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ATTACHMENT STYLE AND HIGH-RISK SEX

IN A SAMPLE OF MEN WHO HAVE SEX WITH MEN

by

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A dissertation submitted to the graduate faculty in Psychology in partial fulfillment of the requirements for the degree of Doctor of Philosophy, The City University of New York

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Abstract

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ARTHUR FOX

Advisors: Professor Tracey Revenson and Professor Diana Diamond

Men who have sex with men continue to become infected with HIV at an alarming rate. Unprotected anal intercourse (UAI) with an infected person is the sexual behavior most likely to cause HIV transmission. Therefore, UAI is regarded by current HIV prevention research as the benchmark definition of 'high-risk sex." However, UAI is not always high-risk: Many men have UAI with a new partner only after taking steps to ensure that this partner is HIV-.

This study proposed a new way of scaling sexual risk. Using this method, the study examined whether attachment styles correlated with sexual risk and risk-reduction behavior in a convenience sample of 141 men. Such correlations were found, but they were statistically weak, probably because of the way the risk-scaling method was employed.

Acknowledgements

I have been more or less obsessed by this topic for the past ten years. For the past six, I have been lucky to investigate it with an incredibly dedicated and smart group of faculty and students at the City University of New York. For the four years that this dissertation has been underway, Tracey Revenson has been centrally important to it. Tracey's commitment of time and energy have been remarkable, keeping this project moving despite the remarkable array of practical, theoretical, methodological, medical, and meteorological challenges we encountered. Tracey was no more daunted by hurricane, lightening storms and floods than by the formidable challenges of teaching me to think like a researcher. Tracey embraced this project—and with it, the study of attachment and gay male sexuality—with a level of intellectual enthusiasm and commitment that are inspiring to me.

I am also grateful to the Clinical faculty who worked on this with me. My faculty mentors—particularly Diana Diamond—understood at a deep level what I was trying to do, and understood the complexity of this project for me, academically and personally. The extremely interesting ideas and questions that Diana raised as this dissertation developed shaped my thinking about this project, and much else.

I come from a remarkable family, and I am deeply grateful to my parents and siblings for supporting me in so many ways. For my friends, in the Program and in the world, I am grateful as well; I can't imagine a more wonderful group of people to have made this trip with.

Kevin S. Johnson provided the original impetus for this project. I don't know if he would have agreed with my findings here. But I think he would have been happy to see me become a psychologist.

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Study Aims

Over the past decade much has been written about a "second wave" of HIV infection in gay men. The incidence of new infections in gay men has been estimated at up to 4.5 percent a year (Stall, Cohen, Dowsett, Ekstrand, van Griensven, Hart & Kelly, 1996), yet behavioral scientists know little about the circumstances under which these men are becoming infected. The data that do exist suggest that most new infections are occurring through unprotected anal intercourse (UAI), and that they are occurring in men who know that UAI with an infected partner can be extremely risky for HIV transmission (Davies, Hickson, Ford, Weatherburn, Hunt, Broderick, Coxon, McManus, & Stephens, 1993). Despite 12 years' worth of HIV prevention education, most of it based on cognitive-behavioral or social-marketing models of health behavior (Rosser, 1996), many gay men who practice anal sex don't use condoms consistently; studies of UAI show rates as high as 30 to 50 percent (Gold, 1995).

For most HIV- gay men who practice UAI, the decision to do so is situation-specific rather than global; that is, it emanates from a desire to have UAI with a particular partner (Gold, Karmiloff-Smith, Skinner, & Morton, 1992). For some gay men, the decision to have UAI is made without knowledge of the partner's serostatus; others make this decision knowing that their partner is or may well be HIV positive (McLean, Boulton, Brookes, & Lakhani, 1994). But most gay men who practice UAI do so believing that a particular act with a particular sexual partner is reasonably safe. This belief may be based on confidence that the partner is HIV- (Davies, 1994; Gold, 1995), or on a combination of other factors, such as a belief that the sexual partner is probably uninfected, and that certain forms of UAI--being insertive rather than receptive, or

practicing withdrawal before ejaculation--significantly reduce the risk of virus transmission in the event that the partner is HIV+ (Gold, Skinner & Ross, 1994).

Researchers use the terms "negotiated risk" or "negotiated safety" (Kippax, Crawford, Davis, & Rodden, 1993) to refer to the strategies that HIV- gay men use in deciding how and with whom they can have unprotected anal sex with minimal danger of HIV infection. Medically speaking, negotiated risk is an imperfect way of preventing HIV transmission. UAI with a partner who is believed to be uninfected but isn't, or with a partner of unknown serostatus who promises to withdraw before ejaculation but doesn't, can result in HIV infection. Therefore, educational interventions are needed that will help gay men make negotiated risk decisions more safely. But the process of designing such interventions has been impeded by the lack of data on how gay men make decisions to have UAI, and on the emotional circumstances that shape these decisions (Kelly & Kalichman, 1995).

The development of appropriate interventions is made even more difficult by the dearth of scientific data on the sexual behaviors involved. The literature on gay male sexuality shows that anal intercourse has vastly different meanings and implications for different subgroups of gay men (Prieur, 1990). For some its value is mostly in sensory pleasure, one's own or one's partner's. For others, anal intercourse is used as a way to feel emotionally and physically close to a partner, or to express commitment, trust, or dependence.

There is equally wide variation in the ways gay men manage the risk of HIV infection in anal sex. The "use a condom every time" rule often sounds like simple good sense to men who use sex mostly for physical pleasure and find condoms emotionally

inconsequential. But many men who claim to be comfortable with this rule have a hard time following it consistently. Many men report frequent or occasional "slipups," in which the circumstances of a sexual moment displace their better judgment, and they have UAI (Bauman & Seigel, 1987). Other uninfected men ignore the "use a condom every time" message altogether: A man who feels certain that his monogamous partner is uninfected, and for whom unprotected anal sex is valued as an expression of permanence and union, may feel that this rule applies to "other" types of men, but not to him (Johnston, 1995). The same may be true of men whose feelings about a partner are such that emotional values around unprotected sex override the desire to avoid infection with HIV (Prieur, 1990). The imprecation to use a condom for anal sex may also not be internalized by men who have sex with men but don't identify as "gay," and thus don't see themselves as being vulnerable to infection with HIV (deCecco, 1990).

Interventions need to be devised that address the thoughts and feelings of gay men who are at risk for contracting HIV through UAI. In HIV prevention, as in any area of health education, interventions that are most effective are those that are sensitive to the meanings of the behaviors at issue in the targeted population, as well as the emotional and cognitive barriers to altering those acts in the interest of safety (Kelly & Kalichman, 1995). Thus, in order to effectively target risky UAI in men who may be vulnerable to infection, new interventions must have a sophisticated understanding of (a) exactly what HIV-risky UAI is; and (b) the sexual psychology of men who practice it (Kelly & Kalichman, 1996). However, there is currently no consensus among HIV prevention researchers on either factor.

The quandary around the first factor--what exactly is risky sex?--is a recent

development. In 1985, UAI was identified as the chief vector of HIV transmission among gay men (Shilts, 1987), and for the next ten years, HIV-prevention researchers generally accepted UAI as the operational definition of high-risk sex between men (Kelly & Kalichman, 1996). But gradually, prevention researchers worldwide have recognized that UAI is often practiced safely in the context of trusting relationships between partners of the same serostatus (Davies et.al, 1993). This finding--coupled with the recognition that UAI is emotionally central to many gay men (Prieur, 1993) and that it is often an important element in the building of healthy gay male relationships (Odets, 1996)--has obviated HIV-prevention models that equated UAI with "risky sex" and measured the success of educational interventions by the extent to which they reduced the incidence of UAI in study samples (Catania, 1992; Coates, 1996).

Research designs that use UAI per se as a marker of vulnerability to HIV infection have fallen by the wayside as well. In an effort to better understand who is and is not at risk for HIV infection, many prevention researchers have called for new research models that focus not on how *much* UAI is practiced but on how *safely or unsafely* it is practiced (Ekstrand, Stall, Coates & Catania, 1993). Currently there is no generally accepted standard for evaluating how safe or unsafe any given act of UAI is.

Because of the absence of a benchmark standard for what constitutes "risky sex," this study will test a new way of assessing the riskiness of an individual's self-reported "riskiest-ever" sexual experience. The purpose of doing this is to examine whether people who are vulnerable to having very risky sex share a common attachment style. Attachment style is a widely validated personality trait variable that groups people in terms of their needs, fears, and expectations around interpersonal security (Bowlby, 1973;

Hazan & Shaver, 1992). This study's hypotheses around how attachment style correlates with risky UAI center on the idea that people with secure attachment may be less impulsive and more cautious in their sexual behavior than those with insecure attachment. Specifically, it is predicted that men whose attachment style is "insecure"--that is, men who avoid close relationships, or who enter and exit them precipitously--will report less risk-reduction behavior preceding their riskiest sex than men with "secure" attachment--men who feel comfortable with close relationships and who feel confident that their emotional needs will be met by others. It is also expected that men scoring high on insecure attachment will report more UAI partners (since first learning about safer sex) than secure men. And because it is hypothesized that men with insecure attachment may be more vulnerable to having risky sex and thus to becoming infected with HIV, it is further hypothesized that the HIV+ men in this sample--men who had risky sex at a time when they believed they were still HIV negative--will score highter on insecure attachment than men whose serostatus is negative or unknown.

Background

Sexual decision making and the risk of HIV infection

In the early 1990s, evidence mounted that what had come to be known as "safe sex" had not become normative in many populations with high concentrations of HIV infection. Reviews of risk studies published in the late 1980s showed that in populations in which the risk of infection from unprotected intercourse was extremely high--such as spouses of people diagnosed with AIDS and nonmonogamous gay men in San Francisco and New York City--intercourse without condoms was extremely common (Kaplan 1993; Stall, 1989).

Studies published in the early 1990s also concluded that despite widespread knowledge concerning the riskiest sexual behaviors for HIV transmission (Aggleton, O'Reilly, Slutkin & Davies, 1994), thousands of gay men had become infected since the introduction of safer sex. A study of 3262 gay men in four U.S. cities found 11.3 percent became infected with HIV between intake in 1987 and final follow-up in 1991 (Silvestre, Kingsley, Wehman & Dappen, 1993). Because this target population had received extensive safer sex education interventions and antibody testing every six months, and because a large proportion of the study sample "aged out" of the peak infection demographics over the course of the project, the 11.3% figure may be a conservative one for the communities studied. Studies in England and the Netherlands, where the seroprevalence among gay men is considerably lower than in major U.S. cities, have reported seroincidence rates ranging from 2.3% - 4.5% over the same four-year period (Bosga, de Wit, de Vroome & Houweling, 1995). Recent studies in the United States

have shown remarkable increases in the rate of seroincidence over the past decade, especially among the populations hit hardest by the AIDS epidemic. Osmond, Page, Wiley and Garrett reported in 1994 that infection rates among gay men aged 26-29 in San Francisco were almost equivalent to infection rates for men in that age bracket 10 years before, a time before HIV had been identified as the cause of AIDS or strategies for avoiding infection through safer sex had been publicized. Hoover (1991) used that rate of new infection to project that by age 55, about half of all gay men would be infected with HIV.

Researchers studying "unsafe sex" have sought to understand this behavior in terms of cognitive biases and heuristics that people use to make judgments under conditions of uncertainty (van der Pligt, Otten, Richard & van der Velde, 1993). One factor believed to influence decision making in risky situations is motivated reasoning, or the idea that "people are more likely to arrive at those conclusions they want to arrive at" (Kunda, 1990). Sexual interactions often involve powerful emotional and physiological motivations, such as the desire for sexual gratification and intimacy, and the desire to avoid conflict with or rejection by the sexual partner. Therefore, people making a decision about whether or not to take protective measures, or whether or not to have sex in a given situation at all, "are likely to downplay any risks or arguments that might jeopardize the goal of sexual activity" (Kaplan, 1993, p.295). The risks are of two types: personal risks, which have to do with how an individual assesses and manages his own behavior ("If I go home with this guy I may get out of control and decide to have unprotected sex"); and outcome dependency risks, which are judgments of the status and risks that the other person presents ("If I let this guy penetrate me without a condom I

may get infected because he may be infected").

My study proceeds from the belief that outcome dependency risks are more likely to be distorted by heuristics and biases than personal risks are. People whose sexual behavior is risky by objective epidemiological standards nevertheless often report great confidence that their sexual behavior is safe and that they will remain HIV-negative (Bosga et. al, 1995; Einhorn & Polgar, 1994). Bauman and Siegel (1987) studied the relationship between perceived safety and actual level of risky behavior in a sample of 160 gay men who were asymptomatic with respect to HIV: Nearly half (42%) engaged in activities considered to be "high risk" on the basis of epidemiological data and available risk-reduction guidelines. Another 33 percent engaged in "low risk" activities. Only 25% engaged in only "safe sex" practices. Despite the high rate of risky sex in this sample, more than 75 percent of the participants rated their own behavior as relatively safe, and only nine percent scored their behavior on the risky half of a 10-point scale. Remarkably, the tendency to underestimate riskiness of behavior was highest among those men whose behavior was most risky. In the entire sample, and among the high-risk subgroup in particular, there was a tendency to regard one's own risk of becoming infected as less than that of other gay men.

This optimistic bias does not emerge in studies where participants are asked to rate the likelihood of their becoming infected with HIV if they were to have unprotected intercourse with an infected partner. In samples of gay men as well as in general population studies, individuals tend to regard themselves as more likely than the average person to become infected should intercourse with an infected person occur (van der Pligt, 1991). Thus, people are cognizant of the statistical risks of contracting HIV.

What gay men may be overestimating is their own agency over having unprotected contacts with infected others. The fact that many participants in Bauman and Siegels's study had both high (subjectively reported) confidence in the safety of their sexual behavior and high (objectively measured) levels of risky sexual behavior leads to a provisional assumption that gay men tend to base their optimism about staying uninfected on a belief that they can distinguish infected sexual partners from uninfected ones.

Given that the rate of unprotected sex among gay men is much higher than the incidence of new cases of HIV infection (Bye, Catania, Ekstrand, Henne, Hughes, Lemp, Paul & Stall, 1996; Gold, 1992; Stall et.al, 1996), it appears that this distinction is often made correctly. It is also clear that in some cases this assessment is made incorrectly and results in infection (Ekstrand, Stall, Kegeles & Hays, 1993). Kaplan (1993) discusses two of the cognitive biases that lead people to a mistaken belief that a partner is uninfected: the availability heuristic and the representativeness heuristic (Tversky & Kahnemann, 1974).

The availability heuristic is a tendency to accept immediate personal memories or reconstructions of events as equal in value to objective data. This heuristic might be in effect if an individual were to believe that the sexual partner he has just met is probably HIV-negative because he is Puerto Rican. The decision-relevant data that is evoked in this individual's consciousness most immediately is that most Puerto Rican guys he knows are HIV-negative because they're all exclusively "tops" (the insertive partner in anal intercourse). Objectively, this man may know that seroprevalence among men who have sex with men in New York City is around 30%--or even slightly higher among Latinos (Joseph, 1989)--but that information is at odds with his goals at the moment, and

feels less familiar and real than his personal experience. Thus it enters consciousness less readily.

The representativeness heuristic occurs when people ignore relevant base-rate information as they try to assess how typical a given event is of a broader category of similar events. The base-rate information available to the man described above--the fact that seroprevalence is about 30% among gay men in New York City--would be more objectively useful in making a judgment of his partner's potential riskiness. But this information is likely to be eclipsed if the decision maker perceives this particular partner to be somehow an exception to the rule--maybe because he seems unusually sincere, extraordinarily healthy looking, new in town, or otherwise unrepresentative of "gay men met for casual sex in New York City." Both of these heuristics express the tendency of people to underestimate their own susceptibility to illness even when they identify themselves as members of a high-risk group (Kaplan, 1993). Moreover, both heuristics may be likely to come into play when an individual is assessing outcome dependency risks in a sexual partner, simply because a state of physiological arousal may create changes in information processing (Weinrich, 1987) and erotic attraction may lead to idealization of the sexual partner (Kernberg, 1991).

Other cognitive biases that could influence gay men's beliefs that they can have UAI without contracting HIV have been investigated as well. In a review of research on unrealistic optimism and HIV-decision making, Van der Pligt, Otten, Richard and van der Velde (1993) point out that some degree of distortion in risk evaluation by individuals is very common. Risk assessment research outside the area of HIV infection generally shows that individuals tend to overestimate risks that carry small probabilities, and to

underestimate results that are higher in probability (Van der Pligt et. al, 1993). But certain characteristics of HIV risk may color risk perception judgements differently. The evidence of a high incidence of motivated defensive denial strategies in gay men's thinking about their susceptibility to HIV reflects the fact that gay men have good reason for believing that they are at risk for HIV, and this risk is, in their minds, associated with dread (Bauman & Siegel 1987). The dire consequences of HIV infection may increase the tendency for gay men to protect themselves from the anxiety surrounding sex with unconscious coping strategies such as overestimation of perceived control, overattention to personal actions reducing risk, and underattention to personal actions increasing it. This use of emotion-focused strategies for coping with a frightening health threat is similar to that observed by Millar and Millar (1993) in their study of women's decisions around mammography and breast self-examination.

Pligt et al. also discuss how optimistic bias can emanate from strategies of self-esteem regu' ıtion. Weinstein's (1984) conceptualization of unrealistic optimism is rooted in the assumption that many if not most people need to believe that their actions, lifestyle, and personality are more advantageous than those of their peers. But unrealistic optimism generally does not distort individuals' assessments of their vulnerability to hazards that are environmental or hereditary in nature; these factors are clearly beyond the control of individuals. One could extrapolate from this research that the abilities to stay uninfected, to practice safer sex when necessary, and to discriminate infected partners from uninfected ones are perceived as within an individual's control. Failure to succeed in these endeavors would be a blow to the self's perceived ability to cope with life's challenges. The high safer-sex self-efficacy that many gay men report may be less an

assessment of their actual competence in this area than an expression of the self's need to believe that it is competent to protect itself from this frightening risk (Lux & Petosa, 1995).

Some management of self-esteem may be achieved through defensive coping. Taylor, Helgeson, Reed & Skokan (1991) have shown that exaggerated perceptions of control can sometimes help individuals adapt to threatening events by protecting them against anxiety or worry. Bauman and Siegel's (1987) finding that gay men who denied or underestimated their risk of contracting HIV experienced lower anxiety suggests that denial is being used to manage anxiety. This type of defensive avoidance was inversely correlated with intention to practice safer sex in another study (Pligt, 1993). Coupled with Weinstein's (1984) finding that more threatening health risks tend to result in higher levels of optimism, these data suggest that safer-sex interventions must recognize that the particular horror attendant to HIV infection may increase the likelihood that people will use maladaptive defensive coping strategies.

However, even in individuals whose assessment of their personal vulnerability to HIV infection is accurate, this vulnerability in and of itself is not a very powerful factor in decision-making around HIV protection. Perceived risk may predict intentions to take precautionary measures in people who are sexually active in populations with high HIV seroprevalence, but it is not a very good predictor of actual behavior change (Pligt,1993). This is consistent with a review of the literature on perceived vulnerability to HIV infection and prevention behavior, which found that "there is relatively little support for the hypothesis that perceptions of HIV vulnerability motivate risk reduction," and that "sexual risk-taking, unlike other risk and precautionary behaviors, occurs more or less

independent of relevant risk perceptions" (Gerrard et. al., 1993, p.79).

