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Relationship Factors Associated with Gay Male Couples' Concordance on Aspects of Their Sexual Agreements: Establishment, Type, and Adherence

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Abstract

Factors associated with gay male couples' concordance on aspects of sexual agreements remain understudied. The present study examined which relationship factors, self-reports of UAI, and patterns of HIV testing may be associated with men who were concordant about having a sexual agreement, the same type of sexual agreement, and adhering to their sexual agreement with their main partner. Various recruitment strategies were used to collect dyadic data from 142 gay male couples. Concordance on aspects of sexual agreements varied within the sample. Results indicated that relationship satisfaction was significantly associated with couples who were concordant about having and adhering to their sexual agreement. Predictability and faith of trusting a partner, and value in one's sexual agreement were also positively associated with couples' adhering to their sexual agreement. More research is needed to better understand how relationship dynamics, including sexual agreements, affect HIV risk among gay male couples in the U.S.

INTRODUCTION

Men who have sex with men (MSM) in the U.S. remain disproportionately affected by HIV [1]. Estimates indicate that over 68% of MSM acquire HIV from their main sex partners while in a relationship [2]. Because HIV is transmitted more efficiently during unprotected anal intercourse (UAI) [3–6], research has investigated which relationship factors influence gay men to practice UAI with their main sex partners. For example, relationship factors such as commitment to the relationship [7, 8], trusting one's partner [9–17], and sexual agreements [8, 11, 18, 19] have been identified as reasons why gay men have UAI with their

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main sex partners. Recent research with gay male couples also has highlighted the importance that sexual agreements have on HIV risk [13, 14, 18–25].

In general, a sexual agreement can be thought of as an explicit agreement made between two gay male partners about which sexual behaviors may occur within and outside of their sexual relationship, with the overall aim of minimizing HIV risk and enhancing some aspect of their relationship [18, 19]. Types of sexual agreements vary greatly, depending on the gay couple's needs and HIV serostatus [18]. One type of a sexual agreement, called 'Negotiated Safety', stipulates that a gay male couple can practice UAI within the primary relationship provided both men have tested HIV-negative and agree to use condoms for all anal intercourse with secondary sex partners [26]. If either male has UAI with a secondary sex partner, then he must inform his partner and the couple must go back to using condoms for anal intercourse until both test negative for HIV [20, 26]. However, studies of the effectiveness of negotiated safety to prevent HIV among HIV-negative seroconcordant gay male couples have produced mixed results. Some studies have shown that negotiated safety lowers HIV risk when practiced correctly, whereas other studies have indicated that HIV risk increases because not all men were aware of their main partner's HIV serostatus or were able to use condoms for anal intercourse with secondary sex partners [27–30].

Additional research on sexual agreements has investigated what factors motivated gay male couples to establish a sexual agreement, reasons why men broke their sexual agreement, and attitudes toward disclosing a broken sexual agreement to a main partner [19, 21]. Regardless of the couple's serostatus and sexual agreement type, men report building trust and being honest in the relationship with their main partner as two of their top three reasons for making a sexual agreement [21]. The three most common reasons men had reported for breaking their sexual agreement, include 'someone wanted to have sex with me,' 'felt horny when it happened,' and 'the guy was really hot' [19]. Most men who self-reported being HIV-negative and breaking their sexual agreement were more concerned about their relationship terminating or changing for the worse than about contracting HIV [19].

Communication patterns about sex and relationship attributes also appear to affect a couple's ability to establish and adhere to a sexual agreement [21]. The effectiveness of sexual agreements to minimize HIV risk and enhance one or more aspects of the relationship relies on the cornerstone of explicit communication within the couple. Measuring concordance within a couple on aspects of their sexual agreements, including the presence of, the same type of, and adhering to a sexual agreement is one method to assess the extent to which gay men communicate with their main sex partners about their sexual health. Our understanding of which factors are associated with both men in a couple reporting that they *have* a sexual agreement, the *same type* of sexual agreement, and have *kept* their sexual agreement remains under developed.

