Published in final edited form as:

AIDS Educ Prev. 2005 June ; 17(3): 217–226.

NEED FULFILLMENT IN THE SEXUAL RELATIONSHIPS OF HIV-INFECTED MEN WHO HAVE SEX WITH MEN

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Abstract

This article explores the associations among sexual need fulfillment, partner selection, and risky sexual behavior, using a functional/motivational perspective. The authors suggest that sexual needs influence partner selection (e.g., steady versus nonsteady), and engaging in UAI is influenced by sexual needs and partner selection. A sample of 108 HIV-positive gay men completed measures of sexual frequency, sexual risk-taking behaviors, and sexual need fulfillment. Results indicated support for both objectives. These men were more likely to choose a steady partner when they possessed greater relationship needs, whereas whilemen with higher substitution and pleasure needs were more likely to select nonsteady partners. In addition, only men who reported greater substitution needs were more likely to engage in UAI. The results suggest that certain sexual needs influence partner selection, but that sexual needs also influence what activities occur in the encounter.

In 2003 the Centers for Disease Control and Prevention (CDC) announced a new initiative to advance HIV prevention efforts. This initiative included a focus on implementing prevention strategies for people diagnosed with HIV, as well as their sexual partners. This new focus is necessary because the majority (61%) of men currently living with HIV contracted the virus through male-to-male sexual contact, and men who have sex with men¹(MSM) continue to have the highest rates of new diagnoses of HIV (CDC, 2002). As the move toward contextualization of sexual encounters becomes more predominant in the HIV prevention and intervention literature (Bastard & Cardia-Vonèche, 1997; Moatti, Hausser, & Agrafiotis, 1997; Suarez & Miller, 2001), understanding the sexual needs and sexual need fulfillment experienced by gay men may become increasingly important. As Kelly and Kalichman (1995) have argued, “HIV prevention efforts are likely to be most successful when they draw on relevant areas of human sexuality research” (p. 915). In fact, insights from human sexuality research may help HIV prevention and intervention specialists contextualize the sexual relationship and better understand the relationship between sexual need fulfillment and risk behaviors.

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This work was funded by a grant from the National Institutes of Mental Health (R29 MH56292) and supported by a grant from the National Institute of Allergy and Infectious Diseases, Adult AIDS Clinical Trials Group Grant AI259254. The authors thank the men who participated in the study.

¹The authors acknowledge that men who have sex with men (MSM) may not self-identify as gay. However, given the literature reviewed, as well as the stated eligibility requirements for the study, the terms gay, gay male, or gay men will be used for the remainder of the article.

Sexuality researchers contend that most people perceive satisfying sexual relationships vital to personal happiness (Berscheid & Reis, 1998; Regan, 2000); therefore, sexual contact can be considered a basic human need. Not only are sexual relationships an essential part of living, but sexual contact may serve a variety of functions for an individual depending on the individual's temporal needs and desires. Sexuality in the gay male community may function to fulfill needs that are particular to gay and bisexual men. Several authors (e.g., Rofes, 1996; Yep, Lovaas, & Pagonis, 2002) have argued that for gay men sexuality is intimately connected to gay identity formation. The meaning of sex in gay culture has recently received much attention owing to the emergence of "barebacking," or intentional unprotected anal intercourse (UAI). In light of the complex and important meanings attached to sex, attention to the sexual needs and relationship context of HIV-positive gay men appears warranted. What follows is an overview of relevant human sexuality research on sexual need fulfillment and partner selection as it relates to HIV prevention.

THE RELATIONSHIP AMONG SEXUAL NEEDS, PARTNERS, AND RISK BEHAVIORS

Although opinion varies on the ways in which sexual desires and needs are formed (see Everaerd, Laan, & Spiering, 2000, for review), fulfillment of sexual needs is likely to positively impact an individual. For example, Le and Agnew (2001) reported that fulfillment of intimacy, companionship, sexual security, and emotional involvement needs were predictive of daily positive emotional experience. Greater need fulfillment was also associated with greater positive emotion, suggesting the fulfillment of sexual needs is related to affective state. Gay men, including those who are infected with HIV, may possess similar sexual need fulfillment as those reported in heterosexual samples. In one study, gay men indicated that pure pleasure and the expression of emotional closeness were their primary needs in sexual relationships (Leigh, 1989). Other endorsed reasons included the pleasuring of a partner, the relieving of sexual tension, and conquest.