Why is it that risk perception, which has been proven to be a powerful determinant of behavior change in other health situations, does not seem to affect AIDS prevention behavior? Aspects of the interpersonal context of sexual decision making, and the ways in which this context can affect judgments, feelings, and behaviors, suggest an explanation. "For most people, the process of communicating with one's sexual partner, and enlisting his or her cooperation in preventive behaviors, may be so difficult that they effectively preclude the possibility that risk perceptions will translate into modifications of sexual behaviors" (Gerrard et. al., 1993, p.78).

Gold and Rosenthal (1995) examined the justifications that gay men use when "slipping up," or breaking their personal rules for safer sexual behavior. Their work was predicated on the idea that the judgments and feelings that gay men have about HIV and safety while they are having sex--or while they are caught up in the emotional momentum of a romantic relationship--tend to differ from the thoughts they have in the cold light of day. Using a technological metaphor, Gold and Rosenthal refer to this ontological split as the difference between "on-line" and "off-line" cognitions. In an intervention in which men prone to slipups were encouraged to consider and evaluate, off-line (when not having sex), the justifications for UAI they were using on-line, these men were less likely than a control group (who didn't get the on-line cognition intervention) to continue to slip up. These preliminary results speak to the potential effectiveness of educational interventions that help "bridge the gap" between the cool cognitive state in which gay men learn the rules of safer sexual decision making (and parrot them back to researchers), and the more physiologically and emotionally charged state in which these rules seem to

lose their power. In order to understand why gay men decide not to use condoms in certain sexual interactions, behavioral scientists must better understand the highly emotional intrapsychic and interpersonal contexts in which these decisions are made.

Who is having unprotected anal intercourse, and why?

Sexual practices that are likely to lead to infection when performed with an infected partner, in particular UAI, are widespread among gay men (Gold, 1992). Data collected over the past five years show that by far the most common factor in a decision to have UAI is an assessment of the partner as HIV-negative (Donavan, Mearns, McEwan & Sugden 1994; Gold, 1992; Levine & Siegel, 1992; McLean, Boulton, Brookes, et. al., 1994; Pilkington, Lakhani, et. al., 1992; 1994; van der Velde, 1994). However, the nature of the relationship with the particular sexual partner has been found to be extremely influential as well. European studies show that gay men are much less likely to use condoms for anal intercourse with a primary partner--defined as a partner with whom subject has an ongoing emotional relationship--than with casual partners, regardless of whether or not they know the partner's HIV serostatus (Bosga, 1995; McLean, 1994). These studies were conducted in populations where HIV seroprevalence is believed to be significantly lower than it is in the gay urban centers of the United States, and where gay men are less likely to have tested for HIV than American gay men are. European sexual decision-making processes probably differ from the ones used by gay men in San Francisco or New York City, where about one third of gay man's potential partners are likely to be infected (Gay Men's Health Crisis, 1999), and where most gay men have been tested for HIV at least once (Martin & Dean, 1991).

Nevertheless, retrospective studies in the United States show that a feeling

of being in love with a partner is one of the most powerful predictors of failure to use condoms for anal intercourse, more powerful than a certain knowledge of the partner's HIV serostatus (Kelly & Kalichman, 1996). This may be because feelings of affection for a partner tend to bring about feelings of trust. In a review of studies on sexual decision making, Kelly & Kalichman (1996) found that "when individuals develop affectionate feelings toward a partner, those feelings reduce the perceived need to practice safer sex; the person one loves (or even likes a lot) is not likely to be seen as a potential source of disease, and condom use is not likely to be perceived as necessary" (p.165).

This conclusion is congruent with Williams's (1992) study of college students. In a convenience sample that was assumed to be largely heterosexual, Williams found that decisions to practice unprotected sex were more likely to be based on personality attributes of the potential partner, such as likability, warmth, and kindness, than on a realistic assessment of whether the partner was likely to be infected with HIV.

Given that strong feelings for a partner seem to exercise a more powerful influence on condom use decisions than many of the self-protective factors that have been included in traditional models of health behavior, researchers have started calling for a new paradigm in HIV prevention research that focuses less on "counting partners and acts" than on understanding the meaning of those acts in a psychological and interpersonal context (Rosser, 1995). This echoes a call for qualitative research on how gay men go about balancing the need for safety with the emotional and interpersonal needs attendant to sex (Ekstrand, Stall, Kegeles, Hays et. al., 1993). The importance of studying behavior in context is particularly salient at this point in the AIDS epidemic,

when the interpersonal world of many gay men has been transformed by fear and loss, and when, despite promising early results from new antiviral medications, a comprehensive medical solution appears to be decades away. When the "use a condom every time" rule was put forth in the early 1980s, many gay men could embrace it as an emergency measure. As the epidemic enters its sixteenth year, however, the high rates of UAI among gay men suggest that renouncing ordinary unprotected sex is, for many, not a viable long-term strategy Odets, 1996).

The data that have been published to date on how and when gay men decide to have UAI are largely descriptive. Kippax et. al. (1993) were the first researchers to show that many gay men seek to protect themselves from infection with HIV by restricting UAI to a "regular partner" of the same serostatus. Kippax's longitudinal study of gay men in Australia showed that in most cases, men who were using this strategy discussed the issue with their partner, and made an agreement that either the relationship would be monogamous or that any sexual activity outside the relationship would exclude UAI. Kippax coined the term "negotiated safety" to refer to the process of reducing risk through mutual agreement with a partner.

Kippax's findings were greeted by other HIV prevention researchers with both support and criticism. Some applauded it, saying that it was the necessary next step in understanding how decisions around UAI are actually made in the real world (Davies, 1993). But other researchers pointed out that negotiation does not, in and of itself, constitute an effective HIV-prevention strategy (Ekstrand et. al, 1993). For example, Kippax's (1993) work didn't discuss the ambiguities that surround negotiated safety. Kippax reported that 20 percent of participants who reported practicing negotiated safety

also reported violating their safety agreement at some time in the previous four years. But she didn't report on how, and whether, these outside sexual contacts put the participants (and their regular partners) at risk for infection, whether they were discussed with the regular partner, or how and how certainly participants "knew" their regular partner's serostatus. Because the effectiveness of negotiated safety as a prevention strategy hinges on the ability of both partners in the agreement to stay negative (or voluntarily report and suspend UAI if there is any chance that one has been exposed to HIV) this is a critical omission.

Reporting outside sexual contacts to a partner to whom one has promised monogamy is extremely difficult, especially if there is reason to believe that the outside contact entailed risk of HIV infection. Often men will not disclose to a partner or seek serostatus testing in the aftermath of such an event (Mason, Marks, Simoni, Ruiz & Richardson, 1995). Reporting a possible exposure and suspending UAI with a regular partner may be especially difficult when a negotiated decision to have UAI has been made early in a relationship, and symbolizes the partners' trust in and emotional commitment to each other (Gold, 1994, Lowy, 1993).

Because complete safety from HIV infection is almost impossible to achieve through negotiation, some HIV prevention researchers have come to refer to this process casually as "negotiated risk" rather than "negotiated safety." This may be the more accurate term, as it is almost impossible to eliminate the outcome-dependency risks intrinsic in such an agreement; a decision to have UAI that is predicated on the belief that a partner (whether or regular or casual) is HIV-negative inevitably involves the assumption of this risk.

How risky is "negotiated risk?"

While Kippax's work illuminates an important strategy gay men use for deciding how and with whom to have UAI, it does not in and of itself produce data that can help inform effective and appropriate preventive interventions. Negotiated risk must be studied in relation to "the one quantitative outcome variable for which there is little measurement or public health disagreement (i.e. HIV seroconversion)" (Ekstrand et. al., 1993).

At this point there is remarkably little literature that provides in-depth examination of the risk-negotiation process in men who have become infected with HIV. The data that exist suggest that within the rubric of negotiated risk, there may indeed be subtle differences between safe decisions to have UAI and unsafe ones. Two small qualitative studies (Lowey & Ross, 1994; Silvestre, Lyter, Valdiserri, Huggins & Rinaldo, 1989) asked gay men to describe the emotional and social circumstances under which they had risky sex. A study of six men who had become infected by partners whom they believe at the time were HIV-negative found that decisions to have UAI "were strongly related to the presence of affectionate feelings toward the partner and not necessarily the actual monogamy of the relationship or the serostatus of the partner" (Silvestre, 1989 p. 647). Although two of the six men in this study reported that they were looking mostly for sexual satisfaction in the interaction in which they believe they became infected, four of the men said that their decision to have UAI with the infecting partner was made in the context of a desire to express love and commitment. These sexual interactions were described by respondents as being rapturous and exceptional.

One respondent, whose story was characteristic of the four, said of his partner "he was totally different from other men--a warm, loving caring person who cared for me--wanted to be with me and I wanted to trust him. . .and I wanted him to know I trusted him" (p.649). Another respondent said he put aside condoms when he met "the man of his dreams." Another said he decided to let his partner penetrate him without a condom because "I figured I'm not going to be doing any more fooling around. It was going to be one-to-one only" (p.649).

The power of the themes of fascination with the partner and desire to create a sense of permanence is remarkable for its prevalence among the informants in Silvestre's study. Similar themes emerged in a study of 36 Australian men, both infected and uninfected, who were prone to risky sexual behavior (Lowey & Ross, 1994). Many of these men attributed their difficulty staying safe to their sexual, emotional and social needs. Several men who believed they became infected in such situations recalled "sexual droughts" lasting months or years. These men

> reported being carried away by passion, lust, sexual frustration, love, and loneliness on the breaking of the drought, which caused safe-sex intentions and knowledge to recede into the background. People talked about becoming incautious in certain situations, with partners who generated such intense feelings that all thoughts of safe sex were abandoned. Relationships in which the respondents felt accepted or loved and partners who contributed to a person's sense of attractiveness, his self-esteem and confidence diminished his power to negotiate safe sex (p.476)"

The findings of the exploratory studies described here underscore Gold and

Rosenthal's contention that thoughts and feelings that become activated in sexual or erotic situations can eclipse the self-protective knowledge that people have acquired "off-line." The desires and assumptions that are activated in a state of erotic or romantic arousal can powerfully shape the way an individual interprets the meaning of a sexual interaction, and assesses the riskiness of a sexual partner. Therefore, in order to understand how and why gay men make decisions to have unprotected anal intercourse, researchers need to know more about what men are thinking and feeling at the moment when they make these decisions.

Attachment styles

The psychology of romantic and sexual desire varies from person to person. Research has shown that most individuals have distinctive patterns of thought and feeling that shape their state of mind when sexually or romantically aroused. These patterns of desire, expectations of reciprocity, and level of comfort with emotional closeness have been found to be fairly stable characteristics in individuals, comprising a romantic style that is likely to be consistent across situations and sexual or romantic partners (Hendrick & Hendrick, 1986). Most contemporary research on love and attraction uses one of three theoretical approaches to study romantic styles: Love Styles theory (Hendrick & Hendrick, 1986), Sternberg's (1998) triadic model of love; or attachment theory (Bowlby 1992; Hazan & Shaver, 1987). All these models offer ways of identifying individuals' characteristic patterns of thoughts and feelings around sexual and romantic coupling. Of these three models, attachment theory is the one best-suited for understanding the experience of love and erotic attraction in the population observed in this study. More than the other models, attachment theory is concerned with not only with an individual's

characteristic ways of experiencing feelings about a partner, but also his or her ways of feeling about the self in relation to the partner. This makes attachment theory useful in illuminating a decision-making process--such as a decision to have UAI--that appears to be shaped less by individual personality factors than by more interpersonal ones (Gerrard, 1993). Moreover, there is a rich literature showing that attachment styles tend to reflect a person's overall style of affect regulation and defensive function (Mikulincer & Orbach, 1995). Thus, attachment theory may be predictive of individual differences in how flexibly and adaptively a person manages unpleasant or threatening thoughts and feelings, such as the risk of HIV infection through sex, and the consequences of using (or not using) condoms for anal intercourse.

Attachment theory is based on the idea that human beings are instinctually motivated to seek proximity to particular others who offer safety and comfort. Early work in attachment theory showed that the way infants learn to experience and manage this drive is powerfully influenced by the way the primary caregiver (usually the mother) recognizes and responds to the infant's proximity needs (Bowlby 1969, 1973). The infant's experience of satisfaction or frustration of his strivings for closeness is recorded in his or her "internal working models"--schemas containing learned assumptions about whether caregivers are likely to be available when they're needed, and whether the self is the sort of person who is likely to be responded to by caregivers in a helpful way. These internal working models are thought to be fairly stable over the lifespan (Shaver, Collins & Clark, 1996), and they have been shown to influence the underlying attitudes and assumptions that an individual carries into a sexual or romantic interaction (Hazan & Shaver, 1987).

Research on attachment in adults has shown that most people, using an ideal-types forced choice measure, can classify themselves reliably into one of three attachment types: secure, avoidant, or anxious/ambivalent. People who endorse the secure style profile tend to believe that they are basically loveable, can depend on others and can tolerate others depending on them. People who select the avoidant profile tend dislike close relationships and are likely to use sex "recreationally," either because they aren't aware of feeling any desire for emotional closeness or because they are frightened of feelings of closeness (their own or a partner's)(Feeney & Raphael, 1993). People endorsing the anxious/ambivalent profile tend to strongly desire to love and be loved, but also to fear that those whom they seek closeness from will either not love them enough, or will abandon them (Hazan & Shaver, 1987). In studies of convenience samples of adults and infants, secure attachment is usually found in about 60 percent of the population; avoidant attachment in 25 percent and anxious/ambivalent in 15 percent (Hazan & Shaver, 1987). Because there are identifiable differences in the ways individuals think and feel in romantic or erotic situations, attachment style may useful in studying sexual decision-making.

In addition, because these characteristic ways of feeling about love and romance are strongly correlated with characteristic ways of managing more negative feelings, such as fear, attachment theory can be useful in understanding a decision to have UAI. The prevalence of intense romantic and erotic longings reported by recently infected men (Silvestre, 1989; Lowy & Ross, 1992) suggests that there may be a high concentration of men who fit the profile of anxious/ambivalent attachment. In their early work on adult attachment, Hazan and Shaver (1987) showed that the key factor distinguishing

anxious/ambivalents from other insecure types was the fact that they were much less certain about their basic lovability and more concerned about whether their basic emotional needs were going to be met. Hazan and Shaver compared this finding to work by Kobak and Sceery (1988), who found that peers of anxious/ambivalent college freshmen found them more likely to be self-conscious and preoccupied with relationship issues. Romantic love for anxious/ambivalent people, Hazan and Shaver (1987) observed, tended to be an almost painfully exciting struggle to merge with another person.

More recent work on the association between adult attachment style and emotional control has shown how this intense desire and this intense insecurity build on each other (Feeney, 1995). Craving love but feeling unworthy of it, people who are anxious/ambivalent constantly fear abandonment; thus they tend to deal with interpersonal tensions in a way that is indirect and nonconfronting. They tend to believe that their partners expect them to control and inhibit expression of anxiety, anger and sadness. Rather than using their partner as a safe haven when negative emotions arise, they tend to feel more insecure in relation to them (Feeney & Raphael, 1995).

Recent Innovations in Attachment Style Measurement. Hazan and Shaver's groundbreaking work showed that the three categories of attachment style that have been observed in infants exist in adults as well. More recent research suggests that styles of need and affect regulation in close relationships can differ between adults and children. This difference is particularly salient with regard to avoidant attachment, which has been shown (Kobac, 1991) to be based on defensive unawareness of the emotional pain and need for interpersonal closeness that triggers attachment behaviors in people with

nonavoidant styles. Bartholomew (1990; Bartholomew & Horowitz, 1991) showed that many adults with avoidant attachment styles are not, in fact, unaware of their desires for closeness with others. Rather, Bartholomew found, many people who avoid closeness do so because they are afraid of the implications of becoming intimate with or dependent upon another person. That is, they fear that if they become closely attached, they may eventually experience a frightening loss of a clear sense of self, or a painful rejection or abandonment by the beloved. Their avoidance of close relationships us thus based on fear rather than indifference. Bartholomew and Griffin's (1994) four category instrument for measuring attachment styles thus tests for two different subtypes of avoidant attachment: a "fearful" style that's marked by awareness of both desire for and fear of intimacy, and a "dismissing" style marked by a denial of any desire for relatedness. Bartholomew and Griffin's four-category attachment style measure also replaces the term "anxious/ambivalent" with the term "preoccupied," to underscore the way adults with this attachment style appear to be highly activated by and frequently concerned with the vicissitudes of their close relationships.

A related but separate line of research, desperate love theory (Sperling, 1985, 1991) expands and articulates some aspects of the anxious/ambivalent or preoccupied style. Also called fusional anxious attachment, desperate love is a set of characteristics that have been shown to be present in subgroups of insecurely attached people. Fusional anxious attachment is characterized by

> a feeling of fusion with the lover, a sense of urgency about the relationship, an overwhelming desire for and anxiety concerning

> reciprocation, idealization of the lover, feelings of insecurity outside the relationship, difficulty with interpersonal reality testing, anxiety at separations and extremes of happiness and sadness (1991, p.48).

This style of love is generally thought to be more prevalent among adolescents and among people with borderline personality organization (Kernberg, 1975). Sperling's (1985) scale measuring aspects of desperate love among college students showed that students scoring higher on the scale had more romantic attitudes toward love than others did. That is, they tended to lose their reality grounding when experiencing a strong erotic attraction to someone. One expression of this was a tendency to idealize their partners--to overvalue and overattend to the partner's positive qualities and be blind to the partner's manifest or potential liabilities.

Attachment Style and Gay Male Sexuality. Although much is known about how different attachment styles manifest and interact in heterosexual relationships, there is no literature on how particular attachment styles play out in the erotic interactions of gay men. This is unfortunate, as the anxious/ambivalent and desperate attachment styles appear to be excellent frameworks for understanding the powerful combination of urgency and insecurity reported in Silvestre and Lowey's studies of gay men who practiced unsafe sex.

Attachment researchers have only recently begun to theorize on how attachment style might affect HIV-protective behavior. In their 1993 paper on attachment and HIV risk, Feeney and Raphael argue that gay men with avoidant attachment styles may be prone to negative affective states that undermine their ability to practice safer sex

consistently. This argument was based largely on data on a study of gay men who had a high number of sexual partners (Ross, 1992). Men who patronized bathhouses avoided close emotional contacts and were more likely to be depressed than men who met sexual partners through other means. Although studies of the relationship between depression and failure to practice safer sex consistently have been inconclusive (Gold, Skinner & Ross, 1994; Gold & Skinner, 1993), there is some evidence that sexual promiscuity and depression may be linked (Gold, 1992).

Studies of sexual decision-making have also revealed a relationship between promiscuity and a narcissistic level of object relations (Randolph & Winstead, 1988). People with narcissistic personalities are believed to be particularly vulnerable to depression (Kohut,1965). Moreover, narcissists are vulnerable to fluctuations in self-esteem in relation to objects (Kernberg 1975). Gay men with this type of personality organization may have a difficult time maintaining a sense of autonomy and confidence in their own desirability, especially when interacting with partners to whom they are strongly sexually attracted. Thus, gay men who have avoidant attachment styles may be vulnerable to a fear of rejection that feels similar to anxious/ambivalents'. And like anxious/ambivalents, they may feel less than confident that they can negotiate condom use without worrying that partners will lose interest in them.

More importantly, there may be aspects of avoidant attachment that can cause gay men to manage depression and other negative feelings in a way that increases their vulnerability to risky sex. An attachment style can be conceived of as a system of defenses, a characteristic way of coping with difficult feelings (e.g., Shaver & Brennan, 1992). Among people with avoidant styles, repression of affect is an important defensive

strategy: People who avoid emotional involvement with others do so partly because they have learned in early childhood that the safest way to deal with their security drives is not to feel them (Lopez, 1995; Feeney & Ryan, 1994). Kobak (1987), in reviewing the literature on avoidant attachment, concluded that it works by "cutting off, minimizing or displacing negative affect that normally motivates attachment behavior" (p.6). This emotion-regulation style inhibits the expression and acknowledgment of fear, anger and distress, and consequently impedes a person's ability to modulate negative emotion successfully in the service of social adaptation.