The present study builds on the existing literature on sexual agreements and HIV risk by identifying which relationship factors (i.e., relationship commitment, trust, and investment in one's sexual agreement), self-reports of UAI, and patterns of HIV testing are associated with both men in a couple reporting that they have a sexual agreement, the same type of sexual agreement, and have kept their sexual agreement. We used dyadic data from a

convenience sample of 142 gay male couples who self-reported not having a known HIV infection. Men in couples who were concordant on these three aspects of a sexual agreement were compared to men in couples who lacked a sexual agreement or were discordant about an aspect of their sexual agreement.

Our overall study aim was to identify which factors would be associated with the likelihood (i.e., odds) that a participant would report the same information as his main partner regarding the establishment of, type of, and adherence to, a sexual agreement. Another aim of the study was to examine if any relationship factors would be associated with each outcome variable of interest, respectively: (a) establishment of, (b) type of, and (c) adherence to, a sexual agreement. We hypothesized that couples with both men reporting having a sexual agreement, the same type of sexual agreement, and having kept their sexual agreement would report higher scores on relationship factors of trust, commitment, and investment in one's sexual agreement. We also hypothesized that men in couples who either did not have a sexual agreement or were discordant on any of these aspects of a sexual agreement would be more likely to self-report having UAI with a secondary sex partner and be less likely to report a recent test for HIV.

METHODS

The present study used a cross-sectional study design paired with a standard, reciprocal dyadic data collection method. We collected data from both males in each couple simultaneously and independently with the use of two laptops that provided access to the electronic, anonymous questionnaire. A convenience sample of 144 gay male couples was recruited from Portland, Oregon and Seattle, Washington between June and November 2009. Recruitment methods included distribution of business cards and flyers at gay-identified events and venues, referrals from local organizations providing social services to gay men and other MSM, and electronic invitations sent to profiles located on websites frequented by gay men in the Pacific Northwest. Gay couples that were interested in the study were encouraged to refer other gay couples to participate. Potential participants were informally screened because eligibility criteria were listed on all recruitment materials. Both men in each couple had to agree to participate before enrolling in the study. A response rate for recruitment was not recorded.

Both members of each couple had to meet the following eligibility criteria to participate in the study: 18 years or older; self-identified as gay, bisexual, or queer; have had anal sex in the previous 3 months; have been with his main partner for at least 3 months; and had a HIV-negative or unknown serostastus. Interested and eligible couples made an appointment to take the anonymous, twenty-minute, electronic questionnaire. After data collection was complete, we verified each couple's relationship by assessing whether a participant's response to the measure of relationship duration matched his partner's response to this same measure. We did not detect any discrepancies of relationship duration within our study sample.

For the present study, bivariate analyses and multilevel modeling were used to identify which relationship factors and self-reports of UAI and HIV testing were associated with

both men in a gay couple reporting the establishment of, the same type of, and adherence to, a sexual agreement. Specifically, we performed three separate analyses to identify which relationship factors would be associated that a male would be concordant with his main partner about: (a) having a sexual agreement; (b) reporting the same type of sexual agreement; and (c) adhering to their sexual agreement. Because of the hierarchical nature of this analysis strategy (e.g., men were included in the sexual agreement type analysis only if they were concordant about having an agreement), sample size decreased from 142 couples in analysis (a) to 56 couples in analysis (c).

Measures

Outcome Variables—We used individual responses from both partners of each couple to create three dyad-level, dichotomous outcome variables. Individual responses to the measures establishment of, type of, and adherence to, a sexual agreement were used to create the dyad-level outcome variables. Having a sexual agreement was a dichotomous measure with 'yes' and 'no' response options. Every participant was asked, "Have you and your boyfriend/partner made a sexual agreement in your relationship? A sexual agreement can be thought of as a "contract" that describes what you and your boyfriend/partner can do sexually with each other and/or with other persons." Men who self-reported 'yes' for having a sexual agreement were then asked additional survey questions about their sexual agreement, including the type of sexual agreement and whether they had adhered to it.

