of .63. *Perceived risk of STD/HIV from casual partners* was measured by summing items measuring the perceived risk of contracting HIV or other STDs from casual sex partners (when not using condoms) in the next year. The scale demonstrated a coefficient alpha of .64.

PROCEDURE

Individuals who were eligible and interested on the telephone were invited to participate in the main survey. They were given various options where they could take the survey, including at their home, at the survey research center, or at another location (e.g., public library, coffee shop). The interviews were conducted in a systematic manner. First, informed consent was obtained before the interview began. Next, participants were asked a few questions (e.g., demographics) by the interviewer. Then, the majority of the interview was self-administered via a laptop computer. The laptop allowed for greater privacy as well as randomization of the multiple-item scales. Finally, individuals were paid approximately \$30

for their participation. The institutional review boards at the participating universities approved the research study and these recruiting and interviewing procedures.

RESULTS

The sample of 1489 young adults had a slightly heavier concentration of females (56%) than males (44%). The median age of the respondents was 21 years and the sample consisted primarily of Caucasians (85%; $n = 1267$). African Americans comprised 11% ($n = 174$) of the sample while others made up the remaining 4% ($n = 48$) of the sample. More than half (61%) of those surveyed had completed some college. Although 72% answered that they were currently in a relationship, 41% had been in a relationship for less than 1 year, 37% for 1 to 3 years and 22% for more than 3 years. The median age at first sexual intercourse was 16 years while the mean number of sex partners in the previous year was higher for males (3.41) than females (2.29). Condom usage in the past 3 months was occasional with 43% respondents falling in the “sometimes” category and 30 % in the “never” category, whereas only 27% were in the “always” category. The mean score on the sensation seeking scale was 3.42 ($SD = .70$) and on the decision making scale was 2.61 ($SD = .53$).

RISK PERCEPTION OF CONTRACTING HIV/STD AND BECOMING PREGNANT FROM MAIN VERSUS CASUAL PARTNERS

Risk perceptions regarding contracting HIV-STDs, and becoming pregnant are reported in Table 1. The perceived risk of contracting both HIV (68%) or another STD (80%) from unprotected sex with a casual sexual partner was rated as much higher than the perceived risk of contracting HIV (26%) or another STD (33%) from a main sexual partner. However, these were all lower than the perceived risk of becoming pregnant (81–84%). Therefore, in the absence of condom use, perceived risk of pregnancy was rated highest, followed by perceived risk of STDs and lastly by HIV. In addition, consistent condom use (“always use condoms”) was seen as providing considerable protection against STD/HIV infection and becoming pregnant (see Table 1).

DIFFERENCES IN RISK PERCEPTION BY DEMOGRAPHIC AND INDIVIDUAL DIFFERENCES VARIABLES, CONDOM USAGE, RELATIONSHIP LENGTH, AND NUMBER OF SEX PARTNERS IN THE PAST YEAR

With regard to gender, females viewed casual sexual partners as more risky with respect to contracting HIV and STDs (when not using condoms) than males ($p < .001$; see Table 2). Even though this sample was heavily skewed toward Caucasians it is worthwhile to note that African Americans perceived significantly greater risk of contracting HIV ($p < .01$) and STDs ($p < .001$) from main sex partners than Caucasians. High sensation seekers perceived significantly lower risk of contracting STD ($p < .01$) and HIV ($p < .001$) from casual sex partners in the absence of condom usage than low sensation seekers. They also perceived main sex partners as less risky with regard to contracting HIV ($p < .001$) and other STDs ($p < .001$) than their low sensation-seeking counterparts. Similarly, impulsive decision makers perceived significantly lower risk of contracting HIV ($p < .001$) and other STDs ($p < .001$) from unprotected sex with casual sex partners as compared to the rational decision makers.

There were also significant differences in risk perceptions among those who used condoms compared to those who did not (Table 3). Condom users perceived significantly higher risk of contracting HIV ($p < .001$) and other STDs ($p < .001$) in the context of unprotected sex with main partners as compared to non condom users. Although no differences were found on the relationship length variable, those with more than one sex partner in the past year perceived significantly ($p < .01$) more HIV and STD risk than those with one sex partner in the past year (see Table 3).

MULTIPLE REGRESSION ANALYSES

Next, multiple regression analyses were performed to examine in a multivariate context which variables were important in predicting the risk of contracting an STD/HIV in the main vs. casual sex partner context. In the first multiple regression the dependent variable was a two item scale of perceived risk of contracting STD/HIV when not using a condom while having sex with a main sex partner. In the second multiple regression the dependent variable was a two item scale of perceived risk of contracting STD/HIV when not using a condom while having sex with a casual sex partner.