The idea that an avoidant attachment style may be reflective of an overall tendency to repress or deny affect may have implications for HIV risk management. Prieur's (1990) findings suggest that men who have UAI with casual partners tend to manage the anxiety they feel about possible HIV infection by suppressing their fear with intellectual denials and rationalizations. By telling themselves that they maintain safety by having sex only with men who are clean and healthy looking, these men gain control over a fear that they cannot admit to themselves (Prieur, 1990). The men in Prieur's study who were most habitually unsafe were as knowledgeable about the risks of HIV transmission as those who were safer. It is likely that men who admitted and felt their fear of infection dealt with it by changing their sexual behavior; men who rationalized and persisted in their unsafe sexual behavior did so because they did not recognize this fear. The fact that HIV is often contracted through anal intercourse between men--an act that is stigmatized by most of the male world--may redouble the need to dissociate feelings about this behavior in men whose tendency is to repress unwanted thoughts and emotions. One of the populations currently most at risk of infection is men who identify

as heterosexual, seek care for HIV infection and rectal gonorrhea, but claim they have no idea how they contracted either (NYSPI / HIV Center Community Forum, April, 1995).

Avoidant attachment style and its relationship to depression may be relevant to HIV risk in other ways as well. People who are prone to denying negative feelings may find their ability to manage their feelings especially strained as the decimation and fear that the AIDS epidemic has visited on the gay male community continues into its sixteenth year. Health psychologists who study repressors--people who characteristically deny negative emotions or turn them inward rather than expressing them--say that a repressive style of affect regulation may protect an individual against depression in times of normal stress, but it is likely to increase depression in hard times, such as serious illness of the self or a loved one (Bonanno & Singer, 1990). Psychologists who work with gay patients who have lost many friends and lovers to AIDS say that "unprocessed grief," or mourning that has been cut short or thwarted or made terrifying by continuous and multiple loss, may be causing severe depression in many gay men (Johnston, 1995). To the extent that an avoidant attachment style might be reflective of a global tendency toward difficulty mourning, people with an avoidant attachment style may be vulnerable to severe depression in times of multiple loss (Freud, 1917). If they have an equally difficult time admitting their pain and seeking help, they may not know they're depressed until they find themselves engaged in sexual behaviors that they know to be self-destructive (Odets, 1996).

Because attachment theory provides a framework for examining group differences in both the experience of erotic desire and the management of unpleasant thoughts and feelings, it may be a way of investigating and categorizing the various states of mind that

gay men may be in when considering having UAI.

The Present Study

This study explores whether men with certain attachment styles are more likely to have UAI impulsively and unsafely than men with other attachment styles. If such correlations exist, this information can be used to create psychotherapeutic and psychoeducational interventions that are more sensitively tailored to the psychology of men with these attachment styles. Relationships between attachment style and risky sex will be measured using structured self-report instruments. The measure of sexual risk behavior was developed by the Principal Investigator specifically for this study. A new way of assessing sexual risk was developed because of the mounting evidence, reviewed above, that unprotected anal intercourse is not intrinsicially risky for HIV transmission. Because UAI is often practiced safely, and because it is often an important part of the development of healthy relationships, researchers must learn to distinguish risky UAI from safe UAI. The new instrument proposes that the riskiness of a single UAI event can be rated as a function of two factors: The sexual act's viral transmission potential, and the risk-reduction behavior that preceded the sexual act.

The use of risk-reduction behavior as a component of the safety of a sexual act is based on recent data showing that many HIV-negative gay men take measures to reduce the risk of contracting HIV when having UAI with a new partner for the first time. These risk-reduction behaviors range from discussing risk and safety with the partner (in order to ascertain that the partner believes himself to be seronegative) to waiting until several months into a relationship to have UAI (in order to increase the likelihood that a partner actually is and will continue to be uninfected). In this study, participants will be asked

about the extent to which they used five different types of risk-reduction behaviors that are believed to be used by gay men to ensure that UAI partners are HIV-negative.

The incidences of UAI reported by the men in this study's sample are likely to vary considerably in terms of how epidemiologically hazardous they actually were. "Transmission potential" is a shorthand for how likely or unlikely it was that men in this sample could have contracted the HIV virus during the sexual act that they are describing, had their partner in this act been infected. Sexual acts in which the virus is easily contracted, like receptive UAI with a partner ejaculating inside, are described as having high transmission potential (Kelly, 1994). Acts in which an uninfected person is less likely to contract the virus from an HIV+ partner--acts such as being the penetrative partner, or having brief UAI with no ejaculate--are described as having lower transmission potential.

This study proposes that the best way to assess the true overall "riskiness" of any sexual encounter is by a combination of the transmission efficiency of the sexual act and the risk-reduction behavior (RRB) that preceded it. Thus, an encounter is extremely risky if it is high in potential and low in RRB (such as receptive UAI to orgasm with a stranger). An encounter is less risky if either potential is low (such as penetrative UAI) or RRB is high (the partner is assumed to be HIV-negative, based on discussion, length of relationship, etc). It is important to note that although risk-reduction behavior is assumed to decrease the risk of HIV infection, it is no guarantee that the partner is telling the truth about his serostatus at the moment of discussion, or that he will not seroconvert at a later date.

It is predicted that transmission potential will serve a moderating function in the

hypothesized correlation between attachment style (the independent variable) and risk reduction behavior preceding UAI (the dependent variable). In other words, it is expected that the differences between securely and insecurely attached men will be more pronounced among men who report experiences with high transmission potential. It is expected that most of the men who report UAI experiences that are low in transmission potential--acts such as penetrative UAI with withdrawal before ejaculation--will report little risk-reduction behavior across the board, with no significant group difference marked by secure or insecure attachment. This is because many HIV-negative men believe that brief condomless penetration of a partner--even one who may be infected--entails very little risk of infection (Gold, 1993), and in situations where risk is slight, men, regardless of attachment style, are unlikely to forestall a sexual goal in the interest of greater safety.

However, in sexual situations where men believe they may become infected if their partner is HIV positive different patterns of behavior are likely to be reported by secure and insecure men. This is because the styles of affect regulation that correlate with insecure attachment are likely to strongly influence insecure men's decisions around sex and safety. Insecure attachment is likely to increase both the urgency of a man's desire to achieve a sexual goal (Feeney & Raphael, 1993), and the likelihood that he will use idealizing or dissociative defenses to reduce his anxiety around this behavior (Sperling, 1989; Dahlenberg, 1993). These tendencies may make men with insecure attachment more likely to make a decision to have high-risk sex--particularly, receptive UAI--rapidly and impulsively. By contrast, men with secure attachment may be less likely to report having had highly-transmissive sex without first taking significant cautionary measures to

ensure that their partner is HIV-negative.

If this study shows significant concentrations of a particular attachment style among men who have practiced highly infectious UAI preceded by little or no risk-reduction behavior, this data will be useful in identifying a population that may be at particularly high risk of infection. Moreover, because attachment style is a strong predictor of other aspects of personality organization, data showing how attachment style correlates with risky sex may be useful in helping tailor psychoeducational interventions more sensitively toward the populations who need them most urgently.

Hypotheses

On the basis of the literature on attachment and HIV-risky sex reviewed above, the following hypotheses were derived.

Hypothesis 1: Men who are securely attached will report having successfully completed more risk-reduction behaviors (such as discussing their HIV serostatus with their partners and testing together) before peak-risk UAI than insecurely attached men.

Hypothesis 2: In accordance with the literature on secure attachment and the theoretical construct of "negotiated safety" reviewed above, it is expected that the transmission potential of the reported act will have a moderating effect on the relationship between attachment style and risk-reduction behavior. Transmission potential is a biological variable measuring how easy or difficult it is for the HIV virus to be transmitted from one person to another during different types of sexual acts. It is hypothesized that the

difference between attachment groups on risk-reduction behavior preceding riskiest sexual event will be greater among men who report sexual acts with high transmission potential (such as receptive UAI to ejaculation) than among men whose riskiest sex had low transmission potential (acts like brief insertive UAI).

Hypothesis 3: In accordance with the literature on risky sex and attachment style reviewed above, it is expected that the HIV+ subgroup of this study's sample--men who have become infected since learning about "safer sex"--will contain higher concentrations of insecure attachment than those found in the general population of gay men.

Hypothesis 4: In accordance with the literature on attachment style and sexual and romantic behavior, is expected that men with Preoccupied and Dismissing attachment styles will report having had UAI with a larger number of partners than men with secure and fearful attachment since learning that HIV can be transmitted through UAI.

Method

Sample Recruitment and Procedures

Men were recruited for the study between May and August of 1998. The majority (95%) were recruited in person and completed the questionnaire on the spot. Recruiting environments ranged from the Lesbian and Gay Community Services Center to the West Side piers (a large parklike area in Manhattan's West Village that is, in good weather, a popular gathering place and athletic playground for gay men) to sex-partner-seeking environments (mostly sex clubs such as the Westside Club and Slag). Recruiting sites and percentages are shown in Table 1.

Recruiting was done by the Principal Investigator and two associates; all three recruiters were men in their mid-thirties. Recruiters approached men, individually and in groups, and said "Would (any of) you like to fill out a questionnaire about sex for a research study on HIV?" Men expressing interest were told that the questionnaire would take about 30 minutes to complete, and that to be eligible for the study they had to (a) have had condomless anal sex with another man at some point since learning about HIV and safer sex, (b) have done this at a time when they believed they were HIV-negative (current serostatus notwithstanding), and (c) have been over 18 years old when they had this experience. One hundred fifty-one men, or approximately 15% of men approached in this way, agreed to fill out the questionnaire. This response rate did not vary across recruiting environments.

The rest of the sample (5%; n=7) was recruited through a small advertisement on the back page of the Village Voice on March 25, 1998 (Appendix A, Recruitment

Materials). Participants recruited by this ad called the study and heard a recorded announcement describing the study, its procedures and its inclusion criteria (Appendix A). Twelve men who left messages expressing interest in participation were sent copies of the study questionnaire and a postage-paid, addressed return envelope. Slightly over half (7) of these questionnaires were completed and returned.

The 36-page questionnaire (Appendix B) described the study to the participant and then asked a series of multiple-choice and short-answer questions. Tacit informed consent for participation was given by participants when they finished reading the opening description. Participants were given the choice of completing the questionnaire anonymously or using a form included in the questionnaire packet to give their name and address to be recontacted for a second phase of the study. The questionnaire and recruitment protocol were approved by the Human Subjects Committee of the City University of New York Graduate School and University Center on January 24, 1998.

Although a total of 158 questionnaires were returned, eight questionnaires were excluded from analysis because respondants had a history of psychiatric hospitalization. (Four men had been hospitalized for depression or suicidality, two for anxiety-related conditions, one for "breakdown," and one because he "couldn't cope.") Another nine questionnaires were excluded either because participants failed to complete the attachment style measures (n=3), or because their questionnaire contained contradictory or repetitious response patterns that suggested that respondants didn't understand the questions or weren't reading them accurately (n=6). Thus, the responses of 141 men were used for analysis. This was an adequate sample size for analysis, to maintain power at .80 (Cohen, 1988).

Sample Characteristics

The sample was a convenience sample of 141 men. The majority were white (63%) and of Catholic (51%) or Protestant (27%) origin. Most of the men in the sample had been tested for HIV antibodies at least once (88%), and a majority of these men had been HIV-negative at last testing (66%). Mean age for the sample was 35.4 years (SD=8.94; range = 19 - 72). Complete sample characteristics are presented in Table 2.

Measures

The opening pages to the questionnaire provided an introduction to the study and a reiteration of its inclusion criteria. Participants were then asked short answer and forced-choice questions covering five domains: demographic information (including HIV serostatus), sexual risk, sexual risk-reduction behavior, and attachment style. The questionnaire ended with a note of thanks, and an invitation to participate in a follow-up stage of the study, which involves in-depth, in-person interviews. (Participants wishing to be recontacted for the follow-up filled out a separate form, linked to their questionnaire only by a participant-chosen four-digit code.)

Sexual Risk . The Sexual Risk Protocol (Appendix B, p. 8) was designed specifically for this study. It is comprised of seven closed-ended questions and two open-ended questions. The Protocol began by asking for the participant's total number of male partners for unprotected anal intercourse (UAI). In order to increase the accuracy of responses, the participant was asked what year it was when he first learned about HIV and the importance of using condoms for anal intercourse with other men. It then asked how many UAI partners the participant had had after learning this. Men who reported that they had tested HIV+ were asked how many UAI partners they had after learning

that UAI could be risky, and before testing HIV+ for the first time.

Participants were then asked to recall a single UAI experience they believed to be their riskiest ever. This incident, the protocol explained, had to have occurred after the participant had first learned about the importance of using condoms. It also had to have occurred at a time in the participant's life when he believed he was HIV-, and wished to avoid infection. In order to help the participant recall such a specific event, the Protocol asked for a date of this event. It then asked the participant's age at the time, and whether the participant considered himself gay (as opposed to hetero- or bisexual) at the time. The Protocol then asked about six characteristics of this one sexual event; all six questions were scored in a dichotomous format. The event characteristics, and the criteria used to score them, are:

(1) Participant's Sexual Role, scored as ACTIVE/RECEPTIVE. The event was scored as "active" if the participant reported that he was exclusively the insertive partner in this incident; the event was coded "receptive" if he was penetrated by his partner without a condom. Participants who reported taking both roles in UAI during this event were coded as "receptive" and instructed to restrict their reporting of it to their receptive experience.

(2) Ejaculation, scored as YES/NO. Did ejaculation occur during condomless intromission? Ejaculation was defined broadly to include either semen or preseminal fluid. There was no distinction made between between events in which orgasm occurred during intromission and events in which it didn't, but in which some release of preseminal fluid during intromission was sensed or suspected.

(3) Private, scored as YES/NO. Did this event occur in a private place such as a home or hotel room? Despite the fact that some sex clubs rent out small private rooms or cubicles,

all events that occurred in bathhouses or sex clubs were coded "no" (not private).

(4) Boyfriend, scored as YES/NO. Was the sex partner a romantic partner (lover, boyfriend) of the participant at the time of this event?

(5) With Orgasm On Purpose, scored as YES/NO. Did the participant decide and intend to have UAI with ejaculation? The event was coded "no" under two conditions: If the participant reported that he intended to have UAI with withdrawal before release of semen or preseminal fluid, or if the participant reported that he didn't decide to have anal penetration at all ("it just happened").

(6) Used Condoms Together Before, scored as YES/NO. Had the participant used condoms for anal intercourse with this partner at some time in the past, either on a previous occasion or during this event, but before condomless intromission began?

Descriptive statistics for these items are presented in Table 3.

Pearson correlations and an exploratory factor analysis were used to analyze relationships among these items. Kaiser's eigenvalue criterion (retaining only factors with eigenvalues greater than 1) suggested a two-factor solution. After oblique rotation, the first factor, explaining 34% of the total variance, included three items: Boyfriend, Private, and Used Condoms Together Before. Conceptually, these three had in common the fact that they described a sexual relationship that was more likely to have been ongoing (suggested by the use of condoms before) and emotionally involved (suggested by the fact that the partner was the participant's boyfriend). The reliability coefficient (Cronbach's alpha) for these three items was acceptable (.62), indicating that the three could be combined into a single index. Therefore these items were compiled into a scale labeled Serious Relationship (M=1.21, *SD*=1.03, possible range 0-3).

The second factor included the remaining three items: Receptive, Ejaculation, and With Orgasm On Purpose. Together, these items explained an additional 22% of the total variance. However, this factor did not make sense empirically or conceptually. The loading of the Receptive variable was less than .40 (.34), and was equivalent to its item loading on Factor 1 (.33). The remaining two variables (Ejaculation and With Orgasm On Purpose) were highly correlated but were seen conceptually as separate constructs; thus, a decision was made to use these variables separately in analyses.

Two items were combined to form the transmission potential variable: Receptive and Ejaculation. This definition of transmisison potential was based on epidemiological data from early in the AIDS pandemic (San Francisco Men's Health Study, 1986), showing that receiving semen from an infected partner was the highest risk form of anal sex.

Sexual Risk-Reduction Behavior. The extent to which participants did or didn't try to determine that their partner was HIV- before having UAI with him was measured by the Risk-Reduction Behavior Questionnaire (RRBQ). This instrument, also designed specifically for this study, included 10 short answer questions about the ways that people can reduce the riskiness of condomless intercourse. The RRBQ was based on negotiated safety guidelines published by HIV prevention agencies in Europe and Australia (Victoria AIDS Council, 1995). Negotiated safety refers to a new movement in HIV-prevention education that is targeted at gay male couples who wish to have condomless sex with each other. The negotiated safety literature recommends five steps that can help a person reliably know that his partner is HIV- before having UAI with him for the first time: Waiting until six months into a new relationship, discussing your and your partner's

HIV serostatus; getting HIV serostatus testing together at least once; negotiating an agreement of monogamy or disclosure of risky "extramarital" sex; and making a decision to have UAI while you're in a calm and sober state of mind.

These five areas of risk-reduction behavior were used to create 11 closed-ended items. For nine of the items, a protective level of risk-reduction behavior was identified from the literature. Participants endorsing items at or above that point were considered to have used a safer behavior to reduce their risk of becoming infected in the sexual event they described. Text for these nine items is shown in Table 4. In each question, the item in bold type indicates the cut point for protective level of risk-reduction. Thus, these nine items were scored as dichotomies (0,1) indicating safer vs. unsafe sex; higher scores indicated safer sex.

A tenth question asked how many days the participant had been in a sexual relationship with the partner before having riskiest UAI. This was dichotomized into a variable called Waiting Six Months. Six months was used as the cut point for protective levels of waiting because the negotiated safety literature recommends that couples get serostatus testing together six months into a new relationship. Six months, it is believed, is the "seroconversion window" for HIV, that is, the longest it can take a newly infected person to show positive antibodies when tested (Gay Men's Health Crisis, 1996). The 11th item asked for the number of the number of days the participant had *known* this partner before riskiest UAI. This item had been included in the questionnaire because of the possibility that some study participants might not have begun a sexual relationship--which was defined in the questionnaire as intimate physical contact--until after undertaking some amount of risk-reduction behavior together. However, there were no

such cases in the sample, and the days-known variable was not used in analyses. Another RRBQ item, Testing Together, was dropped before analyses because a high level of contradiction in responses to it suggested that it might have been poorly worded, and that the data it produced may be unreliable. (This will be discussed in depth later on.) The remaining nine RRBQ items were added together into a composite score, with higher scores indicated more areas of reduced risk, hence safer sex. Descriptive data for the RRBQ items is presented in Table 5. Intercorrelations among the nine dichotomous items of the RRBQ are presented in Table 6.

Attachment Style. Three instruments were used to assess participants' attachment styles.