Significantly, sexual needs may change over time and may vary depending on the relationship's context (i.e., casual vs. steady partners). Partner selection theories, which have typically focused on steady partners in the heterosexual context, have begun to unpack the relationships between partners and sexual need fulfillment. (Regan 2000) stated that "many researchers now recognize that mating relationships may range from the extremely short term and the explicitly sexual (e.g., one-night stands, flings) to the long term and romantically committed (e.g., steady, dating, cohabiting, marriage), and that preferences for each type of relationship may be fundamentally different" (p. 258). Partners are selected, at least in part, to maximize sexual need fulfillment; however, the relationship between an individual's sexual needs and the type of partner (e.g., casual vs. steady) selected is complex and dynamic. Sexual needs and desires may drive the selection of partners, impacting the sexual activities engaged.

HIV researchers have repeatedly found higher rates of UAI in steady relationships versus casual relationships (Elford, Bolding, Maguire, & Sherr, 2001; Hoff, Coates, Barrett, Collette, & Ekstrand, 1996). More recently, researchers have begun to move beyond simple analyses of sexual behaviors and partner selection to examine the function of certain sexual activities in particular partnerships. Research on gaymen in steady relationships suggests that UAI may be an important component of the need to express commitment and a connectedness with their partners (Halkitis, 2001; McLean et al., 1994; Worth, Reid, & McMillan, 2002). For example, Rusbult, Wieselquist, Foster, & Witcher (1999) suggested that certain sexual behaviors (e.g., UAI) may be expressions of needs for commitment and trust. Feelings of love, trust, and intimacy are reported reasons for engaging in risky sexual behaviors in couples with either two HIV-infected partners, or two uninfected partners (Suarez & Miller, 2001). Alternatively, unprotected sex could be requested by one partner as a demonstration of fidelity. In other words,

the relationship between commitment and sexual compliance may not always be linear within intimate relationships (Impett & Peplau, 2003). An individual may engage in sexual activity with his or her partner to maintain or increase commitment, and having a perception of commitment may increase the likelihood of engaging in certain sexual behaviors with a partner. High-risk behaviors may not only be a function of the need to express closeness and intimacy in steady relationships but a function of a variety of sexual needs as well.

The emerging literature on sexual needs, partners, and risk also suggests that negative affective states, such as depression or anxiety, impact the type of partners selected, but not necessarily the degree of risk. For example, using a sample of 589 gay men, Bancroft et al. (2003) reported that “the tendency to experience more interest in sex in a negative mood appears to increase the likelihood of looking for sexual partners, as reflected in casual sex and cruising, but was not predictive of how sexual risks managed once the partner is found (i.e., whether condoms are used)” (p. 568). In other words, negative affective states influenced partner selection, but not sexual risk behavior.

In an effort to further elucidate the relationships among sexual needs, partners, and risk behaviors, Cooper, Shapiro, and Powers (1998) developed four categories of sexual motives that were compared to risk and partner type with 1,666 heterosexual adolescents and young adults. The first is appetitive self-focused sexual need fulfillment such as having sex to enhance physical or emotional pleasure. Second are aversive self-focused motives. These focus on having sex to cope with threats to self-esteem or minimize unpleasant emotions. Appetitive social motives are ones concerning having sex to achieve intimacy with a partner. Finally, aversive social motives are those centered on having sex to avoid social censure or to gain another's approval. The intersection of sexual motives and type of partner yielded specific risk behavior outcomes. For example, an individual with high intimacy needs primarily had sex with steady partners and did not practice safer sex. Coping motives were significantly positively related to risky practices only among unattached individuals.

Similarly, Impett and Peplau (2003) suggested that individuals may use approach or avoidance motivations when engaging in sexual activity. Approach motivations usually involve pleasure-centered or relationship-focused reasons for sex (e.g., promotion of intimacy, personal pleasure), and avoidance motivations center more on satisfying the needs of a partner and coping with negative emotional states. These findings suggest that research examining relationships between gay male sexual needs, behaviors, and partner selection may significantly impact HIV prevention efforts by tapping the complexity of sexual behavior.