Type of sexual agreement, a categorical measure, was assessed by asking, "Which description best describes the sexual agreement type you have with your boyfriend/partner?" Participants chose from the following response options to describe their type of sexual agreement: 'only sex with each other', 'sex together while with others', 'sex together and only he can with others', 'sex together and only I can with others', and 'sex with whomever whenever'.

Adherence to a sexual agreement, a categorical measure with 'yes', 'no', and 'not sure' response options, was assessed by asking participants, "Since the time your sexual agreement was made between you and your boyfriend/partner, have you broken your sexual agreement in any way?" Men who self-reported 'yes' or 'not sure' to the adherence measure were categorized as not adhering to their sexual agreement with their main partner.

Based on the individual participant responses, couples were first coded to indicate whether both men in the couple had self-reported having a sexual agreement (i.e., yes vs. no). For couples who were concordant about having a sexual agreement, we then coded whether both men in the couple had self-reported the same type of sexual agreement. Finally, we coded whether both men in the couple had adhered to their sexual agreement among the couples who were concordant about having the same type of sexual agreement. We used this tiered analytic approach in order to better understand and determine which factors would be associated with both men in each couple reporting having a sexual agreement, the exact same type of sexual agreement, and adhering to their sexual agreement.

Independent Variables—Demographic information such as age, race, ethnicity, sexual identity, income, highest education level achieved, employment status, occurrence of UAI

with the main partner and any secondary sex partners within the previous three months, and a number of relationship characteristics and factors were assessed and included in the present study. Relationship characteristics that were captured included cohabitation, length of cohabitation, length of relationship, type of sexual relationship, explicitness of a sexual agreement, breaking the sexual agreement, and disclosure of non-adherence to the sexual agreement. We asked participants, "Do you and your boyfriend/partner live together where you both share the same mailing address?", to assess cohabitation, a dichotomous measure with 'yes' and 'no' response options. Length of cohabitation, a categorical measure with 'Does not apply; We do not live together', 'Less than 6 months', '6 months to 1 year', and 'More than 1 year' response options, was assessed by asking participants, "How long have you and your boyfriend/partner been living together?" Length of relationship, a categorical measure with '3–6 months', '6 months – 1 year', '1–2 years', '2–5 years', '5–10 years', and 'More than 10 years' response options, was assessed by asking participants, "How long have you and your boyfriend/partner been in a sexual relationship?" Type of sexual relationship was assessed by asking participants, "If you were asked to describe the type of relationship you have with your boyfriend/partner, which of the categories would you select below?" and had the following response options, 'Strictly monogamous', 'Monogamous, but we have threesomes', 'Open, but restricted on what we can do and with whom', and 'Open with anything goes'. Participants were dichotomized to either having a strictly monogamous relationship or some form of an open relationship. Explicitness of a sexual agreement was assessed by asking participants, "When you and your boyfriend created or talked about your sexual agreement, was it implied or explicit?" and had 'Implied – was not necessarily discussed clearly or in great detail' and 'Explicit – was discussed clearly and in detail' as response options. Breaking the sexual agreement, a categorical measure with 'yes', 'no', and 'not sure' response options, was assessed by asking participants, "Since the time your sexual agreement was made between you and your boyfriend/partner, have you broken your sexual agreement in any way?" Disclosure of non-adherence to the sexual agreement was a dichotomous measure with 'yes' and 'no' response options, and was assessed by asking participants, "Have you told your boyfriend/partner that you broke your sexual agreement with him?"

Three standardized relationship measures were used: trust [31], relationship commitment [32], and investment in the sexual agreement [33]. The Trust Scale was used to assess the degree to which gay men had faith in their main partners and viewed their partners as dependable and predictable [31]. The 17-item validated measure consisted of three subscales: the predictability subscale assessed the consistency and stability of a partner's specific behaviors based on past experience ($\alpha = 0.71$); the dependability subscale assessed the dispositional qualities of the partner which warrant confidence in the face of risk and potential hurt ($\alpha = 0.68$); and the faith subscale assessed feelings of confidence in the relationship and the responsiveness and caring expected from the partner in the face of a uncertain future ($\alpha = 0.86$) [31]. Response options for each item were captured on a 7-point Likert-type scale ranging from −3 = Strongly Disagree to 3 = Strongly Agree. The overall measure had a reliability of 0.87.