The Relationship Questionnaire (RQ; Griffin & Bartholomew; 1994) was used to divide the sample categorically into four discrete attachment style groups. The RQ does this by first asking participants to endorse one of four vignettes that best describes how they think, feel and behave in romantic relationships. It then asks participants to report on a seven-point Likert scale how much each of the four vignettes is like them. The vignettes in the RQ correspond to four basic adult attachment styles: Secure, Preoccupied, Fearful Avoidant and Dismissing Avoidant.. Research on attachment in adults has shown that most people can classify themselves reliably into one of these four groups (Collins & Read, 1990). People who endorse the Secure style profile tend to believe that they are basically loveable, can depend on others and can tolerate others depending on them. People endorsing the Preoccupied profile tend to strongly desire to love and be loved, but also to fear that those whom they seek closeness from will either not love them enough, or will abandon them (Hazan & Shaver, 1987). People who select the Fearful Avoidant

style tend to dislike close relationships and are likely to use sex "recreationally," because they are frightened of feelings of closeness (their own or a partner's). People who select the Dismissing Avoidant style tend to dislike close relationships also, not out of fear, but because they aren't aware of feeling any desire for emotional closeness (Feeney & Raphael, 1993). The vignettes in the RQ correspond to the attachment styles used by Hazan and Shaver in their Adult Attachment Scale, which has good reliability and has been used on a wide variety of samples, including one of gay men (Dignelli, 1992).

The Relationship Scales Questionnaire (RSQ; Collins & Read, 1987) is a 30-item Likert-format instrument that provides a detailed portrait of an individual's attachment style by breaking down the attachment style vignettes in the RQ into one-sentence items. Thus, the RSQ enabled us to not only assign attachment styles to participants with more confidence (Hazan & Shaver, 1987), but also to derive latent variables underlying the self-reported attachment styles. The variables derived from the RSQ will be described in the Results section.

The Desperate Love Scale (DLS; Sperling, 1985) is a 12-question Likert-format instrument that measures the extent to which an individual's trait attitude toward love and romance is characterized by "fusional anxious attachment," a construct which has been proven to be related to but theoretically distinct from the three types of insecure attachment measured by the RQ and the RSQ. Individuals with a high level of fusional anxious attachment experience an intense desire for fusion with the lover, overwhelming desire for and anxiety around reciprocation, idealization of the lover, feelings of insecurity and impoverishment outside the relationship, difficulty in interpersonal reality testing and extremes of happiness and sadness. The reliability and validity of this

instrument has been shown in studies of college students (Sperling, 1985). This instrument was included to provide a more differentiated measure of the Preoccupied attachment style.

Results

Data analyses began with reliability and validity analyses for the instruments used to measure the dependent variable (risk-reduction behavior before riskiest sex) and the independent variable (attachment style). Within each of these two domains, correlations among items were examined for possible redundancy, and to ensure that items were correlated with each other in theoretically expected ways. Once this analysis produced a final set of variables, these variables were examined for any relationships with demographic or procedural variables that might need to be used as covariates. The results of these psychometric analyses will be described first, then analyses of the four hypotheses will be reported.

Attachment style. The attachment-style measures--the vignettes (the RQ), the four rating scales for the vignettes (the RQ scales), the RSQ and the DLS--were first examined to ascertain the validity of the vignette measure, and to determine if a latent factor structure underlay the measures of the RSQ and the DLS. The RQ vignettes produced a fairly even distribution of the sample across the four attachment styles: 27% of the sample endorsed Secure, 21% endorsed Preoccupied, 26% endorsed Fearful Avoidant, and 24% endorsed Dismissing Avoidant. This distribution contains a much higher occurrence of insecure attachment than most other published studies of RQ results (Hazan & Shaver, 1993). In most studies using either the RQ or its parent instrument, the 3-category Adult Attachment Scale, 60% of the sample generally endorse secure attachment, 15% endorse preoccupied, and the remaining 25% endorse either avoidant (as on the Adult Attachment Scale) or are split between the two types of avoidant

attachment (as on the RQ). This distribution and the high level of insecure attachment remained constant across all demographic, procedural or biomedical conditions in the sample.

A one-way multivariate analysis of variance (MANOVA) was conducted to determine whether the items asking participants to rate themselves on each the four attachment types (Secure, Preoccupied, Fearful Avoidant and Dismissing Avoidant) were consistent with participants' forced-choice self-categorization using the vignette measure. The multivariate F was significant, Wilks lamda=.71, $F(3,131)= 1.57$, $p<.04$. Univariate F's were significant for each of the four scales, and post-hoc comparisons were as expected. Results are presented in Table 7. For each item, the scale score for that group was significantly greater than scores on the other three scales, showing that there was congruence between the two types of measurement. Intercorrelations for the four scalar scores of the RQ are presented in Table 8. The correlations ranged from .02 to .42, and only one of the six reached statistical significance, indicating that the items are, for the most part, orthogonal, and represent discrete groups.

In order to identify any possible latent variables underlying the two multi-item attachment-style instruments--the RSQ and the DLS--each was factor-analyzed separately. The initial factor analysis strategy for the RSQ was based on Collins and Read's (1990) validity study of Hazan and Shaver's three-style adult attachment measure; among a sample of (presumably mostly heterosexual) college students, Collins and Read found that the three attachment styles of the Hazan and Shaver instrument (Secure, Avoidant and Anxious-Ambivalent) produced three latent factors. Those factors were: the extent to which subjects could depend on others to be available when needed; anxiety in

relationships such as fear of being abandoned or not being loved; and the extent to which subjects were comfortable with closeness and intimacy.

Because there are no published data on factors underlying the four-style RSQ, exploratory factor analyses started with the expectation that the same three factors would underlie the RSQ. This expectation was based on the fact that the only substantive difference between the RQ and the AAS is the distinction made in the RQ between the two avoidant subtypes, Fearful and Dismissing (Bartholomew, 1993). Bartholomew (1993) has shown that the principal difference between these two subtypes is the extent to which people endorsing them are afraid of being abandoned or unloved. Because this fear is measured directly in the three-factor structure of the AAS, it was expected that this same structure would be found.

However, the data did not fit a three-factor structure. A principal components analysis with oblique rotation was performed on the 30 items of the RSQ. Kaiser's eigenvalue criterion (retaining only factors with eigenvalues greater than 1) and a scree test suggested a four-factor solution, which explained 54% of the variance in the set of items. However, the oblique rotation revealed a high number of double-loaded items, i.e., items loaded about .40 on more than one factor. This suggested underfactoring. In addition, this model was conceptually weak, as two of the factors contained mixtures of items that didn't make sense.

A five-factor structure with oblique rotation produced a better empirical and conceptual solution: It accounted for 59% of the variance among items; all but one item loaded above .40 on a factor, and there were fewer (10) double-loaded items. The five factor solution was conceptually stronger, producing a factor structure that echoed but

expanded Collins and Read's (1990) three factor structure. The five-factor structure is presented in Table 9.

Factor 1, labeled *Skittish*, explained 21% of the total variance. It contains five items expressing discomfort and difficulty with interpersonal closeness. Factor 2, labeled *Anxious*, explained 12% of the variance. It contains 11 items that expressed anxiety about being abandoned or unloved. Factor 3, labeled *WantClose*, explained 10% of the variance. It contains five items expressing comfort with and desire for emotionally close relationships. Factor 4, labeled *Interdependent*, explained 8% of the total variance. It contains four items expressing comfort with depending on others and being dependent upon. Factor 5, labeled *Independent*, also explained 8% of the total variance. It contains 5 items expressing the value of being self-sufficient and uncertainty about the reliability of others. The internal consistency for the five factors was acceptable, with Cronbach's alphas of .89, .76, .77, .60, and .64, respectively. Correlation coefficients among the five factors (Table 8) ranged from .11 to .51, with many of moderate size and statistically significant.

Factor analysis for the Desperate Love Scale began with a principal components analysis using oblique rotation. Kaiser's eigenvalue criterion and a scree test suggested a three-factor solution explaining 61.7% of the total variance. This solution had many double-loaded items. Moreover, the three factors did not make sense conceptually. As internal consistency for the DLS as a whole was quite high (Cronbach's alpha=.87), a decision was made to combine the 12 items of the DLS into a single scale.

Correlation coefficients were computed between the four RQ scales, the five RSQ factors, and the DLS (see table 8). Using the Bonferroni correction to control for Type 1

error across the 45 correlations, a p value of less than .001 was considered statistically significant. Using this more stringent criterion, 17 out of the 45 correlations—fewer than half--were statistically significant. The strongest correlations were observed among the scales that measure desire for closeness and fear of rejection: the DLS, the Preoccupied item of the RQ, and the Anxious scale of the RSQ. However, examination of each factor's patterns of correlation with other factors in the matrix (besides the two others mentioned) suggested that each of the three measured something unique: Anxious correlated positively with Fearful Avoidant, and negatively with Secure. However, neither the DLS nor the Preoccupied item had significant correlations with either Fearful Avoidant or Secure, indicating Anxious was not an identical construct to the two others. The DLS and Preoccupied had in common positive correlations with WantClose. However, they were not redundant constructs either, as the DLS was significantly correlated with Interdependent, and Preoccupied was not. And although there was also a significant correlation between the DLS and WantClose, this relationship was only about half as strong as the one between the DLS and Anxious, suggesting that WantClose scaled the high-need aspect of these three, but did not fully assess fear of relationships.

Among the four attachment factors at the other end of the spectrum--those factors expressing the desire to feel independent and avoid closeness with other people--there were also high levels of intercorrelation. Among these four--the Skittish and Independent factors of the RSQ, and the Fearful Avoidant and Dismissing Avoidant scales of the RQ--the strongest correlations were between Skittish and Fearful Avoidant, and between Dismissing Avoidant and Independent. Patterns of intercorrelation between Fearful Avoidant and Dismissing Avoidant were examined to see whether the addition of the

RSQ factors duplicated the anxiety function that distinguished them, thus making their distinction redundant. As expected, Fearful Avoidant had a significant positive correlation with Anxious, whereas Dismissing Avoidant and Anxious were not significantly correlated. This was not the only area in which the two Avoidant styles differed: Dismissing Avoidant had a very high correlation with Skittish (whereas the correlation between Fearful Avoidant and Skittish was significant but only about half as strong), and Dismissing Avoidant was very highly positively correlated with Independent. (The correlation between Fearful Avoidant and Independent was significant but weaker). The fact that Fearful Avoidant and Dismissing Avoidant were both correlated with the scales that expressed desire for self-reliance, but differed in their correlations with the scales that expressed nervousness about closeness, was in keeping with the respective subtypes of avoidance that they represent.

The possibility of redundancy was also assessed between the Skittish and Independent factors of the RSQ, which shared a pattern of correlation with the RQ factors and the DLS. Both had significant negative correlations with Secure, significant positive correlations with the two subtypes of Avoidant, and nonsignificant correlations with Preoccupied and the DLS. Within the RSQ, they shared significant positive correlations with Anxious, and significant (nearly equivalent) negative correlations with Interdependent. Skittish and Independent differed in their correlations with WantClose: Although both correlations were negative, only one was statistically significant.

The lack of redundancy among the attachment variables led to the conclusion that each of the ten contributed something unique to the attachment style matrix. The decision was made to retain all ten for analyses testing the major hypotheses.

Risk-Reduction Behavior. As described in the Measures section, nine dichotomous items of the RRBQ were summed to form a composite scale, with a mean of 2.29 (SD=1.90) out of a possible maximum score of 9. This suggested that the men in this sample, on average, practiced little risk-reduction behavior before their riskiest-ever sexual event. Most of the men in the sample (94%) had a score of 5 or less; only one man had a score of 9.

Given the degree of intercorrelation among certain items (see Table 6), it was important to ascertain whether the nine items of the RRBQ assessed a single dimension. A principal components analysis using oblique rotation was performed. Kaiser's eigenvalue criterion and a scree test suggested a four-factor solution. This solution worked well conceptually, and explained 54% of the variance in the nine items. The four-factor structure is presented in Table 10. Factor 1, labeled *Negotiating*, explained 29% of the total variance. It contained the two items about making an explicit mutual agreement with the partner that in order to have UAI safely, both members of the couple would either be sexually monogamous, or both would commit to disclosing to the other any sexual contact outside the relationship that could be HIV-risky. Factor 2, labeled *Deciding*, explained 15% of the total variance. It included the two items about whether and when the participant had decided to have UAI. Factor 3, labeled *Talking & Waiting*, explained 13% of the variance. It contained the two items asking whether the participant and his partner told each other their HIV serostatus, and the dichotomous item for waiting six months into the relationship before having UAI. Factor 4, labeled *State Of Mind*, also explained 13% of the variance. It contained the two items asking whether the participant was in a calm mood, and was not using drugs or alcohol, on the occasion when he had

riskiest sex.

Internal consistency for two of the four factors was acceptable. Talking & Waiting yielded a Cronbach's alpha of .60, and the two items in Negotiating were correlated .77. The items in Deciding and State of Mind had intercorrelations that were unacceptably low, indicating that the two items in each factor could not be combined to represent a homogenous construct. Moreover, correlations among the four factors (Table 11) were quite low, ranging from .12 to .34. The highest correlation was a positive one between Negotiating and Talking/Waiting. This high correlation was expectable, given that the first part of negotiating a safety agreement (based either on monogamy or disclosure) is discussing serostatus and determining that oneself and one's partner are HIV- and wish to stay that way. The significant positive correlation between Negotiating and Deciding was expectable as well: Couples negotiate agreements about monogamy or disclosure so that they can plan to have UAI together more safely at some future time. In this sense, making a decision to have UAI, and making this decision before UAI begins, may often be an intrinsic part of the negotiation process. Given the low reliability of two of the subscales and the low intercorrelations, a decision was made to use a single summed score for the nine RRBQ items.

Associations between Sociodemographic Variables, Serostatus, Recruitment Site and Major Variables

Before beginning analyses to test hypotheses, it was necessary to determine whether any of the sociodemographic or procedural variables would need to be used as covariates in analyses. Therefore, correlations between these variables and the study's core variables (attachment style and risk-reduction behavior) were examined.

Serostatus. To test for a possible independent effect of HIV serostatus, HIV- and untested men were grouped together for comparison with HIV+ men. This was done because there is a demonstrated relationship between having had risky sex and being HIV+ (even if the participant was not--or believed he was not--HIV+ at time of riskiest sex). Therefore, HIV+ was the serostatus condition most liable to have an independent effect on the risk-behavior variables. Untested men comprised 11.2% of the HIV-/untested group.

Associations of HIV serostatus with all central study variables are displayed in Table 12. HIV+ men' riskiest sexual experience had higher transmission potential (i.e. the sex was more likely to have included the receptive role with ejaculation during intromission) than HIV- men. There were no other differences between HIV+ men and HIV- and untested men on any of the other sexual behavior variables or any of the attachment style variables.

Recruitment source. A possible confounding effect of recruitment source was examined by comparing those men recruited in sexual contexts such as sex clubs (42%) with men recruited at nonsexual contexts such as the Piers or the Lesbian and Gay Community Services Center. Effects of sexual-context recruitment are displayed in Table

13. Men recruited in sexual contexts differed from men recruited in nonsexual contexts in that their riskiest sex had lower transmission potential (i.e., it was less likely to have included the receptive role with ejaculation during intromission). In addition, men recruited from sexual contexts were more likely to have had their riskiest sex with a man who was a casual partner as opposed to a boyfriend and to have had this experience in a public sex venue rather than in a private place. Men recruited in sexual contexts were also less likely to have used condoms previously with this partner, were likely to have had their riskiest sexual experience more recently, and were less likely to have discussed their partner's serostatus before riskiest sex. The decision was made to enter sexual-context recruitment as a covariate in the analyses for the relationship between attachment style and risk-reduction behavior.

In order to test whether attachment styles were consistent across the recruitment sites, a one-way multivariate analyses of variance (MANOVA) was computed comparing levels of attachment across the six environments. The MANOVA was significant (Wilks lamda=.57 $F(5,124)=1.53$, $p=.02$). Post-hoc ANOVAs showed significant recruitment differences across recruitment sites for only one of the ten attachment scales: the Preoccupied scale of the RQ. Mean scores on the Preoccupied scale were higher among men recruited at the Westside Club than among men recruited at either the other sex club (Slag), or the Piers (see Table 14).

Sociodemographic variables. Possible confounding effects of age, ethnicity and religion were evaluated. There were no significant differences for age or for religion. Ethnicity was related to a fair number of study variables (Table 15): White men were significantly older than African American or Latino men at time study and at time of the

UAI episode they reported, and white men were more likely than African Americans or Latinos to be gay-identified (as opposed to straight or bisexual) at time of riskiest sex. White men were also more likely than African American or Latino men to have been recruited at a sex club. There were differences by ethnicity on risk-reduction behavior as well: Latino men were more likely than white or African American men to have used the "negotiation" strategies: agreeing to be monogamous or agreeing to disclose any potentially risky extramarital sex. White men were also more likely than African American or Latino men to report that they had made a decision to have UAI, rather than having it "just happen." Given that being white or being Latino had an independent effect on risk-reduction behavior, the decision was made to enter both ethnicities as covariates in the analyses for the relationship between attachment style and risk-reduction behavior.

Relationship between attachment and risk-reduction behavior

This study's first hypothesis was that men with secure attachment would report higher levels of risk-reduction behavior than men with insecure attachment. A one-way univariate analysis of covariance (ANCOVA) was conducted to evaluate for differences in mean levels of risk-reduction behavior (as measured on the RRBQ9 scale) across the four categorical attachment styles (Secure, Preoccupied, Fearful Avoidant and Dismissing Avoidant), with sexual-context recruitment, whiteness, and Latinness entered as covariates. The ANCOVA was nonsignificant $F(3,130)=1.20$, $p=.30$.

As an additional test of the relationship between attachment style and risk-reduction behavior, correlation coefficients were computed between the ten continuous attachment variables (the four scales of the RQ, the five factor scales of the RSQ--Skittish, Worried, WantClose, Interdependent and Independent--and the DLS) and the

RRBQ9, controlling for sexual-context recruitment, whiteness, and Latinness. No relationships were significant at a level of .05.

Hypothesis 2 predicted that the relationship between attachment style and risk-reduction behavior would be moderated by transmission potential of riskiest sex. In this study, sexual events in which the participant anally received semen or preseminal fluid from his partner (i.e. the participant was receptive, and his partner ejaculated during intromission) were coded as having high transmission potential. Sexual events that were unlikely to cause contact between the participant's bloodstream and his partner's fluids (i.e. events in which the partner was not penetrated, or in which there was no ejaculation) were identified has having low transmission potential.

The effect of transmission potential on risk-reduction behavior was tested first for the sample as a whole. A one-way analysis of variance (ANOVA) was computed to compare mean scores on the RRBQ9 scale across the two levels of transmission potential: high (men whose riskiest sexual event was receptive with ejaculation) and low (everyone else), with sexual-context recruitment, whiteness and Latinness entered in as covariates. The test was significant, $F(132) = 3.92$, $p \leq .00$. Mean scores on the RRBQ9 (with standard deviations in parentheses) were 3.04 (2.21) for the high-transmission group, and 1.91 (1.60) for the low-transmission group. This indicated that the men in the sample who reported the kind of sex where they were likely to become infected if their partner was HIV+, were more likely to take undertake risk-reduction behavior beforehand to ensure that the partner was HIV-.

The moderating effect of transmission potential was then tested by comparing correlations between attachment style and risk reduction behavior across the two

transmission-potential groups. Within the two groups, correlations were computed between the 10 scalar attachment variables and RRBQ9 (controlling for whiteness, Latinness, and sexual-context recruitment). Then each pair of correlations (i.e. the one from the high transmission potential group and the one from the low transmission potential group) was compared. None of the correlations were significantly different across the two groups, suggesting that transmission potential did not act as a moderator. Correlations between attachment and risk-reduction behavior at high and low levels of transmission potential are presented in table 16.