Traditionally, prevention efforts have been based on models with a clinical focus that emphasize behavior change through such processes as rationality (Ajzen, 1988; Fishbein & Ajzen, 1975; Fisher & Fisher, 1992), avoidance of disease (Rosenstock, Strecher, & Becker, 1988), and risk reduction (Catania, Kegeles, & Coates, 1990). The present study utilized a functional-motivational perspective to examine aspects in the sexual relationships of gay men with HIV infection. According to this perspective, sexual behaviors can be examined in relation to the purposes, goals or needs they serve in an intimate relationship. Cooper and colleagues (1998) suggested that previous models of risky sexual behaviors have not examined the fact that sex may serve psychological functions that are independent of health promotion, just as Impett and Peplau (2003) posited that a motivational perspective could be useful in examining sexual risk-taking behaviors. An examination of the various functions of and the motivations for sex may help to clarify patterns of risky sexual behaviors in these relationships.

PURPOSE

The literature on human sexuality suggests that many factors contribute to sexual behaviors; however, sexual desires and how they relate to risk behaviors have not been adequately

addressed with HIV-positive MSM. There were two main objectives for this study. The first was to determine if men chose a steady or nonsteady partner based on their sexual needs at the time of each sexual encounter. It was hypothesized that greater partner and relationship focused needs would increase the likelihood of choosing a steady partner. Second, it was expected that men with greater pleasure and substitution needs would be more likely to choose nonsteady partners. The second objective of the study was to assess if men engaged in UAI based on their sexual needs and/or partner type (steady vs. nonsteady). It was hypothesized that men with greater relationship-focused and partner-focused needs would have an increased likelihood of engaging in UAI; whereas, men with greater pleasure-focused or substitution sexual needs would have a reduced likelihood of engaging in UAI.

METHODS

PARTICIPANTS

Data were obtained from a midwestern sample of 108 HIV-positive gay men. Participants were primarily Caucasian (68%) men between the ages of 21 and 61 ($M=37$ years). The average annual income of the sample was \$20,438, and over half of them had completed a college or graduate degree. The majority (57%) reported they were single or dating, and 36% indicated they were married or partnered. Based on self report, nearly 80% of the men had contracted HIV through unsafe sexual activity, 2% through needle sharing, and 18% did not know the mode of contraction.

PROCEDURES

Participants were involved in a larger, longitudinal study of HIV disclosure that involved completing questionnaires regarding mental health, physical health, social support, disease progression, and sexual risk-taking behaviors once every 6 months for 3 years resulting in seven data collection points. Men were recruited primarily from an AIDS Clinical Trials Unit (ACTU) associated with a large midwestern university. Recruitment began in February of 1998 and continued through July of 2000. Attending physicians and medical staff approached potential participants and informed them about the study. Eligible participants included HIV-positive men who reported either being gay or having sex with other men and were 18 years of age or older. Participants completed an initial interview and questionnaire at the beginning of the study (Phase 1). Yearly, men took part in a structured interview, completed a questionnaire, and sexual behavior calendar (Phases 3, 5, and 7). Six months into each yearly wave of data collection participants returned to fill out a questionnaire and sexual behavior calendar (Phases 2, 4, and 6). Data for this study originated from all seven phases of data collection.

INSTRUMENTATION

At each wave of data collection, participants were provided a calendar of the past 30 days and asked to indicate days in which they engaged in sexual activity; similar to procedures utilized by Sobell and Sobell (1985) for measuring alcohol consumption. Then, for their five most recent sexual encounters, men were asked to provide information regarding the type of sexual partner involved (e.g., steady, casual, or just met); the types of sexual activities in which the participant and partner engaged (e.g., UAI); and whether or not a latex barrier was used. The types of partners reported for each sexual encounter were steady, casual, and just met, based on the participant's classification of the relationship.