MULTIPLE REGRESSION ANALYSIS OF PERCEIVED RISK OF STD/HIV FROM A MAIN SEX PARTNER

Multiple regression revealed a significant model, $F(8, 1371) = 12.82, p < .001$, multiple $R = .264, p < .001$ (see Table 4). The four significant predictors of risk perception of contracting STD/HIV from main sex partners were gender ($\beta = .144$), race/ethnicity ($\beta = .100$) condom usage in the past 3 months ($\beta = .131$), and sensation seeking ($\beta = -.060$). Thus, females and African Americans rated main partners as more risky than did males and Caucasians. Sensation seeking was inversely related to risk perception, even though it contributed little to variance in risk perception explained. The strongest predictors of risk perception were gender and past condom usage. Decision making and relationship variables of relationship length and number of sex partners were not significant predictors of risk perception with respect to risk posed by main partners.

MULTIPLE REGRESSION ANALYSIS OF PERCEIVED RISK OF STD/HIV FROM A CASUAL SEX PARTNER

Multiple regression analysis revealed a significant model, $F(8, 1379) = 17.39, p < .001$, multiple $R = .304, p < .001$ (see Table 4). The four significant predictors of risk perception of contracting STD/HIV from casual sex partners were gender ($\beta = .200$), impulsive decision making ($\beta = -0.127$), condom usage in the past 3 months ($\beta = .110$), and number of sex partners ($\beta = -0.077$). Gender emerged as a strong predictor of risk perception from casual partners with females' risk perceptions higher than that of males. Decision making was inversely related to risk perception and so was the variable of number of sex partners thus implying that impulsive decisions makers have lower risk appraisals and rational decision-makers have higher risk appraisals. Similarly as the number of sex partners increase people perceive more risk of contracting STDs/HIV. Gender, decision making, and past condom usage emerged as strong predictors of risk perception with respect to casual sex partners.

Sensation seeking and the relationship variable of relationship length were not significant predictors of risk perception with respect to risk posed by casual partners.

DISCUSSION

In the current study we examined whether risk perceptions of contracting HIV and STD varied in the case of casual versus main sexual partners. We were also interested in determining the impact of demographic, personality, and sexual risk factors on perceptions of HIV/STD risk across main versus casual partnership types. Risk of becoming pregnant was also included as a comparison, and it was found that the risk of becoming pregnant in the absence of condom usage was the highest in the case of both partnership types. This was followed by risk of contracting STDs and then HIV in the absence of condom use, and this ordering of risk appraisal was similar for both partnership types.

In accordance with past research (Comer & Nemeroff, 2000; Misovich et al., 1997), it was found that casual sexual partners were perceived as much more risky than main sexual partners for both HIV and STDs. Kelly and Kalichman (1995) argue that this may be because feelings of love and affection in main relationships reduce the salience of health issues leading to lower likelihood of partners being perceived as health threats. Moreover, in main relationships couples are wary of broaching the topic of protected sex for fear of offending their partner, endangering a stable relationship, and upsetting the atmosphere of mutual trust in the relationship (Wingood et al., 1993). Comer and Nemeroff (2000) contend that in main relationships people feel safe—both physically and emotionally—and therefore do not feel the need to employ safer sex practices. All of these reasons—reduced salience of health issues, feelings of safety, and conflict avoidance—may lead to lower safer sex practices in main sexual relationships.

Gender emerged as a strong predictor of risk perception with females' risk perceptions from both main and casual sexual partners higher than that of males. However the risk perception was greater in the case of casual sexual relationships than in main sexual relationships. Comer and Nemeroff (2000) contend that this may be due to high awareness among females that they are more susceptible to contracting HIV/STDs via heterosexual contact. Additionally, greater condom usage was related to higher levels of risk perception as it has been hypothesized that people who perceive higher risk from unprotected sex would use condoms more consistently. This does imply that risk perception and precautionary behavior are linked in a meaningful way.

Race/ethnicity was a significant predictor of risk perception in the case of main sexual partners but not in the case of casual relationships, implying that African Americans perceive main sexual relationships as more risky than do Whites. This is an important finding in view of the fact that African Americans now register the highest rates of HIV infection (Centers for Disease Control and Prevention, 1999) and increasingly prevention efforts are being tailored for and targeted at African Americans (Mize, 2002; Wingwood & DiClemente, 2006). One can speculate that interventions and campaigns regarding the risk posed in main sexual relationships are having the desired effect in increasing the salience of this risk among African Americans.