Another possible moderating variable emerged in a preliminary review of the data. Many men in the sample reported that their riskiest sexual experience was with a partner whom they had known less than one day (n=74, or 53% of the total sample). This raised the possibility that there might indeed be an relationship between attachment style and risk-reduction behavior in the sample, but that this relationship might be invisible in the sample as a whole because so few participants had been sexually involved with their partner long enough to undertake several of the behaviors on the Risk Reduction Behavior Questionnaire. At least three of the RRBQ behaviors (a third of the total items) are very unlikely to occur outside the context of an ongoing relationship (Negotiating Monogamy, Negotiating Disclosure, and Waiting Six Months). Therefore it was proposed that among men who practiced risk-reduction behavior in the context of an ongoing relationship, levels of risk-reduction behavior would be higher than among men whose riskiest sex was with an anonymous partner, and correlations between attachment styles and risk-reduction behavior would be stronger.

To test whether levels of risk reduction behavior were higher among men whose

partners were nonanonymous, an independent samples t-test was computed to compare mean scores on the RRBQ9 between the two levels of partner anonymity: anonymous (defined as a partner known 24 hours or less) and nonanonymous (everybody else). The test was significant, $t(132) = 7.10$, $p<.001$, with lower scores on the RRBQ9 for men with anonymous partners $M=1.38$ ($SD=1.35$) than for those who knew their partners at least one day (3.38, $SD=1.90$).

To test for the moderating effect of partner anonymity on the relationship between attachment style and risk-reduction behavior, correlations between the 10 scalar attachment variables and the RRBQ9 were compared between the two groups. Results are presented in Table 17. Significant differences between pairs of correlations were found for eight of the ten attachment variables. The effect of partner anonymity as a moderator—that is, the magnitude and direction of the differences between the two sets of scores—varied across these eight scales. The two scales describing secure attachment, Secure and Interdependent, were uncorrelated with the RRBQ9 among men whose riskiest partner was anonymous. But these scales were positively correlated with the RRBQ9 among men with nonanonymous partners, indicating that the moderating effect of partner anonymity was negative. Among three of the insecure scales—Skittish, Fearful Avoidant and the DLS—correlations with RRBQ9 were weakly negative among men with anonymous partners, but more strongly negative among men who knew their partners, indicating a positive moderator effect for anonymity. A fourth insecure scale, Anxious, showed a positive moderator effect as well: Anxious was negatively correlated with RRBQ9 at both levels of partner anonymity, but the negative correlation was stronger among men with nonanonymous partners. The two scales that emphasize the

value of self-reliance—Dismissing Avoidant and Independent—were positively correlated with RRBQ9 among men with anonymous partners, but negatively correlated with RRBQ9 among men who knew their partners more than 24 hours. The two scales that emphasize fear of being abandoned or unloved (Preoccupied and Anxious) did not correlate with the RRBQ9 differently among men at the two levels of partner anonymity.

Hypothesis 3 predicted that the HIV+ subgroup of this study's sample--men who had become infected since learning about safer sex--would contain higher concentrations of men with Preoccupied attachment and lower percentages of men with Secure and Avoidant attachment than those reported by Dignelli (1992) for a general-population sample of gay men.

As described earlier, the analyses run to test the relationship of HIV serostatus to attachment style (Table 12) indicated that within the HIV+ subsample the percentage of men with Preoccupied attachment (16%) was roughly equivalent to the percentage reported by Dignelli. However, levels of Avoidant attachment were twice as high (51%, combining Fearful Avoidant and Dismissing Avoidant) as those found by Dignelli. Consequently, the rate of Secure attachment in this sample was much lower (35%) than that found by Dignelli (60%). However, distribution of the four RQ attachment categories did not differ between the HIV+ and HIV- men, and rates of insecure attachment were very high among both HIV+ and HIV-/untested men.

Hypothesis 4 predicted that men with Preoccupied and Dismissing attachment would report having had UAI with a larger number of partners than men with Secure and Fearful attachment since learning that HIV can be transmitted through UAI. Because of outliers, the data on UAI partner numbers were rescaled to closer approximate a normal

distribution. The mean number of UAI partners was 28.27. However, the standard deviation was 130.96, indicating a very large variance; seven men reported UAI with from 75-1,200 partners, causing the strong positive skew. The decision was made to recode the scores of these seven men to 50, which was the highest score reported by more than two participants (n=4). This reduced the statistical influence of the seven men who could be considered outliers. However, even with these transformed scores, in each attachment category the mean figure for number of UAI partners was still lower than the standard deviation, suggesting that the influence of men reporting large numbers of partners was still strong. Descriptive statistics for UAI partner numbers in the four RQ categories are presented in table 18.

Discussion

This study was guided by the idea that attachment style might correlate with patterns of HIV-risky sexual behavior in gay men. A review of the research on HIV-risky sex in gay men showed that interpersonal needs--sometimes even more than rational thinking about risk and safety--were key motivators around risk and safety in sex. A review of the literature on attachment in adults suggested that measures of attachment style might be a robust and efficient way of measuring the kinds of individual differences in the interpersonal needs that underlie sexual behavior. Attachment theory describes differences in how people experience and manage their own motivations to seek feelings of safety through closeness with others. Researchers have shown how different attachment styles correlate with different styles of affect regulation and defensive functioning (e.g., Kobak, 1987, Mikulincer & Orbach, 1995, Brennan & Shaver, 1995). It was argued that attachment style might comprise a set of trait differences in affect regulation and defense that could correlate with risky sexual behavior. If these differences exist, it was argued, then psychoeducational interventions to help gay men control risky sex could be made more effective by being tailored to personality characteristics of individuals, particularly those individuals who may be most prone to sexual risk behavior.

The study found some hints of the hypothesized relationship between risky sex and attachment style. However, most of the effects of interest were too weak to be statistically significant. This is largely because of problems with the study's methodology. The study's findings and limitations are reviewed below.

Limitations Due to Sampling Strategy

This study's sample of 141 men was well-suited to studying a relationship between risky sex and attachment style. The sample was diverse in terms of age, ethnicity and sexual behavior, representing the diversity of gay-identified men in New York City. (Because men who have sex with men are largely a hidden population, comparison statistics are not available (Martin & Dean, 1989)). But as diverse as the sample was, sociodemographic characteristics were largely unrelated to the two core variables, attachment style and risk-reduction behavior preceding riskiest-ever sexual experience. The one demographic variable with statistically significant effects on variables of interest was ethnicity, which was used as a covariate in analyses. The only statistically significant independent effect of a procedural variable was in the sexual behavior of men recruited from sexual contexts such as sex clubs. These men were less likely than men recruited elsewhere to have undertaken a protective level of risk-reduction behavior in one area: discussing their partner's serostatus. Therefore, sex club recruitment was used as a covariate in analyses as well.

There were several other ways in which men who were recruited in sexual contexts differed from men recruited elsewhere. Sex club recruits were more likely to have had their riskiest sex with a casual partner, to have done this in a public place, and to have done it more recently than the rest of the sample. The most striking difference between the two groups, however, was that the sex events reported by sexual-context recruited men had significantly lower transmission potential than those reported by men recruited in nonsexual contexts. This finding, coupled with the finding that men recruited at sex clubs did not report significantly higher numbers of UAI partners than men

recruited elsewhere, supports the idea that men who frequent sex clubs may not be at elevated risk for infection with HIV. This information is relevant to the ongoing debate in the gay community about whether HIV is being spread through bathhouse sex (Rotello, 1998).

This is not to say that men in this sample were less likely to have risky sex in public than in private. Among the riskiest men in this sample--men who reported high-transmission sex (receptive with ejaculation) with a partner known less than 24 hours (n=19)--there was a tendency, although not statistically significant, to have had this sex in a public place. In other words, although the men *recruited* in sex clubs reported lower-transmission sex than men recruited elsewhere, men who reported that their riskiest sex occurred in sex clubs were slightly more likely to have had extremely risky sex (receptive, with ejaculation, with a stranger) than men whose riskiest sex occurred in private (although this difference was not statistically significant). Seen in this light, the low transmission potential of the sex reported by the men who filled out this questionnaire in sex clubs may represent a sampling effect. Sex club patrons who were willing to take 30 minutes out of their evening to fill out a risky sex questionnaire may have been self-selected: Those who had a more upsetting experience to report have declined the invitation to participate.

Risk and risk-reduction behavior. Levels of risk-reduction behavior were much lower than expected across the entire sample. More risk-reduction behavior was reported by men in the high-transmission potential group (i.e., men whose riskiest sex was receptive, with ejaculation) than by men whose riskiest sex was less potentially infectious. Nevertheless, among men who had the kind of sex that was likely to get them

infected if their partner was HIV+, almost two thirds did so without hearing anything from their partner about whether he was HIV+ or HIV-, and 13.6% had known the partner for *less than a day*. This is a remarkably high incidence rate for this very risky behavior. Most published studies of risky sex find much lower rates of men being penetrated to orgasm by partners who are anonymous or whose serostatus is undisclosed (e.g. Grulich, et al. 1998). And although there have been clinical reports of increases in sexual risk-taking among gay men since the introduction of new medications for managing HIV (Fox, 1998), this does not explain the high rates of UAI in this sample. Most of the sexual experiences reported (81%) occurred before 1996, when the first reports of the effectiveness of Protease Inhibitors were published. Possible reasons for this sample's high level of risk behavior are discussed later.

Attachment style. The fact that only about one quarter of this sample endorsed a secure attachment style on the RQ is unusual. The rate of insecure attachment found in this sample is nearly twice that previously found in published studies of non-gay men and women (e.g., Bartholomew, 1997). In the one available study where the Adult Attachment Scale was used with gay men (Dignelli, 1992) rates of secure, avoidant and anxious ambivalent attachment were 60%, 25% and 15% respectively, similar to the distributions in samples drawn from college psychology classes and ads placed in suburban community newspapers.

This skew toward insecure attachment may be best explained by sampling and selection biases. In other published studies using the RQ and the AAS, participants were recruited by snowball sampling (friends calling friends), by mail-in questionnaires published in newspapers, and by collecting data in undergraduate psychology classes. In

contrast, almost all of the participants in this study were approached, individually and in groups, while they were already involved in a social situation. For men recruited at sex clubs, the social interaction was seeking sex; men recruited at the Center were either on their way to meetings or gatherings, or were socializing afterwards. Men recruited at the piers were probably there to socialize with old friends, or to meet new ones.

Men who agreed to fill out the questionnaire were willing take a 30- to 45-minute break from the social situation they were in and to implicitly acknowledge, to the recruiter and whoever else was around, that they had had anal sex without condoms with another man at some point over the past 15 years. This recruiting strategy may have had an effect on who did and did not volunteer to participate in the study, and on the state of mind that they were in when they filled out the questionnaire. No data were collected on motivations for participating (or not participating) in the study. Nor do the data indicate which men were recruited in bunches of two or more together, and which men were alone when approached by study recruiters. However, it is possible that many men who took time to do the questionnaire did so partly because the interpersonal interaction--the one that they were in or the one that they were seeking at the time--was not entirely satisfying. Men who chose to fill out an HIV-risk questionnaire for a half hour may have done so because they were bored, or because they wanted to talk about themselves with another person, albeit in the attenuated format of a pencil-and-paper questionnaire. These men may have even wished to use this opportunity to disclose a personal problem.

There is some empirical support for this explanation in the way attachment styles differed across recruiting environments (Table 14). The only attachment variable that differed across recruitment sites was Preoccupied, which showed higher mean scores at

the Westside Club than at Slag or at the Piers. This may represent a context effect: The Westside Club is a different kind of psychological environment than either Slag or the Piers. Located in Chelsea, the Westside Club is famous for its attractive clientele and unfriendly atmosphere (Westside Club management, personal communication, 1998). In contrast, Slag is more age-diverse and more friendly, with a culture that values fetish costuming (e.g. leather and latex) rather than beauty (Slag management, personal communication, 1998). The Westside Club is also unlike the Piers, in that men who come to the Westside Club tend to do so alone hoping to meet others, whereas men who come to the Piers tend to do so with friends already with them. If some of the men at the Westside Club who took the time out to do the questionnaire were, indeed, feeling unsuccessful in their efforts to find sex partners that evening, any doubts they might have about the availability of others and the lovability of the self may have been salient in their minds as they were filling out the questionnaire, and the Preoccupied vignette on the RQ may have looked like a good fit.

Reliability studies of instruments similar to the ones used in this study have shown that these measures are not influenced to a great degree by mood states (Wilhelm & Parker, 1990). And research using the RQ, the RSQ and other instruments has shown that attachment style is a trait variable with high stability over time (Scharfe & Bartholomew, 1998). However, there is also research showing that people with Anxious-Ambivalent attachment (the analog term for Preoccupied attachment in the Hazan & Shaver instruments) may have less coherent internal models of self and caregiver (Baldwin & Fehrm, 1995) and thus may be more likely than people with other types of attachment to change their reported attachment style in response to the presence or

absence of environmental stresses (DaVila, Burge & Hammen, 1997). There may be other reasons why men recruited at the Westside Club reported high levels of Preoccupied attachment. However, the way this study collected attachment data was unusual, and this raises the possibility that responses may have been influenced by the fact that participants were in the middle of complex social situations while they were filling out the questionnaire.

Relation between attachment style and sexual risk. The study found no significant relationship between attachment style and risk-reduction behavior preceding riskiest-ever sex. Across all attachment groups, men were equally liable to, at some time in their lives, have a very risky sexual experience, and when this happened, men with secure attachment were no more likely than men with the three subtypes of insecure attachment to take steps to reduce their likelihood of becoming infected. Nor did the men's risk-reduction scores correlate significantly with the Desperate Love Scale, which specifically measured those aspects of attachment that had been hypothesized to correlate with the desire to have UAI.

The hypothesized moderating effect of transmission potential did not emerge either. Attachment style was not significantly more likely to correlate with risk-reduction behavior among men who received fluids during intromission than it was among men who did not. However, it was notable that the four attachment style correlations that approached significance in the high-transmission subsample were all in the directions that had been hypothesized: men with high endorsements of Secure attachment were more likely than others to undertake risk-reduction behavior; men with high endorsements of Fearful Avoidant attachment or the Skittish and Anxious factors of the RSQ were less

likely to undertake risk-reduction behavior.

The finding of a significant moderator effect for partner anonymity supported the idea that relationships between attachment style and risk-reduction behavior might exist, but might require a different research format to be visible. This effect was complex, effecting the relationship between attachment style and risk reduction behavior differently across the ten attachment scales. The moderator effect of partner anonymity was strongest for the two attachment scales that emphasize the importance of self-reliance and the unimportance of other people. These scales, the Dismissing scale of the RQ and the Independent factor of the RSQ, correlated positively with risk-reduction behavior among men whose riskiest sex was with an anonymous partner, but correlated negatively with the RRBQ among men whose riskiest sex occurred in an ongoing relationship. Research has shown that dismissing attachment works by defending the ego against negative affect that would motivate seeking supportive contact with others (Koback, 1987). Attachment researchers have theorized that when attachment feelings break through the defenses erected against them in people with dismissing attachment, these feeling may be powerful and confusing (Feeney & Raphael, 1993). Among men in this sample who scored high on the dismissing scales, ongoing relationships may have activated attachment feelings, perhaps causing anxiety or confusion that undermined their ability to think and behave in a healthy self-protective way.

The moderating effect of partner anonymity on the other attachment scales was mostly as predicted: Men scoring high on the Secure scale of the RQ and the Interdependent scale of the RSQ were no more or less likely than others to practice risk-reduction with anonymous partners, but were more likely to practice risk-reduction

behavior in ongoing relationships. Men scoring high on the Fearful Avoidant scale of the RQ, the Skittish scale of the RSQ, and the DLS, were also no more or less likely to practice risk-reduction in anonymous encounters. However, in ongoing relationships, these men were less likely to practice risk-reduction behavior. Men who scored high on the Anxious scale of the RSQ were unlikely to practice risk-reduction with anonymous partners, and somewhat more unlikely to practice risk-reduction in the context of an ongoing relationship.

These eight scales correlated with the RRBQ9 in ways that were congruent with the theory of secure and insecure attachment: When the sexual experience occurred in the context of an ongoing relationship, men with secure attachment were more able to protect themselves, and men with insecure attachment were less able to protect themselves. Men who had high anxiety about being abandoned or unloved were least likely to undertake risk-reduction behavior, especially in the context of an ongoing relationship. For the two scales that measure the intensity of an individual's desire for interpersonal closeness—the WantClose scale of the RSQ and the Preoccupied scale of the RQ—there was no correlation with attachment style among men with either anonymous or ongoing partners. This disproves the idea that risky sex would be motivated by a desire for intense intimacy, as supported by this study's review of the literature.

The finding that there were higher concentrations of men with avoidant attachment in the HIV+ subsample of this study than in the community sample amassed by Dignelli appeared to confirm Hypothesis 3. However, the proportional equivalence of attachment styles between the HIV+ and HIV-/untested subsamples obfuscates that finding. From the data, it is not possible to say whether the high rate of insecure

attachment among HIV+ men in this sample is a function of their being HIV+, or is an artifact of this study's methods.

The finding of no significant differences in mean numbers of UAI partners across the four attachment groups suggests that interpersonal security needs may have little influence on the number of partners that gay men have risky (or potentially risky) sex with. This finding contrasts with the positive association between avoidant attachment and attitudes toward promiscuity found by Feeney (1992) in a study of (presumably mostly heterosexual) male and female undergraduates. Moreover, it suggests that Secure and Preoccupied men may be as likely as Avoidant men to use sex "recreationally" and to have trouble staying safe. Given the current dearth of literature on the relationship between attachment and sexuality, this finding may underscore not only the difference between gay and heterosexual sexual cultures, but also the gap between sexual attitudes and behavior.

Limitations of the present study

Methodology and Risk-Reduction Behavior. The fact that about a fifth of the sample reported extremely high-risk sex (i.e. high-transmission sex with a partner of undiscussed serostatus) might indicate that the sample contained an extraordinarily large percentage of men at high vulnerability to eventual infection. However, it is more likely that the high rates of extremely risky behavior in this sample show the dramatic difference between men's typical sexual behavior, and what they would label as their riskiest.

Most studies of sexual risk behavior evaluate a participant's typical behavior, or his aggregate behavior over six months or one year (Catania, 1990). This study asked

about a "peak risk" incident for three reasons. At the time of the study's design, the Principal Investigator believed that a person's peak risk behavior may be a more accurate indicator of his vulnerability to infection than his average or typical risk behavior. This belief was based on two facts: First, an individual is much more likely to contract HIV through one extremely risky sexual experience than through a hundred slightly risky ones (Kelly, 1994); second, many individuals occasionally deviate widely from their "regular" or "typical" HIV-risk management practices (Coates, 1996). For these reasons, it was suggested that vulnerability to HIV infection through sex may not be accurately measured in the aggregate (Weinhardt, 1998).

A second reason for asking about a peak risk experience is based on cognitive psychology: Most people, when asked a question about average or most recent or most common health-related behaviors, can be expected to answer in ways that are biased toward presenting themselves and their lives as more advantageous than those of their peers (e.g., Weinstein, 1984). This tendency toward an "optimistic bias" led the Principal Investigator to believe that men being interviewed about their "most recent" or "most typical" sexual event would be more likely to evoke a memory that brought up feelings of confidence and security, for example, an image of an experience in which they adhered to their safer-sex rules, rather than one that aroused anxiety or self-doubt (Catania, 1995). (In fact, most of the men who participated in this study may "typically" practice safer sex, but this remains an unasked question.)

It was expected that asking men to describe their *riskiest* UAI experience would minimize optimistic bias and would prompt recall of events that were quite unlike their typical sexual practices (Johnston, 1995). It was expected that even those participants

whose average or typical sex was moderately safe would, at some time in their lives, have also had at least one experience in which their risk of becoming infected was higher than usual. Thus, the third reason for asking about peak-risk UAI was to expand the spectrum of risky behavior in our sample by extending the outer (extreme risk) ranges of both risk-reduction behavior and transmission potential. It was expected that in doing so, peak-risk design would provide adequate variability for between-subjects comparison.