Participants were also asked to assess their sexual needs for each encounter with an author derived self-report measure. Participants were asked to recall what might have been important to them when they decided to have sex with a particular person on that day. Factor analysis confirmed the presence of four types of sexual needs assessed with 18 items. Pleasure-focused

sexual needs ($n = 6$, $\alpha = .84$) included the satisfaction of the physical, emotional, and sexual needs of the self. An example of a pleasure-focused statement is “needing physical contact.” Partner-focused sexual needs ($n = 3$, $\alpha = .61$) include the satisfaction of the partner's physical, emotional and sexual needs. The statement “feeling they wanted to have sex” is an example of partner-focused need. Substitution needs ($n = 4$, $\alpha = .74$) included statements which examined the satisfaction of the non-sexual needs of the self. “Feeling depressed” is an example of substitution needs statement. Relationship-focused needs ($n = 5$, $\alpha = .85$) assessed the satisfaction of the emotional needs of the self and the partner. An example of a relationship-focused statement is “needing to strengthen the relationship.” Participants indicated the relative importance of each statement on a scale of 1 (not important) to 5 (very important). Mean scores on each scale were calculated with a higher score indicating more need. With regard to the factor analyses, extraction was done via principal components and varimax rotation was applied. A .40 cutoff in the loadings was used for purposes of interpretation. No significant cross-loadings were observed.

DATA ANALYSIS

The unit of analysis was one sexual encounter. The total number of such encounters was 1,572 and was based on as many as five most recent encounters gathered from all seven phases. Participants averaged three encounters per phase, and an average of 70 men per phase. A participant had to have at least one encounter in at least one phase to be included in the analysis.

Logistic regression models for correlated data were fit using Stata's *xtlogit* command. Two models were considered: the random effects and the population-averaged (with exchangeable correlation structure) models. The independent variables were the four sexual needs: pleasure, substitution, relationship, and partner. Type of partner was incorporated as an explanatory variable in dealing with the latter objective.

In testing the first objective, the outcome variable was partner type, which equals 1 if the partner was a steady and 0 otherwise. The (random effects) model was represented as

$$\text{logit } p_{ij}(y=1) = \beta_{0j} + \beta_1 * \text{Need}_1_{ij} + \beta_2 * \text{Need}_2_{ij} + \beta_3 * \text{Need}_3_{ij} + \beta_4 * \text{Need}_4_{ij}$$

$$\beta_{0j} = \beta_0 + u_{0j}$$

$$u_{0j} \sim N(0, \sigma_u^2)$$

In the second objective, the outcome variable was occurrence of UAI, which is 1 if the participant did not use a latex barrier and 0 otherwise. The model had the form:

$$\text{logit } p_{ij}(y=1) = \beta_{0j} + \beta_1 * \text{Need}_1_{ij} + \beta_2 * \text{Need}_2_{ij} + \beta_3 * \text{Need}_3_{ij} + \beta_4 * \text{Need}_4_{ij} + \beta_5 * \text{Partner}_{ij}$$

$$\beta_{0j} = \beta_0 + u_{0j}$$

$$u_{0j} \sim N(0, \sigma_u^2)$$

In the above models, Need 1 stands for Pleasure, Need 2 is Substitution, Need 3 represents Relationship, and Need 4 is Partner

RESULTS

Among those who responded, 66% had encounters no more than once per week, and 34% of the sample indicated having sexual encounters more than once per week. An examination of the data suggested that men had varying degrees of partner exclusivity—34% had mostly nonsteady partners, 27% had a mix of steady and nonsteady partners, and 39% had mostly steady partners.

The first objective of this study, to determine the influence of sexual needs on partner selection, was supported. The set of sexual needs was found to influence choice of partner type, although not always as hypothesized. The first hypothesis, that greater partner and relationship focused needs would increase the likelihood of choosing a steady partner, was partially supported. Although greater relationship-focused needs increased the likelihood of a steady partner, partner-focused needs were not significant at the 5% level. The second hypothesis, that men with greater pleasure and substitution needs would be more likely to choose nonsteady partners, was fully supported. These results are summarized in Table 1.