Consistent with expectations (Horvath & Zuckerman, 1993), sensation seeking and impulsive decision making had inverse relationships with risk perception in bivariate analyses (such that high sensation seekers and impulsive decision makers had lower risk perception of contracting an STD/HIV in both main and casual sexual relationships). These relationships, however, greatly diminished in the multivariate analyses. The low predictive value of these traits may be due to the fact that gender is associated with sensation seeking, and thus once gender was taken into account the effects of sensation seeking were diminished. Thus, this may imply that gender plays a larger role in the development of risk perceptions than do these personality characteristics. However, it should be noted that even after taking gender into account, the association between impulsive decision making and risk perception held. This suggests that such individuals may be especially prone to low risk perceptions in situations with casual sexual partners.

It is evident from this study that there are multiple predictors of HIV/STD risk perception and that risk perception in the context of sexual behavior is a complex phenomenon, being influenced by demographic, personality, and sexual risk factors. Although the ideal scenario is that people consistently practice safe sex *and* avoid risky sexual situations, this does not always translate into practice. Rather, people may adjust their risk appraisals after practicing particular types of sexual behavior. In this manner, risk and precautionary behaviors are not independent and their may be an interplay among the two (Gerrard et al. 1996).

IMPLICATIONS FOR INTERVENTIONS

There is a clear indication from this study that casual partners in general are perceived as more risky than main partners where risk of contracting diseases is concerned, even though main relationships may also pose risks. Indeed, there are some specific areas that should be addressed in interventions regarding the risk associated with main relationships. First, it is important to determine when casual relationships become main/steady relationships. Fortenberry, Tu, Harezlak, Katz, and Orr (2002) found that for adolescents and young adults the cutoff point for discontinuing condom use in favor of hormonal birth control was at about 3 weeks. Thus, in a short period of time youngsters tend to place a lot more trust in relationships without determining each other's risk status. Second, it has been found that young adults often use partner selection (attractiveness of the person, appearance of health, etc.) rather than safer sexual practices to avoid disease (Keller, 1993). Such superficial perceptions of risk judgment should be addressed. Third, the notion of emotional safety and physical safety needs to be disentangled (Comer & Nemeroff, 2000). At times, those in main relationships appear to confuse emotional safety (i.e., intimacy) with physical safety (i.e., no risk of STDs). Interventions might more clearly communicate the idea that monogamy only means safety from disease if both partners have been tested and are sure they are free of STDs.

As Misovich et al. (1997) argued, an acceptance of risk in main sexual relationships is important and instead of harming a stable relationship, interventions and campaigns could position the presence of this risk as an opportunity to strengthen the relationship. This could be accomplished by highlighting the importance of protective behaviors in order to protect one's partner, to show concern for each other, and build trust by communicating about and

practicing safe behaviors. In case of casual relationships, more risk appraisal should be encouraged to counter what has been called the “ultimate irony” (Bowen & Micheal-Johnson, 1989, p.15). This is a situation in which young adults consider the discussion of each other’s sexually transmitted infection status too serious a topic to be discussed in casual sexual encounters and often engage in unsafe sex.

The findings in the current study also emphasize the importance of sensitizing males to the risk of contracting STD/HIV in sexual relationships, as their risk perceptions tend to be lower than those of females in risky sexual situations. High risk raking and hence low risk perceptions among males may be linked to expressing masculinity through sexual conquests and sexual control (Noar & Morokoff, 2002; Thompson-Robinson, Weaver, Shegog, 2007; Whitehead, 1997). Therefore, gender-specific risk appraisals of main and casual sexual relationships need to be considered in tailored and targeted safer sex interventions. The same considerations may need to be extended in designing interventions keeping in mind racial differences in appraisals of risky sexual situations in relationships. Indeed, recent empirical evidence from meta-analyses of HIV prevention interventions has suggested that targeted interventions focusing on homogenous groups are more efficacious than those focused on more heterogeneous groups (Noar, 2008). The current findings add theoretical relevance to this argument, as gender- and race-specific issues surrounding risk perception will likely be better dealt with in single-gender and single-race interventions rather than those targeting more heterogeneous groups.

Finally, as noted earlier, sensation seeking and impulsive decision making were found to be strongly related to risk perception of contracting both STDs and HIV in the bivariate analyses. Given that high sensation seekers actually seek out risky behaviors and situations because they feel rewarded by the “thrill” of such experiences (Horvath & Zuckerman, 1993), and impulsive individuals appear to make (often bad) decisions in the “heat of the moment” (Donohew et al., 2000), these characteristics may at times be important targeting variables within the context of certain subpopulations (Palmgreen & Donohew, 2003). This includes risk groups such as men who have sex with men where sexual sensation seeking has been found to be a powerful predictor of risky sexual behavior (Kalichman et al., 1994).