The Investment Model was used to examine participants' level of relationship commitment with their main partner [34, 35]. The 22-item validated scale consisted of four constructs.

Commitment level assessed long-term orientation toward the partnership, intention to remain in a relationship, and psychological attachment to a partner ($\alpha = 0.78$) [34, 36, 37]. Satisfaction level assessed, in a comparative fashion, the negative and positive outcomes of the relationship ($\alpha = 0.87$). Quality of alternatives assessed the perception that being single or an attractive alternative partner existed outside of the main relationship, and that this alternative would provide superior outcomes when compared to the current relationship ($\alpha = 0.75$) [34]. Investment size assessed the existence of concrete or tangible resources in the relationship that would be lost or greatly reduced if the relationship ended ($\alpha = 0.71$) [34]. The combination of satisfaction level, quality of alternatives, and investment size were an index of the level of commitment existing in interpersonal relationships and in turn, the probability that the relationship will persist [32]. Responses to each item were based on a 7-point Likert-type scale (0 = Do Not Agree at All, 6 = Agree Completely). The 22-item measure had a Cronbach's alpha of 0.87.

The Sexual Agreement Investment Scale was used to assess participants' value, commitment, and satisfaction with a sexual agreement with the main partner [33]. The 13-item validated measure included three domains: value of the agreement ($\alpha = 0.92$), commitment to the agreement ($\alpha = 0.90$), and satisfaction with the agreement ($\alpha = 0.80$) [33]. A 5-point Likert-type scale (0 = Not at All, 4 =Extremely) was used for each item. The 13-item measure had a reliability of 0.94. Only participants who reported having a sexual agreement completed this measure.

Data Analysis—Dyadic data from 142 gay male couples (284 individuals) were analyzed using Stata Version 11 (StataCorp LP, College Station, TX). Although we collected data from 144 couples, data from two couples were excluded due to ineligibility and inconsistencies in responses. Data were arranged into an appropriate format for multilevel modeling analyses [38]. Descriptive statistics including means, standard deviations, and percentages were calculated for the measures. Random-intercept logistic regression, a multilevel modeling analytical technique, was used to calculate individual probabilities from the dyadic data [39]. Using a three-tiered analytic approach (tiers a, b, and c), data from both men in each couple were first used to predict which factor(s) were associated with the likelihood (i.e., odds) that men would be concordant about having a sexual agreement with their main partner (tier a). Then, among the couple's who were concordant about having a sexual agreement, data from both men in each couple were used to predict which factor(s) were associated with the likelihood that men would be concordant on reporting the exact same type of sexual agreement as their main partner (tier b). Lastly, among the couple's who were concordant about having the exact same type of sexual agreement, data from both men in each couple were used to predict which factor(s) were associated with the likelihood that men would be concordant about adhering to the sexual agreement with their main partner (tier c).

Prior to data collection and analyses, a minimum sample size of 140 couples was calculated to achieve an estimated power of .95 for assessing nonindependence within same-sex couples and for detecting subject-specific probabilities in multilevel random-intercept logistic regression modeling with dyadic data [38–40]. Because sample size decreased with respect to the three outcome variables, we used recommendations provided by Kenny et al.

(2006) to approximate that a minimum power of .80 would be maintained given the sample size, effect size, and intraclass correlations of the independent variables of interest [38]. For example, a sample size of 120 dyads would provide an estimated power of .99 to detect a population correlation value of .4 for an independent variable of interest, whereas a sample size of 80 dyads would estimate power to be .78 to detect a population correlation value of .3 [38]. As such, we recognized that to maintain a minimum power of .80, we would need a sample size of approximately 60 dyads to detect a population correlation value of .4 or greater for the independent variables of interest. Accordingly, we used univariate multilevel random-intercept logistic regression modeling because of the minimal sample sizes for the outcome variables of interest.