The second objective of this study, related to the likelihood of engaging in UAI based on partner selection and sexual needs, was also supported but again not always as hypothesized. Approximately half of the total encounters (53%) involved anal sex, and about two thirds (65%) of encounters occurred with steady partners. In all encounters with anal sex, UAI was reported 65% of the time. Similar to other studies, the majority of the UAI (70%) cases here were observed in encounters with a steady partner. In addition, the set of sexual needs had an effect on the probability of UAI.

The first hypothesis of the second objective, that men with greater relationship-focused and partner-focused needs would have an increased likelihood of engaging in UAI and men with greater pleasure-focused and substitution sexual needs would have a reduced likelihood of engaging in UAI, was only partially supported. As hypothesized, men with greater pleasure-focused needs were more likely to use a condom during anal intercourse. However, greater relationship-focused and partner-focused needs did not significantly impact the likelihood of engaging in UAI. In addition, men with greater substitution sexual needs actually had an increased likelihood of engaging in UAI, contrary to the hypothesis. Greater substitution-focused needs enhanced the chances of UAI. The two models presented different results with regard to the statistical significance of type of partner. These results are presented in Table 2.

DISCUSSION

HIV prevention and education efforts have typically focused on knowledge, attitudes, and theories of rational behavior and have ignored sexual need fulfillment related to partner selection and risk behavior. The meaning of sex, as it relates to the sexual behaviors of gay men infected with HIV, has not been explored as an avenue of prevention or intervention. For this study, it was hypothesized that needs for sex would influence the type of partner chosen for each sexual encounter, and this hypothesis was partially supported. As predicted, men were more likely to choose a nonsteady partner when sex was used for pleasure or as a substitution for negative emotional states; men who used sex to strengthen their relationships were more likely to choose a steady partner. These findings were consistent with previous research findings (Bancroft et al., 2003; Leigh, 1989) that have connected the fulfillment of sexual needs with the resolution of negative mood and the enhancement of intimate relationships.

It was also hypothesized that the likelihood of engaging in unprotected anal sex would be influenced by the fulfillment of sexual needs and/or type of partner. This hypothesis was also partially supported. Greater substitution needs increased the likelihood of engaging in UAI. These findings contradict the previous findings by Bancroft and colleagues (2003), which

suggested that negative mood was not related to engaging in risky sexual behaviors. However, given the comparatively high rates of depression in HIV-positive gay male populations (Dickey, Dew, Becker, & Kingsley, 1999; Stoskopf, Kim, & Glover, 2001), as well as the mixed research on negative affect and risk mentioned earlier, further research should continue to examine the interpersonal and intrapersonal context of sexual behaviors.

Greater pleasure—focused needs decreased the likelihood of engaging in UAI, whereas relationship and partner focused needs were insignificant in predicting UAI. These results suggest that using sex in an attempt to fulfill the needs of a partner or to strengthen a relationship may not influence whether a person will engage in risky sexual behavior, although using sex for pleasure might decrease the chance that a person will engage in risky sex. More important, the results of this study suggest that men who use sex to resolve negative emotions may have an increased likelihood of engaging in UAI.

In this study, men were more likely to engage in UAI with a steady partner than with a nonsteady partner. Previous researchers (Elford, et al., 2001; Halkitis, 2001; Hoff et al., 1996; McLean, et al., 1994; Rusbult, et al., 1999; Worth, et al., 2002) have found that men in steady relationships engage in risky sexual activities as a manifestation of fidelity, trust, and commitment to their partners. Prevention messages that condemn UAI solely on the basis of its medical risk do not adequately address the interpersonal factors which may influence engaging in this specific activity. Prevention and intervention strategies may need to differentiate among varying types of partners, and needs for sex, in order to provide a more comprehensive risk reduction plan.

Overall, the results of this study suggest that further research is needed to examine the interpersonal and intrapersonal context of sexual behaviors. However, there were notable limitations of this study. First, the measure of needs in this study may not have tapped particular needs associated with UAI, particularly the symbolic meaning of UAI in the gay male community. The literature suggests that UAI may have particular significance to shaping gay male identity in our culture (Rofes, 1996; Yep et al., 2002). In the face of heterosexism and stigmatization, the practice of UAI may signify resistance and solidarity. Future research on sexual needs and types of sexual behavior should inquire about the link between certain sexual practices, such as UAI, and gay identity.