LIMITATIONS

There were limitations to the current study. For instance, respondents were not asked to state whether they were in casual or main sexual relationships. The risk perception questions were framed such that respondents were asked to imagine if they were in casual versus main relationships. This is a limitation of the study and it would be useful for future research to ask respondents to make the casual versus main distinction in their current sexual relationships and then assess their risk perception based on real rather than hypothetical relationship contexts. However, respondents in this study were asked whether they were currently in a relationship and the length of that relationship, and significant differences were found on this variable.

In addition, casual and main relationships were not overtly defined in the questions in this study. However, early formative research suggested that the target audience understood the terms casual and main in much the same way as was found by Comer and Nemeroff (2000).

Future research may benefit by specifically defining the casual/main distinction in the questions to avoid any ambiguity.

Finally, another limitation of the study was that the sample was primarily Caucasian, though it was representative of the population of the two cities in southeastern United States where this study was conducted. Even though the proportion of African Americans was relatively small, because of the large overall sample size their numbers were large enough to lend statistical power to examine differences between Caucasians and African Americans.

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TABLE 1

Perceived Risk of HIV/STDs/Pregnancy by Partner Type

Perceived risk of HIV	CASUAL Partner NEVER use condoms		MAIN Partner NEVER use condoms		ANY Partner ALWAYS use condoms	
	N	%	N	%	N	%
Unlikely	198	13	806	54	1202	81
Unsure	273	18	299	20	152	10
Likely	1,018	68	384	26	135	9
Total	1,489	100	1,489	100	1,489	100
Perceived risk of sexually transmitted diseases						
Unlikely	133	9	729	49	1049	70
Unsure	160	11	262	18	159	11
Likely	1,196	80	498	33	281	19
Total	1,489	100	1,489	100	1,489	100
Perceived risk of pregnancy						
Unlikely	130	9	170	11	968	65
Unsure	101	7	110	7	125	8
Likely	1,258	84	1,209	81	396	27
Total	1,489	100	1,489	100	1,489	100

TABLE 2

Cross tabulations between Perceived Risk items and Demographics/Personality Traits

	Male		Female		Chi Sq.	White		Black		Chi Sq.	LSS		HSS		Chi Sq.	RDM		IDM		Chi Sq
	N	%	N	%		N	%	N	%		N	%	N	%		N	%	N	%	
Risk perception of HIV from casual partner-never use condoms																				
unlikely	107	16	91	11	***	177	14	16	9		67	10	114	16	***	71	11	96	15	***
unsure	174	27	99	12		234	18	31	18		99	15	154	21		96	15	146	22	
likely	375	57	643	77		856	68	127	73		506	75	457	63		495	75	413	63	
Risk perception of HIV from main partner-never use condoms																				
unlikely	392	55	414	50	***	711	56	71	41	**	335	50	420	58	***	347	52	371	57	
unsure	136	21	163	20		251	20	38	22		131	19	150	21		125	19	132	20	
likely	128	20	256	31		305	24	65	37		206	31	155	21		190	29	152	23	
Risk perception of sexually transmitted disease from casual partner-never use condoms																				
unlikely	71	11	62	7	***	111	9	15	9		59	9	69	10	**	44	7	76	12	***
Unsure	102	16	58	7		137	11	21	12		57	8	96	13		59	9	86	13	
likely	483	74	713	86		1019	80	138	79		556	83	560	77		559	84	493	75	
Risk perception of sexually transmitted disease from main partner-never use condoms																				
unlikely	355	54	374	45	***	644	51	64	37	***	297	44	386	53	***	308	47	332	51	
unsure	128	20	134	16		228	18	24	14		125	19	120	17		116	18	112	14	
likely	173	26	325	39		395	31	86	49		250	37	219	30		238	36	211	32	

* p<.05;

** p<.01;

*** p<.001.

TABLE 3
Multiple Regression Analyses Predicting Perceived Risk With Main and Casual Partners During Unprotected Sex

Variable	DV: Perceived Risk From Main Partners			DV: Perceived Risk From Casual Partners		
	β	R	R^2	β	R	R^2
Gender	0.144 ***	0.264 ***	0.070	0.304 ***	0.200 ***	0.092
Age	-0.010			-0.029		
Race/Ethnicity	.100 ***			0.021		
Sensation seeking	-0.060 *			-0.013		
Decision making	-0.046			-0.127 **		
Relationship length	-0.001			0.015		
Condom usage in past 3 months	0.131 ***			0.110 ***		
Sex partners	0.018			-0.077 **		

Note. Gender was coded as 0 = male, 1 = female. Race/Ethnicity was coded as 0 = White, 1 = African American.

* $p < .05$;

** $p < .01$;

*** $p < .001$.