However, the effect of the peak-risk format was just the opposite. Rather than expanding the variability of the dependent variable, this format appears to have dramatically reduced it. By limiting response to one riskiest sexual experience, the study prevented participants from reporting on experiences when they had UAI--even receptive UAI with ejaculation--but *did* undertake some level of risk-reduction behavior beforehand. In fact, the description of risky sex used in the questionnaire may have been understood by participants as UAI without simultaneous risk reduction. The consequence for this dissertation was that there was too little risk-reduction across the board, and low variance, limiting the ability to examine relationships among variables.

Had this study used one of the many questionnaires that have been shown to reliably assess a person's typical sexual behavior over a give period of time (e.g. Mayer-Bahlburg, 1993), the amount of extremely risky sex reported might have been reduced, but variability might have increased enough to allow for a more accurate test of the major hypotheses. Instruments that measure sexual risk behavior in terms or modal rather than peak risk may also give a more statistically accurate picture of a person's vulnerability to eventual infection with HIV, as most researchers believe that this vulnerability is best-measured by looking at frequency of modal behavior than by extremity of peak risk

(Mayer-Bahlburg, personal communication, 1999).

Measurement of Risk Behavior

If the RRBQ is to be used in future research, it will need to be revised for clarity and accuracy. The wording used in the question about whether the participant and his partner had HIV serostatus testing together before riskiest sex may have been particularly confusing (Table 4, Question #3). Twelve participants who reported on this variable that they had completed HIV serostatus testing with their partner at least once before riskiest sex, reported on the Waiting question that they had been in a sexual relationship with this partner less than 24 hours. This was suspicious: Most public and private medical facilities take at least a week to return lab results for HIV-testing, and although there are facilities in New York City that can return an HIV serostatus result in a few hours, they are much more expensive than regular clinics or private medical offices. Moreover, these facilities keep regular business hours, so it would be surprising that12 men in this sample had gone to these facilities with someone who they had known only a matter of hours (and met during the daytime) to get quick-turnaround test results in order to have condomless anal sex.

Indeed, of these 12 men, seven reported that they had not disclosed their HIV-serostatus to their partner before sex, and that their partner had not disclosed his serostatus to them. It is difficult to imagine a situation in which two people would go to the trouble to get serostatus testing together--in these cases, expensive and inconvenient quick-turnaround testing together--and then not discuss the results. These seven men were probably reporting on their own serostatus testing histories, perhaps because they had cognized the part of the question that said "This includes testing together or

separately" but had overlooked the part that restricted the question to testing done by both the participant and his partner during the course of the relationship. Of the remaining five participants who reported testing together before riskiest sex with a partner they had known less than a day, two said that that they had been tested with this partner more than once. This is highly unlikely, if possible, given the time constraints. Because of these apparent contradictions, the item was not used in analyses.

Another area in which the sexual behavior and risk-reduction behavior measures were flawed was in the way information was collected about the exchange of body fluids during sex. Specifically, the study measures may have failed to adequately describe the behavior of men who reported that they received fluid from their partner during intromission without having intended to. Six men described sexual experiences in which they made a decision to not receive semen or preseminal fluid from the partner, took the receptive position, and reported that ejaculation occurred during intromission. It was suspected that these men fell into two groups: those who got "caught up in the moment" and then let intromission go on for longer than they had planned to, and those whose partners reneged on an agreement to withdraw before ejaculation. It was expected that the RRBQ questions about whether and when a decision to have UAI was made would clarify the distinction between these two possibilities. However, responses did not clarify this issue, and it was only through participants' write-in responses to two open-ended questions that the distinction between these two types of situations was made. (Two men reported that their partners had ejaculated inside them after the participant had asked them not to.) In order to reliably distinguish men who got caught up in the moment from men whose partners broke the deal, specific questions about the participant's

communication with his partner about fluid transmission and the partner's adherence or nonadherence to the participant's wishes, must be added to the instrument.

Theoretical Considerations

Future studies that compare attachment style and aspects of aggregate rather than peak risk sexual behavior may find that the two are related. The fact that eight of the ten scales used to measure attachment style correlated with risk-reduction behavior more strongly among men with known partners suggests that when sex occurs in the context of an ongoing relationship, men with secure attachment may be more likely to take measures to increase safety. This finding is congruent with the theoretical premise that attachment style--being primarily a style of regulating needs around closeness and felt security--is most likely to influence sexual behavior in the context of an *ongoing* relationship (my itialics; Hazan & Shaver, 1988). It is important to note that the significant effect for anonymity as a moderator means only that the attachment style-RRBQ9 correlations were *significantly stronger* among men who knew their partner more than a day. It does not say that they were statistically significant among those men (and in fact they were not). Future studies that compare attachment style with risk-reduction behavior preceding a typical risky sex experience (rather than a lifetime peak-risk one) may find these correlations to be significant.

However, it is possible that the relationship between attachment style and the practice of safer sex is less powerful than the literature review suggested it would be. The intersection of attachment theory and sexuality is still a nascent field (a database search for the intersection of these two terms in August of 1999 produced only two references). Bowlby (1973) conceived of attachment as a behavioral system that was separate from,

but overlapping with, the behavioral systems that regulate caregiving and sexual mating. Expanding on Bowlby, Shaver and Hazan (1988) theorized that the attachment system was the basis for these two other systems, since it is the first to appear in the individual's development. Drawing on Shaver and Hazan's work, Feeney and Raphael (1992) demonstrated a correlation between Avoidant attachment and attitudes toward casual sex, and made a compelling case for the idea that other attachment styles could strongly influence sexual mores as well. But research studies have yet to bear this out, and some attachment researchers are currently calling for a renewed focus on attachment as an independent behavioral system, that interacts reciprocally with the systems that regulate feeding, aggression, and sexuality, but that shapes behavior independently (e.g. Cassidy, 1998).

This dissertation found some hints that attachment style may influence sexual risk and safety in the context of ongoing relationships. But it was clear that for the men in this sample whose riskiest-ever sex was with a stranger, attachment style did not influence whether they took measures to protect themselves from infection. These findings suggest that men's characteristic needs and fears around interpersonal closeness may not strongly influence their erotic risk behavior in at least one singular moment of life. At this moment in history, little is known about the psychology of sexual behavior, and gay male sexual psychology in particular. As the literature on gay male sexuality—and it's cultural as well as intrapsychic correlates—continues to grow, new hypotheses about what makes men put themselves at risk in sexual situations are likely to emerge.

Table 1

Recruitment sites

	n	% of sample
Village Voice ad	7	5.0
The Center	31	22.1
West Side Piers	43	30.7
Westside Club	39	27.9
Slag	17	12.1
Other sexual context	3	2.1

Table 2

Demographic and Biomedical Characteristics of the sample

	M	*SD*
Demographic Characteristics		
Age	35.4	8.9
Age at time of riskiest sex	30.7	9.1
Ethnicity	*n*	%
White	89	63.0
African-American	27	19.0
Latino	22	15.0
Asian/Pacific Islander	1	0.7
Other	3	2.1
Religion of upbringing		
Protestant	38	27.1
Catholic	73	50.7
Jewish	13	9.3
Athiest/agnostic	15	10.7
Other	3	2.1
Gay identified at time of riskiest sex	123	87.9

Biomedical Characteristics	*n*	%
Has ever been tested for HIV	124	88.6
HIV positive at last test	32	22.5
	M	*SD*
Number of UAI partners since learning about HIV and safer sex	28.27	130.96

Table 3

Descriptive data for items on the Sexual Risk Protocol

	n	%
Participant's Sexual Role		
Active	54	38.0
Receptive	88	62.0
Ejaculation		
No	67	47.2
Yes	75	52.8
Private		
No	48	33.0
Yes	94	66.2
Boyfriend		
No	96	67.6
Yes	46	32.4
With Orgasm & On Purpose		
No	72	80.0
Yes	28	19.7
Used Condoms Together Before		
No	111	78.0
Yes	31	21.0

Table 4

Text and cutoff scores for RRBQ items

1- Discussing His Status: What had This Partner told you about his HIV serostatus at the moment you had condomless anal sex with him for the first time?

1 Enough for me to believe that he was HIV-positive.

2 Nothing. Or that he hadn't been tested.

3 He told me once that he believed he was negative.

4 He told me more than once that he believed he was negative.

2- Discussing Your Status: What had you told This Partner about your serostatus at the moment you had condomless anal sex with him for the first time?

1 Enough for him to believe that I was HIV-positive.

2 Nothing. Or that I hadn't been tested.

3 I told him once that I believed I was negative.

4 I told him more than once that I believed I was negative.

3- Testing Together: How many times, during your relationship with This Partner and before This Occasion, did both of you get tested for HIV?

This includes testing together or separately.

Don't include times when you were tested and didn't learn the results.

1 never

2 once

3 more than once

4- Negotiating Monogamy: Did you and This Partner agree that in order to have unprotected anal sex together safely, your relationship would be sexually monogamous?

1 no, the subject never came up.

2 the subject came up, but we never made an explicit agreement.

3 yes, we made an explicit mutual agreement.

5- Negotiating Disclosure: Did you and This Partner agree that in order to have unprotected anal sex together safely, you and he would tell each other about any "extra-marital" sexual contact that might put either of you at risk for HIV infection?

1 no, the subject never came up.

2 the subject came up, but we never made an explicit agreement.

3 yes, we made an explicit mutual agreement.

6- Being Sober: Were you using any kind of drugs or alcohol on This Occasion?

1 Yes, I was drunk or high

2 I was a little altered from drugs or alcohol

3 I was sober; no drugs or alcohol

7- Being calm: What was your mood like in the 24 hours before This Occasion?

1 Extreme: I had been feeling very unhappy--or unusually fabulous.

2 Okay: normal ups and downs.

3 Good: I had been pretty happy mostly.

8- Deciding: When you and This Partner had condomless anal sex for the first time, did you feel like you were making a "decision" to do this?

1 No. It wasn't a decision.

2 I knew what I was doing, but it didn't feel exactly like a decision.

3 It felt like a decision.

9- Deciding before: When did you make the decision to have condomless anal sex with This Partner?

1 Never. I didn't decide.

2 While condomless anal penetration was actually going on.

3 While we were having sex on This Occasion, but before condomless anal penetration first started

4 Before the very beginning of sex (even before starting foreplay) on This Occassion.

Note: Items in bold type are the lowest score for protective level of risk-reduction behavior. For example, for item 1, the sexual event is considered to be safer if the partner had told the participant at least once that he (the partner) was HIV-.

Table 5

Descriptive Data for RRBQ

Item	*n*	%
Waiting six months	22	15.5
Discussing his serostatus	39	27.5
Discussing your serostatus	47	33.1
Testing together	34	23.9
Negotiating disclosure	16	11.3
Negotiating monogamy	19	13.4
Deciding to do it	21	14.8
Deciding before sex started	21	14.8
Being sober	56	39.4
Being calm	80	56.3

Note: The % in each column indicates the proportion of the sample who performed the risk-reduction behavior at a protective level (i.e., practiced safer sex).

Table 6

Correlations among dichotomous items of the RRBQ

	W6	HS	YS	NM	ND	BS	BC	DE	DB
Wait six months (W6)									
His status (HS)	.07								
Your Status (YS)	.28**	.57**							
Neg. Monogamy (NM)	.15	.35**	.20*						
Neg. Disclosure (ND)	.05	.32**	.17*	.77**					
Being Sober (BS)	.06	.15	.06	.08	.17*				
Being Calm (BC)	-.07	.17*	.19*	.15	.17*	.22*			
Deciding (DE)	.06	.14	.08	.18*	.22*	.04	.19*		
Deciding Before (DB)	.13	.01	.05	.19*	.30**	-.02	.12	.47**	

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

Note: Because these correlations all represent relationships between two dichotomous variables, they are tetrachoric r rather than Pearson r correlations.

Table 7

Relationship between self-categorization of attachment style and scaled items of the RQ

				Group Means				
RQ groups	F	df	p	SE	PR	FA	DA	Differences[a]
Secure (SE)	39.41	(3,133)	<.001	6.00	3.38	2.64	3.50	S>P, FA, DA
Preoccupied (PR)	21.29	(3,132)	<.001	2.84	5.62	3.5	2.85	P>S, FA, DA
Fearful Avoidant (FA)	22.37	(3,132)	<.001	2.29	3.45	5.47	3.18	FA>S,P,DA
Dismissing Avoidant (DA)	18.42	(3,133)	<.001	3.08	3.00	3.64	5.78	DA>S,P,FA
RSQ scales								
Skittish	19.54	(3,133)	<.001	1.89	2.51	3.19	2.78	FA>S,P;S<P,DA,FA
Anxious	23.60	(3,130)	<.001	2.24	3.64	3.25	2.49	P, FA>S, DA
WantClose	6.01	(3,133)	<.001	3.53	3.82	3.43	2.90	S, P>DA
Interdependent	8.95	(3,132)	<.001	3.73	3.19	2.96	2.83	S > P, FA, DA
Independent	9.62	(3,131)	<.001	2.95	3.18	3.60	3.88	DA>S, P; FA>S
Desperate Love Scale	5.97	(3,132)	<.001	65.78	79.07	74.00	64.00	P>DA, S

[a] Group differences were determined using the Bonferroni statistic for pairwise comparisons.

Table 8

Intercorrelations of the RQ, RSQ, and DLS scales [a]

	SE	PR	FA	DA	SK	AX	WC	IR	ID
RQ scales									
Secure (SE)									
Preoccupied (PR)	-.20								
Fearful Avoidant (FA)	-.42*	.10							
Dismissing Avoidant (DA)	-.07	-.08	.02						
RSQ scales									
Skittish (SK)	-.56*	.08	.60*	.34*					
Anxious (AX)	-.48*	.59*	.42*	-.04	.43*				
WantClose (WC)	.09	.29	-.01	-.23	-.32*	.15			
Interdependent (IR)	.46*	-.12	-.29*	-.28*	-.49*	-.36*	.14		
Independent (ID)	-.30*	-.06	.35*	.57*	.51*	.24	-.11	-.47*	
DLS	-.15	.41*	.20	.01	.11	.58*	.32*	-.25*	.08

* significant at $p<.001$

[a] correlations taken from oblique rotation of factor analysis

Table 9

Factor Structure of the RSQ[a]

	Factor Loadings				
	1	2	3	4	5
Factor 1: Skittish					
3. I find it easy to get emotionally close to others	-.80	.04	.33	.24	-.21
30. I find it relatively easy to get close to others	-.72	-.23	.16	.38	-.38
24. I am uncomfortable being close to others	.62	.53	-.16	-.17	.20
13. I worry about others getting too close to me	.61	.40	-.23	-.25	.43
20. I am nervous when anyone gets too close to me.	.60	.44	-.30	-.18	.53
Factor 2: Anxious					
21. I often worry that relationship partners won't want to stay with me.	.15	.82	-.02	-.12	.11
11. I often worry that romantic partners don't really love me	.04	.78	-.11	-.13	.07
23. I worry about being abandoned	.30	.74	.25	.00	-.07
25. I feel that others are reluctant to get as close as I would like	.01	.73	.18	-.14	.12
16. I worry that others don't value me as much as I value them	.26	.73	.13	-.03	.15
28. I worry about having others not accept me	.30	.65	.09	.18	.02
9. I worry about being alone	.18	.64	.41	.16	.02
5. I worry that I will be hurt if I allow myself to be too close to others	.20	.64	-.04	-.35	.46
12. I find it difficult to trust others completely	.31	.63	-.18	-.38	.38
18. My desire to merge completely sometimes scares people away.	-.05	.61	.29	-.28	-.08
17. People are never there when you need them.	.37	.61	-.03	-.41	.38
Factor 3: WantClose					
14. I want emotionally close relationships	-.20	.07	.73	.31	-.02
4. I want to merge completely with another person	-.29	.15	.64	-.18	.04
6. I am comfortable without close emotional relationships	-.08	.00	-.64	-.02	.48
8. I want to be completely emotionally intimate with others	-.39	.15	.63	.26	.17
29. Romantic partners often want me to be closer than I feel comfortable being.	.40	.26	-.41	-.06	.31
Factor 4: Interdependent					
15. I am comfortable having other people depend on me	-.09	-.00	.09	.82	-.10
10. I am comfortable depending on other people.	-.40	-.09	.22	.66	-.45
22. I prefer not to have other people depend on me.	.33	.36	-.07	-.60	.25
27. I know that others will be there when I need them	-.29	-.41	-.09	.48	-.29
Factor 5: Independent					
19. It is very important to me to feel self-sufficient	.16	.02	-.02	-.18	.73
1. I find it difficult to depend on other people	.22	.34	-.23	-.35	.72
26. I prefer not to depend on others	.38	.23	-.03	-.14	.67
2. It is very important to me to feel independent	.09	-.20	-.06	-.12	.67
7. I'm not sure I can always depend on others to be there when I need them	.26	.47	-.25	-.36	.62

[a]— oblique rotation

Table 10

Factor structure of the RRBQ[a]

	Factor			
	1	2	3	4
Factor 1: Negotiating				
Disclosure	.93	.21	.17	.22
Monogamy	.92	.12	.26	.13
Factor 2: Deciding				
Before sex	.20	.85	.10	-.02
Deciding	.14	.80	.14	.19
Factor 3: Talk & Wait				
Discussing your status	.23	.03	.88	.22
Discussing his status	.48	-.05	.68	.37
Waiting six months	.04	.26	.66	-.20
Factor 4: State of Mind				
Being calm	.13	.18	.10	.81
Being sober	.19	-.04	.06	.68

[a] oblique rotation

Table 11

Correlations among the RRBQ factors

	1	2	3
1. Negotiating			
2. Deciding	.28*		
3. Talking/Waiting	.34*	.14	
4. State of Mind	.19	.12	.19

*$p < .05$

Table 12

Differences between men who had tested HIV+ at time of study and men who were HIV- or untested

			HIV-/untested (n=108)		HIV+ (n=32)	
	X^2 or t-test	p	M or %	SD	M or %	SD
Sociodemographic Characteristics						
Age at time of study	t=1.46	ns, p=.51	34.82	9.15	37.5	7.81
Religion of upbringing	X^2=.3.39	ns, p=.64				
Protestant			25%(n=28)		32%(n=10)	
Catholic			52%(n=57)		45%(n=15)	
Jewish			9%(n=10)		10%(n=3)	
Agnositic/Athiest/Other			13%(n=14)		13%(n=4)	
Ethnicity	X^2=.87	ns, p=.93				
white			62%(n=68)		68%(n=21)	

			HIV-/untested (n=108)	HIV+ (n=32)
	X^2 or t-test	p	M or % SD	M or % SD
African American			20%(n=22)	16%(n=5)
Latino			15%(n=1)	13%(n=4)
Asian/Pacific Islander			0.9%(n=1)	0
Other			1.8%(n=2)	3.2%(n=1)
Age at time of riskiest sex	t=.49	ns, p=.48	30.6 9.4	31.0 8.5
Gay identified at time of riskiest sex	X^2=2.69	ns, p=.10	86% (n=93)	96% (n=30)
Procedural variables				
Recruitment source	X^2=2.50	ns, p=.65		
Village Voice			5% (n=6)	3% (n=1)
The Center			22% (n=24)	26% (n=8)
The Piers			30% (n=33)	26% (n=8)