Second, UAI was the only risky sexual behavior investigated here, yet it is not the only risky behavior in which gay men engage. It remains unknown if other sexual behaviors may be associated with sexual needs and/or partner selection. For example, oral sex has been associated with HIV risk to varying degrees and should warrant the attention of future researchers. Furthermore, although the percentage of men who engaged in UAI was quite high, this clearly overshadowed the fact that almost half of the men in this study indicated they had not engaged in anal sex during any of their sexual encounters. Clearly, these men were engaging in behaviors other than anal sex. The occurrence of these behaviors, their associated risks, and the relationship with sexual need fulfillment entreat further examination.

Third, this midwestern sample may be different than those who seek residence in larger metropolitan areas. Primarily, men who live in cities with larger gay populations may have sexual needs that are different from those residing in smaller cities. That is, men living in “gay meccas” may choose to do so because they enjoy the greater range, opportunities, and freedoms associated with such environments. If this situation were true, it could be theorized that men in large metropolitan areas may have greater sexual needs and expressions or view their desires differently than men residing in smaller communities. Future researchers should carefully consider soliciting different samples including various ethnic and racial groups.

Finally, for this investigation knowledge of the serostatus of the participant's partners was not considered. Although serostatus was assessed for specific sexual encounters it was not possible to ascertain whether knowledge of partner status occurred prior to the sexual encounter. Therefore, conclusions regarding the impact of partner serostatus on the selection of sexual partners, and subsequent sexual activities, could not have been made from the data. Engaging in sexually risky behaviors may have different meanings or fulfill different needs for men in serodiscordant relationships, as compared with men in seroconcordant relationships. For example, Adam and Sears (1994) reported that newly infected individuals sought seropositive partners in an attempt to decrease "the danger of infecting someone new" (p. 68). The practice of seeking sexual partners with the same HIV status may also influence the perceived risk of engaging in certain sexual behaviors. Men in seroconcordant relationships may be more concerned with reinfection, whereas the major concern for men in serodiscordant relationships may be the transmission and/or contraction of HIV. Future researchers should examine serostatus of the sexual partner(s) as a possible mediating factor in partner selection, the types of behaviors in which men engage, and the types of sexual needs being fulfilled within each encounter.

The perception of sexual risk, related to UAI, may also differ based on whether anal intercourse is insertive or receptive. Men in this study were not asked to differentiate between the two behaviors, and this is certainly a limitation of the study. However, addressing this distinction is more appropriate for a broader examination of sexual risk. Risky sexual behaviors are influenced by myriad variables, including alcohol and drug use, that were not included in this study. Future research regarding sexual risk factors is necessary to expand on the limited information on the fulfillment of sexual needs, as well as the selection of sexual partners.

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TABLE 1.

Estimates for Logit Model 1

Effects	Population-Averaged	Random-Effects Model
Fixed part		
Intercept	-0.48 (0.31)	-0.61 (0.23)
Pleasure	-0.59 (0.00)*	-1.25 (0.00)*
Substitution	-0.52 (0.00)*	-0.69 (0.00)*
Relationship	+1.21 (0.00)*	+2.24 (0.00)*
Partner	+0.01 (0.10)	+0.02 (0.83)
Random Part		
Var (u_{0j})	—	0.77 (0.00)
Log likelihood		
Wald χ^2	67.69 (0.00)	226.12 (0.00)

*
 $p < .05$.

TABLE 2.
Estimates for Logit Model 2: Event Modeled is Occurrence of UAI

Effects	Population-Averaged	Random Effects
Fixed part		
Intercept	-0.59 (0.19)	+1.16 (0.93)
Pleasure	-0.31 (0.01)*	-0.59 (0.01)*
Substitution	+0.28 (0.01)*	+0.65 (0.00)*
Relationship	-0.05 (0.65)	-0.19 (0.30)
Partner	-0.14 (0.17)	-0.29 (0.16)
Type of Partner (Steady = 1)	+0.37 (0.08)	+0.84 (0.02)*
Random Part		
Var (u_i)	—	0.65 (0.00)
Log likelihood		
Wald χ^2	16.30 (0.01)	18.68 (0.00)

*
 $p < .05$.