			HIV-/untested (n=108)		HIV+ (n=32)	
	X^2 or t-test	p	M or %	SD	M or %	SD
Westside Club			29% (n=32)		23% (n=7)	
Slag			12% (n=14)		22% (n=7)	
Sexual History						
UAI partners[a]	t=1.64	ns, p=.10	9.8	11.1	13.7	13.5
Years since riskiest sex	t=.41	ns, p=.52	4.3	4.4	6.5	4.5
Sexual Risk Protocol						
Receptive	X^2=5.96	.01	56% (n=61)		81%(n=25)	
Ejaculation	X^2=7.51	.01	46% (n=50)		74%(n=23)	
Private	X^2=.56	ns, p=.45	68% (n=74)		61%(n=19)	
Boyfriend	X^2=.18	ns, p=.67	31% (n=34)		35%(n=11)	

			HIV-/untested (n=108)		HIV+ (n=32)	
	X^2 or t-test	p	M or %	SD	M or %	SD
With Orgasm On Purpose	X^2=1.89	ns, p=.17	18% (n=19)		29%(n=9)	
Condom Before	X^2=.02	ns, p=.87	21% (n=23)		23%(n=7)	
Serious Relationship Scale	t=-.09	ns, p=.96	1.2	1.0	1.2	1.0
Risk-Reduction Behavior						
Waiting 6 months	X^2=.15	ns, p=.70	15% (n=17)		13%(n=4)	
Discussing his serostatus	X^2=.06	ns, p=.80	29% (n=31)		27%(n=8)	
Discussing your serostatus	X^2=.01	ns, p=.90	35% (n=37)		33%(n=10)	
Testing together	X^2=4.72	ns, p=.03	30% (n=31)		10%(n=3)	
Negotiating disclosure	X^2=.93	ns, p=.33	13% (n=14)		7%(n=2)	
Negotiating monogamy	$X^2$1.38	ns, p=.24	12% (n=13)		21%(n=6)	
Deciding to do it	X^2=.53	ns, p=.47	14% (n=15)		19%(n=6)	
Planning it in advance	X^2=.75	ns, p=.39	16% (n=17)		10%(n=3)	

			HIV-/untested (n=108)		HIV+ (n=32)	
	X^2 or t-test	p	M or %	SD	M or %	SD
Being sober	X^2=1.28	ns, p=.26	60% (n=64)		50%(n=15)	
Being clear-headed	X^2=.16	ns, p=.67	40% (n=42)		43%(n=13)	
9-item RRBQ scale score	t=.41	ns, p=.52	4.3	4.4	6.5	4.5
Attachment						
RQ categorical measure						
Secure	X^2=1.40	ns, p=.24	25% (n=27)		35%(n=11)	
Fearful			27% (n=29)		23%(n=7)	
Preoccupied			22% (n=24)		16%(n=5)	
Dismissing			25% (n=27)		28%(n=8)	
RQ items						
Secure	t= .33	ns, p=.56	3.9	1.9	4.3	2.0
Preoccupied	t= .04	ns, p=.84	3.6.	1.9	3.7	2.0

			HIV-/untested (n=108)		HIV+ (n=32)	
	X^2 or t-test	p	M or %	SD	M or %	SD
Fearful Avoidant	t= .42	ns, p=.52	3.6	2.0	3.6	2.1
Dismissing Avoidant	t= .60	ns, p=.44	3.9	2.1	4.1	2.2
RSQ						
Skittish	t=.33	ns, p=.57	2.6	.89	2.5	.92
Anxious	t=.30	ns, p=.58	2.8	.91	2.9	1.0
WantClose	t=.00	ns, p= .96	3.4	.94	3.4	.95
Interdependent	t=.31	ns, p= .58	3.1	.90	3.3	.91
Independent	t=.19	ns, p= .67	3.5	.84	3.3	.86

*Statistical outliers for UAI partner numbers (n=11; range= 40-1,200) were recoded as 39.

Table 13

Differences between men recruited in sexual contexts and nonsexual contexts[a]

	X^2 or t-test	p	Nonsexual contexts (n=80) M or % SD	Sexual contexts (n=60) M or % SD
Sociodemographic Characteristics				
Age at time of study	t=3.2	ns, p=.08	35.0 9.7	35.9 7.8
Religion of upbringing	X^2=4.9	ns, p=.30		
Protestant			28%(n=23)	25%(n=15)
Catholic			46%(n=37)	56%(n=34)
Jewish			7%(n=6)	12%(n=7)
Agnostic/Athiest/Other			11%(n=14)	5%(n=4)
Ethnicity	X^2=11.2	.02		
white			55%(n=44)	75%(n=45)
African American			27%(n=22)	8%(n=5)
Latino			16%(n=13)	11%(n=7)
Asian/Pacific Islander			.0	1.7%(n=1)
Other			13%(n=1)	3.3%(n=2)

	X^2 or t-test	p	Nonsexual contexts (n=80) M or % SD	Sexual contexts (n=60) M or % SD
Sexual History				
Age at time of riskiest sex	t =1.95	ns, p=.16	29.6 9.7	32.1 8.3
Gay at time of riskiest sex	X^2=.93	ns, p=.33	86% (n=69)	92% (n=54)
HIV Positive	X^2=.09	ns, p=.53	21% (n=17)	23% (n=14)
UAI partners [b]	t =0.61	ns, p=.80	10.2 11.6	11.4 11.9
Years since riskiest sex	t =.41	ns, p=.03	5.5 4.6	3.8 4.1
Sexual Risk Protocol				
Receptive	X^2=3.8	ns, p=.05	68% (n=55)	52%(n=31)
Ejaculation	X^2=5.7	.02	61% (n=49)	40%(n=24)
Private	X^2=7.4	.00	76% (n=61)	54%(n=32)
Boyfriend	X^2=8.8	.00	42% (n=34)	19%(n=11)
With Orgasm On Purpose	X^2=2.4	ns, p=.12	26% (n=21)	12%(n=7)
Condom Before	X^2=4.2	.04	26% (n=21)	15%(n=9)

	X^2 or t-test	p	Nonsexual contexts (n=80) M or % SD	Sexual contexts (n=60) M or % SD
Risk-Reduction Behavior				
Waiting 6 months	X^2=3.5	ns, p=.06	20% (n=16)	8%(n=5)
Discussing his serostatus	X^2=5.4	.02	36% (n=28)	18%(n=11)
Discussing your serostatus	X^2=2.8	ns, p= .10	40% (n=31)	28%(n=16)
Testing together	X^2=.41	ns, p=.52	27% (n=21)	22%(n=13)
Negotiating disclosure	X^2=1.03	ns, p=.30	14% (n=11)	8%(n=5)
Negotiating monogamy	X^2=2.62	ns, p=.11	18% (n=14)	8%(n=5)
Deciding to do it	X^2=.80	ns, p=.37	13% (n=10)	18%(n=11)
Planning it in advance	X^2=.11	ns, p=.73	15% (n=12)	13%(n=8)
Being sober	X^2=.85	ns, p=.38	54% (n=42)	62%(n=37)
Being calm	X^2=.14	ns, p=.70	42% (n=32)	38%(n=23)
9-item RRBQ Scale	t =.41	ns, p=.52	4.3 4.4	6.5 4.5
Attachment: RQ categorical measure				
Secure	X^2=1.24	ns, p=.74	29% (n=23)	25%(n=15)
Fearful			26% (n=20)	27%(n=16)

	X^2 or t-test	p	Nonsexual contexts (n=80) M or %	SD	Sexual contexts (n=60) M or %	SD
Preoccupied			18% (n=14)		25%(n=15)	
Dismissing			27% (n=21)		23%(n=14)	
RQ items						
Secure	t = .05	ns, p=.82	3.9	1.9	4.0	2.0
Preoccupied	t = .18	ns, p=.67	3.5.	1.9	3.7	1.9
Fearful Avoidant	t = .51	ns, p=.47	3.8	2.1	3.4	1.9
Dismissing Avoidant	t = .04	ns, p=.84	4.1	2.1	3.7	2.0
RSQ						
Skittish	t =.33	ns, p=.57	2.6	.89	2.5	.92
Anxious	t =.30	ns, p=.58	2.8	.91	2.9	1.0
WantClose	t =.00	ns, p=.96	3.4	.94	3.4	.95
Interdependent	t =.31	ns, p=.58	3.1	.90	3.3	.91
Independent	t t=.19	ns, p=.67	3.5	.84	3.3	.86

[a] nonsexual contexts includes advertising in the Village Voice

*Statistical outliers for UAI partner numbers (n=11; range= 40-1,200) were recoded as 39.

Table 14

Differences by recruitment source on mean scores on the RQ scales, the RSQ and the DLS

			Advertising		The Center		The Piers		Westside Club		Slag		
	F	p	M	SD	M	SD	M	SD	M	SD	M	SD	
RQ scale scores													
Secure	0.31	ns, p= .87	3.4	1.7	4.1	1.9	3.9	1.9	3.8	2.0	4.2	1.9	
Preoccupied	2.58	.04	4.1	1.8	3.5	2.0	3.4b	1.8	4.3a	1.8	2.7b	1.7	
Fearful Avoidant	1.76	ns, p= .14	3.4	1.3	4.4	1.9	3.3	2.0	3.3	1.7	3.6	2.0	
Dismissing Avoidant	1.71	ns, p=.15	4.0	2.0	3.6	1.9	4.6	2.2	3.5	2.1	4.0	1.9	
RSQ													
Skittish	0.25	ns, p=.90	2.7	1.2	2.7	0.8	2.5	0.8	2.5	0.9	2.5	1.0	
Anxious	1.02	ns, p=.39	2.8	0.9	3.8	0.9	2.6	0.9	2.9	1.0	2.7	0.9	
WantClose	0.64	ns, p=.63	3.0	1.3	3.0	0.9	3.5	0.9	3.5	0.9	3.2	1.0	
Interdependent	0.33	ns, p=.86	3.1	1.0	3.1	0.9	3.1	0.9	3.1	0.7	3.2	0.9	
Independent	0.71	ns, p=.58	3.4	1.0	3.5	0.7	3.5	0.9	3.3	0.9	3.3	0.8	
DLS	1.68	ns, p=.15	66.7	12.1	75.3	20.5	72.2	14.7	68.2	16.3		64.0	16.3

Table 15

Relationship between ethnicity and variables of interest

	X^2 or Anova	p	White M or %	SD	African American M or %	SD	Latino M or %	SD
Sociodemographic characteristics								
Age at time of study	F=4.96	.01	36.91	8.9a	34.42	9.9	30.11	6.2b
Age at time of riskiest sex	F=6.05	.00	32.6	9.0a	28.2	9.6b	25.8	6.6b
Gay-identified time of riskiest sex	X^2=15.86	.00	94% (n=84)		81% (n=22)		75% (n=14)	
Procedural variables								
Recruited in a sex club	X^2=11.22	.02	51% (n=45)		18% (n=5)		35% (n=7)	
Sexual History								
HIV Positive	X^2=.87	ns, p=.92	23% (n=21)		18% (n=5)		20% (n=4)	
UAI partners[a]	F=1.23	ns, p=.30	11.9	12.4	7.0	8.5	11.4	12.2
Years since riskiest sex	F=2.30	ns, p=.10	4.3	4.4a	6.4	4.8b	4.5	1.0

	X^2 or Anova	p	White M or % SD	African American M or % SD	Latino M or % SD
Sexual Risk Protocol					
Receptive	X^2=2.3	ns, p=.68	64% (n=56)	56%(n=13)	65%(n=13)
Ejaculation	X^2=1.5	ns, p=.83	52% (n=46)	56%(n=15)	50%(n=10)
Private	X^2=1.5	ns, p=.83	65% (n=58)	67%(n=18)	75%(n=15)
Boyfriend	X^2=1.5	ns, p=.83	30% (n=27)	33%(n=9)	40%(n=8)
With Orgasm On Purpose	X^2=2.46	ns, p=.65	18% (n=16)	30%(n=8)	20%(n=4)
Condom Before	X^2=2.13	ns, p=.71	22% (n=20)	15%(n=4)	25%(n=5)
Intimacy scale	F=.43	ns, p=.65	1.22 1.03	1.1 .99	1.4 .99
Risk-Reduction Behavior					
Waiting 6 months	X^2=2.50	ns, p=.64	12% (n=12)	18%(n=5)	15%(n=3)
Discussing his serostatus	X^2=1.99	ns, p=.74	29% (n=26)	20%(n=5)	37%(n=7)
Discussing your serostatus	X^2=4.54	ns, p=.34	37% (n=33)	20%(n=5)	37%(n=7)
Testing together	X^2=6.55	ns, p=.16	23% (n=20)	17%(n=4)	40%(n=8)
Negotiating disclosure	X^2=14.37	.01	9% (n=8)	4%(n=1)	25%(n=5)
Negotiating monogamy	X^2=13.03	.01	10% (n=9)	8%(n=2)	30%(n=6)
Deciding to do it	X^2=14.77	.00	17% (n=15)	4%(n=1)	10%(n=2)
Deciding before	X^2=7.70	ns, p=.10	12% (n=11)	12%(n=3)	20%(n=4)

	X^2 or Anova	p	White M or %	SD	African American M or %	SD	Latino M or %	SD
Being sober	X^2=2.86	ns, p=.58	58% (n=52)		48%(n=12)		65%(n=13)	
Being calm	X^2=6.31	ns, p=.18	36% (n=32)		46%(n=11)		45%(n=9)	
RRBQ scale score	F=.1.92	ns, p=.14	2.22	1.82	1.82	1.2a	2.9	2.3b
Attachment								
RQ scores								
Secure (vs. Insecure)	X^2=3.57	ns, p=.47	24% (n=21)		41%(n=11)		25%(n=5)	
Secure	F=1.60	ns, p=.21	3.93	1.85	4.42	2.01	3.43	2.34
Preoccupied	F=1.48	ns, p=.23	3.67	1.83	3.43	2.12	4.32	1.92
Fearful Avoidant	F= .08	ns, p=.92	3.65	1.82	3.77	2.17	3.81	2.31
Dismissing Avoidant	F=.06	ns, p=.94	3.93	2.05	3.92	2.39	4.09	2.28
RSQ scale scores								
Skittish	F=.21	ns, p=.81	2.61	.92	2.72	.93	2.54	.82
Anxious	F=.66	ns, p=.52	2.95	.96	2.72	.77	2.88	.99
WantClose	F=.62	ns, p=.54	3.48	.99	3.42	1.22	3.64	.86
Interdependent	F=1.0	ns, p=.35	3.02	.88	3.14	.912	3.13	.76
Independent	F=.26	ns, p=.77	3.71	.84	3.52	.862	3.41	.83

[a] Statistical outliers for UAI partner numbers (n=11; range= 40-1,200) were recoded as 39.

Table 16

Moderator effect of transmission potential

	Partial correlation with RRBQ9[a]	
Attachment style variable	Low transmission potential (n=78)	High transmission potential (n=36)
RQ Scales		
Secure	-.10	.27
Preoccupied	.10	-.07
Fearful Avoidant	-.04	-.28
Dismissing Avoidant	-.02	-.06
RSQ scales		
Skittish	-.02	-.29
Anxious	-.02	-.22
WantClose	.04	.01
Interdependent	-.11	.12
Independent	.03	.05
DLS	.00	-.21

* difference between the two correlations on this line is significant at $p<.05$

[a] covariates: sex club vs. other recruitment context; Latino vs. other ethnicity; white vs. other enthnicity.

Table 17

Moderator effect of partner anonymity

Attachment style variable	Partial correlation with RRBQ9[a]	
	Anonymous Partner (n=65)	Known Partner (n=49)
RQ Scales		
Secure	-.01	.32*
Preoccupied	.02	-.06
Fearful Avoidant	-.02	-.27*
Dismissing Avoidant	.14	-.16*
RSQ scales		
Skittish	-.01	-.28*
Anxious	-.11	-.38*
WantClose	-.02	.01
Interdependent	-.03	.11*
Independent	.13	-.22*
DLS	.06	-.17*

* difference between the two correlations on this line is significant at $p<.05$

[a] covariates: sex club vs. other recruitment context; Latino vs. other ethnicity; white vs. other enthnicity.

Table 18

Relationship between RQ group and number of UAI partners

	Number of UAI partners[a]	
	M	SD
RQ Attachment Group		
Secure	10.94	1.80
Preoccupied	7.79	12.68
Fearful Avoidant	14.22	14.83
Dismissing Avoidant	14.77	15.76

[a] Statistical outliers for UAI partner numbers (n=7; range= 75-1,200) recoded as 50.

Appendix A

Recruiting materials

1. Classified advertisement in the Village Voice

RISKY SEX

Research study: Tell us about the riskiest condomless anal sex you have ever had. Call the Decision Making Study and the City University of New York. 212-650-5004

2. Answering machine announcement:

"Hello, and thank you for calling the Decision Making Study at the City University of New York. This is a study about how men make decisions to have condomless anal sex with other men. If you are a man, and you have had condomless anal sex with another man at some time in your life when you believed you were HIV-negative and knew that condomless anal sex could be risky, we would like to hear your story. If you would like to hear more about this study, please leave your name and phone number after the beep, as well as a good time for us to call you back. If there are any specific instructions about how to ask for you when we call, please leave those also. Thank you for your interest. Goodbye.

Appendix B: Questionnaire

Risky Sex Questionnaire

This is a questionnaire for a research project. We invite you to complete it if you

-Are a **man**

-Have had

anal sex without condoms

with another man at least once in your life. And you did this at a time when you believed that you were HIV-negative.

-Would like to tell us about the

riskiest anal sex

you have ever had.

My riskiest anal sex experience?

Yes. We will ask you to remember one condomless anal sex experience that you think is your riskiest--the one in which you were in the most danger of contracting HIV for the first time.

How far back?

We want to hear about a sexual experience that happened **after** you first learned that HIV can be transmitted through condomless anal sex.

What if I got infected before safe sex?

If you already believed that you were probably infected by the time you learned that HIV could be transmitted through condomless anal sex, we cannot use your story in this study. But we thank you for your interest.

Do you care what my HIV status is?

We want to hear from people of both statuses--and from people who don't know their status.

What do you want to know, exactly?

If you're **HIV-negative** or **untested**, we'd like to hear about a condomless anal sex experience in which you feel that you were at high risk for becoming infected with HIV. If you have tested **HIV-positive**, we'd like to hear about a risky experience you had *before you knew that you were infected.*

What qualifies as condomless anal sex?

For us, condomless anal sex means any condom-free penis-anus penetration, insertive or receptive, whether it lasts two seconds or two hours, whether it involves orgasm or not.

What if I didn't know it was condomless?

If your riskiest condomless anal sex occured without you knowing it was condomless--maybe a condom broke or slipped, or a partner let on that he was wearing a condom when he really wasn't--then this is not the study for you.

What is this study?
Who is asking these questions?

This is a doctoral thesis study of how people make decisions to have HIV-risky sex. The principal investigator is Arthur Fox of the City University of New York.

What should I expect?

This questionnaire will probably take you about thirty minutes to complete. As we said before, we ask that you mail this questionnaire back to us within two weeks. (Your mail-back date is on the last page of this questionnaire).

Some of the questions we ask in this questionnaire might be upsetting, because they ask for detailed information about an experience that might feel disturbing for you to remember. If you wish to stop at any point in the questionnaire, feel free to do so. If you wish, at any point, to speak to us about your experience filling this out, feel free to call the principal investigator (the number is on page 5). If thinking about these things brings up difficult issues, we can provide you with names and numbers of people and organizations that offer counseling and support.

Who gets my name?

Nobody, unless you give it to us on the last page of this questionnaire. Any information about who you are that you will give or have given us--in person, over the phone, or in writing--will be kept confidential. The data you give us on this questionnaire will not be linked to your identifying information in any way, unless you write a four-digit tracker number on the followup form and mail it back to us (in the separate envelope we have provided). Even if you do this, no one except the principal investigator in this study will be able to link your name to what you write on this questionnaire. Records with your name on them will be kept in a locked file.

Who can I call for more information?

You can contact Arthur Fox, the principal investigator, at 212-642-2513. If you have further questions about this research, you can call Professor Tracey Revenson of the City University of New York at 212-642-2534. If you have any questions concerning your rights as a participant in this study, you can call the Office of Sponsored Research of the City University of New York, at 212-642-2059.

Ok. So how do I start?

Your turning the page and starting to fill out the questionnaire means that you have read and understood the preceding explanation of this study, and the terms of your participation in it. Go on to page 7.

What if I don't want to do this?

That's fine. Stop here, and please mail this questionnaire back to us in the enclosed envelope. Thanks for taking the time to read this far.

First, about you now

1- How did you first hear about this study? (please circle one)

1 GMHC
2 Body Positive
3 GMAD
4 HAF
5 Ad in the Voice
6 Ad in Next

7 None of the above (please specify) _____

2- What is your date of birth?

____ ____ ___
month day year

3- What is your ethnicity? (please circle one)

1 white
2 African-American
3 Latino
4 Asian/Pacific Islander
5 Other _____

4- What religion were you raised in? (please circle one)

1 Protestant	4 Atheist
2 Catholic	5 Agnostic / no religion
3 Jewish	6 Other_____

7- Have you ever been hospitalized for a psychological or emotional problem?

1 Yes
2 No

If you answered yes, can you tell us the dates and reason for your hospitalization?

_____
_____

8- Are you now or have you ever been on medication for a psychological or emotional problem?

1 Yes
2 No

If you answered yes, can you tell us the name of your medication, and the dates you were/have been taking it?

_____
_____

HIV and you

Some questions about your HIV status and testing history.

1- Have you ever been tested for HIV? (please circle one)

Yes
(if you circled this, please answer question #2, below).

No
(if you circled this, please turn to page 9)

2- What was the result of your most recent serostatus test? (please circle one)

negative
(If you circled this, please skip to page 10)

positive
(If you circled this, please skip to page 11)

You've never been tested for HIV. . .

People learn about HIV and safer sex in a lot of different ways and at a lot of different stages in life.

Thinking back, what year was it when you first heard that in order to prevent HIV infection, it was recommended that men use condoms for anal sex?

_____
year

Thinking back from that time until the present, how many men have you had condomless anal sex with since learning that HIV can be transmitted through condomless anal sex?

(Remember that for us, "condomless anal sex" means any penis-anus penetration, whether it lasts two seconds or two hours, insertive or receptive, whether it results in orgasm or not.)

If you don't know exactly how many men you've done this with, your best guess is fine.

Please give us a number rather than a range of numbers (Say "15" rather than "between 10 and 20").

_____
number

Now please skip to page 12.

Your last HIV test came back NEGATIVE . . .

Overall, how many times have you been tested for HIV? _____

People learn about HIV and safer sex in a lot of different ways and at a lot of different stages in life.

Thinking back, what year was it when you first heard that in order to prevent HIV infection, it was recommended that men use condoms for anal sex?

_____
year

Thinking back from that time until the present, how many men have you had condomless anal sex with since learning that HIV can be transmitted through condomless anal sex?

(Remember that for us, "condomless anal sex" means any penis-anus penetration, whether it lasts two seconds or two hours, insertive or receptive, whether it results in orgasm or not.)

If you don't know exactly how many men you've done this with, your best guess is fine.

Please give us a number rather than a range of numbers (Say "15" rather than "between 10 and 20").

_____
number

Now please skip to page 12.

You have tested HIV POSITIVE . . .

Did you ever test HIV-negative before testing positive for the first time?

no **yes** (if you circle this, please answer the two questions below)

What year was it when you last tested negative?

_____

What year was it when you first tested positive?

_____

People learn about HIV and safer sex in a lot of different ways and at a lot of different stages in life.

Thinking back, what year was it when you first heard that in order to prevent HIV infection, it was recommended that men use condoms for anal sex?

_____
year

Thinking back to that time, how many men did you have condomless anal sex with **after** learning that HIV could be transmitted through condomless anal sex, and **before** your first positive HIV antibody test?

(Remember that for us, "condomless anal sex" means any penis-anus penetration, whether it lasts two seconds or two hours, insertive or receptive, whether it results in orgasm or not.)

If you don't know exactly how many men you've done this with, your best guess is fine.
Please give us a number rather than a range of numbers (Say "15" rather than "between 10 and 20").

_____
number

Think back

We are going to ask you questions about one single anal sex experience. Here are four characteristics of the kind of anal sex event we want to hear about. We will ask you to think of an experience you have had in which all four of these things were true:

1. **There was anal penetration without a condom:** Either you didn't use a condom, or the condom broke or slipped off during penetration, and you continued with penetration knowing this.

2. **It was your riskiest:** This is the sexual event that you now consider, in retrospect, to be your riskiest ever.

3. **You knew what was happening:** This wasn't a situation where a partner lied and told you he was wearing a condom when he really wasn't. Or where you stopped with penetration right after you realized a condom had broken or slipped.

4. **You knew it could be risky:** This event happened after you found out that HIV could be transmitted through anal sex, and that condoms can prevent HIV transmission. And you believed at the time that you were probably HIV-negative.

Now,

Please take a moment to remember this experience. Remember where you were, and how you were thinking and feeling about this sexual interaction and this partner.

From here on out, we will refer to this sexual event as

This Occasion

And we will refer to your partner in this event as

This Partner

Top or bottom?

On This Occasion, which were you?
(Please circle one or both)

1. **Receptive role**: this is when you partner is putting his penis in your anus. You are the partner being penetrated (a.k.a. screwed, fucked, boffed, nailed, etc.)

2. **Active role**: this is when you are the one who is putting his penis in your partner's anus. You are the partner who is doing the penetrating.

What kind of anal sex was it?

On This Occasion, how far did you go?
(Please circle only one)

1. **All the way**: this is anal penetration to orgasm. The active partner--the "top"--ejaculates inside the receptive partner, the "bottom". The top's precum or semen gets released into the bottom's anus.

2. **Pullout**: this is when penis-anus penetration happens for a limited time only. The top pulls out before there is precum or ejaculation.

That's your riskiest?

Please take a moment to tell us why you consider This Occasion to be your riskiest condomless anal sex experience ever.

_____
_____
_____
_____
_____
_____

Now,

If your last HIV test was NEGATIVE or you have NEVER BEEN TESTED . . .

Please skip to page 17.

If you have tested HIV-POSITIVE . . .

Please continue on page 16.

You have tested HIV-POSITIVE . . .

Do you think This Occassion was when you first became infected with HIV?

(Please circle only one)

1 I know this could have been the event in which I became infected.

2 I believe this probably was the event in which I became infected.

3 I know this was the event in which I became infected.

4 I believe that I became infected in a later sexual event with This Partner.

2- Why did you choose that answer?
(If you like, you can refer back to the answer you gave to our question about partner numbers, on page 11.)

_____
_____
_____
_____
_____
_____

About This Occasion . .

1- What was the date of This Occasion? (your best estimate is fine)

_____ _____ _____
day month year

3- At the time of This Occasion, did you consider This Partner to be your primary emotional and/or romantic relationship? Was he something like your lover or boyfriend?

A Yes
B No

Please describe the type of relationship it was:

_____
_____

4- At the time of This Occasion, how long had you and This Partner known each other?
(please put a number in ONE blank only; if you feel that you and This Partner never "knew" each other, put a zero in the "minutes" blank.)

_____ _____ _____ _____ _____ _____
years months weeks days hours minutes

5- At the time of This Occasion, how long had you and This Partner been in a sexual relationship?
(For our purposes, your "sexual relationship" began the first time you and This Partner physically touched in a sexual way--your first kiss, your first grope, etc.)
(Please put a number in ONE blank only.)

_____	_____	_____	_____	_____	_____
years	months	weeks	days	hours	minutes

6- On This Occasion, what type of location were you in? (please circle one and then specify)

1 private (someone's home or hotel room, etc.)

2 non-private (a club, a theatre, a backroom, a park, etc.)

Please describe the type of place it was:

_____

_____

7- Before This Occasion, had you and This Partner ever had anal penetration *with* condoms with each other?

1 Yes
2 No

8- Which of these statements best describes your "decision" to have condomless anal sex on This Occasion?
Please circle the one that is the closest fit.

1 I decided to go all the way--anal intercourse with ejaculation--without a condom.

2 My decision was to have condomless anal penetration for a limited time only. There was to be withdrawal before precum or orgasm, and no exchange of semen.

3 I never actually "decided" to have anal penetration without a condom.

Please briefly describe the kind of decision you made:

(Or, if you didn't make a "decision," please describe the circumstances that resulted in condomless anal penetration on This Occasion)

_____
_____
_____
_____

This Occasion & This Partner

Please circle only one response for each question.

1- **His HIV status:** What had This Partner told you about his HIV serostatus at the moment you had condomless anal sex with him for the first time?

1 Enough for me to believe that he was HIV-positive.
2 Nothing. Or that he hadn't been tested.
3 He told me once that he believed he was negative.
4 He told me more than once that he believed he was negative.

2- **Your HIV status:** What had you told This Partner about your serostatus at the moment you had condomless anal sex with him for the first time?

1 Enough for him to believe that I was HIV-positive.
2 Nothing. Or that I hadn't been tested.
3 I told him once that I believed I was negative.
4 I told him more than once that I believed I was negative.

3- **Testing together:** How many times, during your relationship with This Partner and before This Occasion, did both of you get tested for HIV?

This includes testing together or separately.
Don't include times when you were tested and didn't learn the results.

1 never
2 once
3 more than once

4- **Monogamy:** Did you and This Partner agree that in order to have unprotected anal sex together safely, your relationship would be sexually monogamous?

1 no, the subject never came up.
2 the subject came up, but we never made an explicit agreement.
3 yes, we made an explicit mutual agreement.

5- **Disclosure:** Did you and This Partner agree that in order to have unprotected anal sex together safely, you and he would tell each other about any "extra-marital" sexual contact that might put either of you at risk for HIV infection?

1 no, the subject never came up.
2 the subject came up, but we never made an explicit agreement.
3 yes, we made an explicit mutual agreement.

6- **Your mind:** Were you using any kind of drugs or alcohol on This Occasion?

1 Yes, I was drunk or high
2 I was a little altered from drugs or alcohol
3 I was sober; no drugs or alcohol

7- **Your mood:** What was your mood like in the 24 hours before This Occasion?

1 Extreme: I had been feeling very unhappy--or unusually fabulous.
2 Okay: normal ups and downs.
3 Good: I had been pretty happy mostly.

8- **Was it a decision:** When you and This Partner had condomless anal sex for the first time, did you feel like you were making a "decision" to do this?

1 No. It wasn't a decision.
2 I knew what I was doing, but it didn't feel exactly like a decision.
3 It felt like a decision.

9- **Before or during:** When did you make the decision to have condomless anal sex with This Partner?

1 Never. I didn't decide.
2 While condomless anal penetration was actually going on.
3 While we were having sex on This Occasion, but before condomless anal penetration first started
4 Before the very beginning of sex (even before starting foreplay) on This Occassion.

About you, at the time

Your best guess here is fine. Remember that everything you tell is is totally confidential.

1- How old were you at the time of This Occasion?
_____years

2- At the time of This Occasion with This partner, did you consider yourself gay?

1 Yes (you considered yourself gay)

2 No (you considered yourself bisexual, straight, or something else)

Elaboration:
_____
_____

3- What was your religious or spiritual preference at the time of This Occasion?

1 Protestant	4 Atheist
2 Catholic	5 Agnostic / no religion
3 Jewish	6 Other_____

6- What was the highest level of education you had completed at the time of This Occasion? (circle one)

1 high school
2 some college
3 vocational degree
4 four-year college degree
5 some graduate or professional training
6 graduate or professional degree

It's half over.

How are you doing now?

That's it for the sex questions. There are a lot, and we're grateful to you for staying with them. How was it answering them? Comment as much or as little as you'd like. Use the back of the page if you'd like to write more.

Have we really gotten inside your experience with all these questions? Is there anything more you could tell us about what was going on in your head and heart the first time you had condomless anal sex with This Partner?

Your relationship style

Now we will ask you to shift gears: STOP thinking about This Occasion with This Partner, and START thinking more generally about all your relationships over your whole life.

First, we would like to know about your usual way of thinking and feeling about people who you are in relationships with--serious or casual sexual relationships, romantic relationships, whatever.

Here are descriptions of four general relationship styles that people often report. Please read each description and CIRCLE the letter corresponding to the style that best describes you or is closest to the way you generally are in your close relationships.

A It is easy for me to become emotionally close to others. I am comfortable depending on them and having them depend on me. I don't worry about being alone or having others not accept me.

B I am uncomfortable getting close to others. I want emotionally close relationships, but I find it difficult to trust others completely, or to depend on them. I worry that I will be hurt if I allow myself to become too close to others.

C I want to be completely emotionally intimate with others, but I often find that others are reluctant to get as close as I would like. I am uncomfortable being without close relationships, but I sometimes worry that others don't value me as much as I value them.

D I am comfortable without close emotional relationships. It is very important to me to feel independent and self-sufficient, and I prefer not to depend on others or have others depend on me.

Now please rate each of the relationship styles according to the extent to which you think each description corresponds to your general relationship style.

For each style, give yourself a rating from one to seven:

1 is lowest (this style is not at all like me).
4 is moderate (this style is somewhat like me).
7 is highest (this style is very much like me).

It is easy for me to become emotionally close to others. I am comfortable depending on them and having them depend on me. I don't worry about being alone or having others not accept me.

1 2 3 4 5 6 7

I am uncomfortable getting close to others. I want emotionally close relationships, but I find it difficult to trust others completely, or to depend on them. I worry that I will be hurt if I allow myself to become too close to others.

1 2 3 4 5 6 7

I want to be completely emotionally intimate with others, but I often find that others are reluctant to get as close as I would like. I am uncomfortable being without close relationships, but I sometimes worry that others don't value me as much as I value them.

1 2 3 4 5 6 7

I am comfortable without close emotional relationships. It is very important to me to feel independent and self-sufficient, and I prefer not to depend on others or have others depend on me.

1 2 3 4 5 6 7

Now please rate each of the following sentences according to the extent to which you think it corresponds to your general relationship style.

Give each sentence a rating from one to five:

1 is lowest (this is not at all like me).
4 is moderate (this is somewhat like me).
7 is highest (this is very much like me).

1. I find it difficult to depend on other people.
   1 2 3 4 5

2. It is very important to me to feel independent.
   1 2 3 4 5

3. I find it easy to get emotionally close to others.
   1 2 3 4 5

4. I want to merge completely with another person.
   1 2 3 4 5

5. I worry that I will be hurt if I allow myself to become too close to others.
   1 2 3 4 5

6. I am comfortable without close emotional relationships.
   1 2 3 4 5

7. I am not sure that I can always depend on others to be there when I need them.
   1 2 3 4 5

8. I want to be completely emotionally intimate with others.
   1 2 3 4 5

9. I worry about being alone.
   1 2 3 4 5

10. I am comfortable depending on other people.
    1 2 3 4 5

not at all like me		somewhat like me		very much like me
1	2	3	4	5

11. I often worry that romantic partners don't really love me.
    1 2 3 4 5

12. I find it difficult to trust others completely.
    1 2 3 4 5

13. I worry about others getting too close to me.
    1 2 3 4 5

14. I want emotionally close relationships.
    1 2 3 4 5

15. I am comfortable having other people depend on me.
    1 2 3 4 5

16. I worry that others don't value me as much as I value them.
    1 2 3 4 5

17. People are never there when you need them.
    1 2 3 4 5

18. My desire to merge completely sometimes scares people away.
    1 2 3 4 5

19. It is very important to me to feel self-sufficient.
    1 2 3 4 5

20. I am nervous when anyone gets too close to me.
    1 2 3 4 5

21. I often worry that romantic partners won't want to stay with me.
    1 2 3 4 5

22. I prefer not to have other people depend on me.
    1 2 3 4 5

not at all like me		somewhat like me		very much like me
1	2	3	4	5

23. I worry about being abandoned.
1 2 3 4 5

24. I am uncomfortable being close to others.
1 2 3 4 5

25. I find that others are reluctant to get as close as I would like.
1 2 3 4 5

26. I prefer not to depend on others.
1 2 3 4 5

27. I know that others will be there when I need them.
1 2 3 4 5

28. I worry about having others not accept me.
1 2 3 4 5

29. Romantic partners often want me to be closer than I feel comfortable being.
1 2 3 4 5

30. I find it relatively easy to get close to others.
1 2 3 4 5

Now some more questions concerning your style of relating to partners in intimate relationships. For the purpose of this part of the questionnaire, an intimate relationship should be thought of as a close relationship with a single partner where there is some sexual attraction. To think about your style of relating, consider the way you have related to partners in the one, two, or three most significant, intense, intimate relationships you have had. Of course, the way you relate to someone is probably different in some way each time it happens. But for now try to imagine an overall picture of your style of relating based upon a few of the most significant relationships of your life.
Twelve qualities of a style of relating are listed below. For each, you should think about how much the quality is characteristic of your style of relating.In other words, how well does this quality describe the way you approach an intimate relationship. You should then rank each quality according to the nine-point scale below. A rating of 1 indicates that the quality is not at all characteristic of your style of relating and a rating of 9 indicates that the quality is extremely characteristic of your style of relating. For purposes of comparison, you should assume that a rating of 5 would be typical for the "average" person, and then decide to what extent you vary from the norm for each quality.

not at all characteristic			moderately characteristic (typical of average person)			extremely characteristic		
1	2	3	4	5	6	7	8	9

quality	rating
1. Persistent thoughts about the person you are involved with.	
2. A great longing for the person to return your love.	
3. A feeling of intense passion toward the person.	
4. Your mood being greatly affected by the actions of the person	
5.	

6.
7.

not at all characteristic			moderately characteristic (typical of average person)			extremely characteristic		
1	2	3	4	5	6	7	8	9

quality	rating
5. Much fear of rejection.	
6. Many daydreams and fantasies about the person returning your love.	
7. A need to spend as much time as possible with the person.	
8. A feeling that you want to be as close as possible emotionally to the person.	
9. A tendency to emphasize the good qualities in the person and avoid dwelling on the negative.	
10. A feeling that a relationship with the person fills a void in you, makes you much more secure and whole.	
11. A general intensity of feeling such that other concerns seem unimportant.	
12. A feeling that you not only desire, but feel a powerful need to be in a very intimate relationship with the person.	

Thanks!

We are very grateful for your participation in this study. Please be sure to return this questionnaire to us, using the attached postage-paid envelope, by this date:

YOUR MAILBACK DATE _____

We would be happy to share the study's findings with you when they become available. You can mail us the enclosed postcard with your address, and we will send you the results when they are ready.

Followup Interviews

We would like to follow up some of these questionnaires with an in-depth interview. Those interviews will be held in person, and participants will be paid $20 for participating. We'll select people for that followup at random from those expressing interest in being interviewed.

If you are interested in being interviewed, please read the attached blue-paper letter for instructions. Also please put make up a four-digit tracker code (any four numbers will do) that we can use to link your name with the information you have given us here (measures taken to ensure your confidentiality are described in the blue letter). Please write-in your tracker number below, and also on the tracker form. And be sure to use the two attached envelopes to mail this questionnaire and the tracker form separately.

YOUR TRACKER CODE _____

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