For each outcome variable, we conducted Pearson chi-square, Fisher's exact test, and two sample independent t-tests to identify which factors to analyze in the univariate logistic regression modeling analyses. Pearson chi-square tests were used for categorical variables that had 5 or more individuals in each cell whereas Fisher's exact test was used for categorical variables that had fewer than 5 individuals in each cell. Two sample independent t-tests were used for the interval independent variables.

In detail, we conducted bivariate analyses of relationship factors, self-reports of UAI, and HIV testing to compare men who were concordant about having a sexual agreement with their main partner (i.e., concordant couples) to all other couples, including couples that reported not having a sexual agreement and couples who disagreed about whether they had a sexual agreement. Independent variables that significantly differed (i.e., $P < .05$) between concordant couples and all other couples were then selected for the univariate multilevel random-intercept logistic regression analysis. We then calculated the odds ratios and associated 95% confidence intervals to indicate the association between certain factors and couples who were concordant about having a sexual agreement (tier a). We used the same analytic approach to then compare couples who were concordant about reporting the exact same type of sexual agreement to couples who were discordant about their sexual agreement type (tier b); and finally to compare couples in which both men adhered to their sexual agreement to couples who had one or both of the men not adhering to the sexual agreement (tier c).

RESULTS

Selected descriptive statistics for the 284 men included in the 142 gay male couples are presented in Table 1. Most of the sample self-identified as gay (95%); had at least a bachelor's degree (68%); were employed (85%); and earned more than $30,000 per year (79%). The majority of men lived with their main partner (82%); had been in their relationship for two years or longer (65%); indicated being in a strictly monogamous relationship (51%); practiced UAI with their main partner within the previous three months (90%); and self-reported as HIV-negative (95%). Twenty-eight men (10%) had UAI with a secondary partner within the previous three months. Less than a quarter of the men (24%) reported that their last HIV test occurred within the past three months, and 15% perceived that their main partner's last test had also occurred within this time frame.

Over half of the sample (66%) reported having established a sexual agreement with their main partner. Of these men, 47% reported 'only sex with each other,' 44% 'sex together while with others,' and 9% 'sex with whomever whenever.' Most men explicitly discussed their agreement in detail (77%). Non-adherence to the sexual agreement was reported by 38 men (20%) and of these men, 18 (43%) had disclosed their non-adherence to their main partner.

Concordance on having a sexual agreement, the same type of sexual agreement, and adhering to a sexual agreement varied among the 142 gay male couples. As indicated in Table 2, both men in 68 of the 142 couples reported having a sexual agreement; both men in 56 of the 68 couples with a sexual agreement reported having the same type of sexual agreement; and both men in 30 of the 56 couples with the same type of sexual agreement reported adhering to their sexual agreement.

When compared to men who reported not having a sexual agreement or who disagreed with their main partner about having a sexual agreement, men in male couples who were concordant about having a sexual agreement: were older (t (282) = −2.17; $P < 0.05$); reported higher scores of satisfaction with the relationship (t (279) = −2.83; $P < 0.01$); perceived that more alternatives to the relationship existed (t (279) = −2.06; $P < 0.05$); had faith that their main partner was trustworthy (t (274) = −2.17; $P < 0.05$); were more likely to have been tested within the previous three months (χ^2 (1) = 10.13; $P < 0.01$); and were more likely to perceive that their main partners had been tested for HIV within the previous three months (χ^2 (1) = 15.60; $P < 0.001$).

When compared to the men who were discordant about having the same type of sexual agreement with their main partner, men in couples who were concordant about the same type of sexual agreement had fewer self-reports of UAI with a secondary sex partner (χ^2 (1) = 4.16; $P < 0.05$).

When compared to men in couples in which one or both men were non-adherent to the sexual agreement, men in couples with both men adhering to the sexual agreement: were younger (t (282) = −2.17; $P < 0.05$); reported higher scores of satisfaction with the relationship (t (110) = −3.45; $P < 0.001$); perceived that more alternatives to the relationship existed (t (108) = −2.69; $P < 0.01$); had faith that their main partner was trustworthy (t (108) = −2.95; $P < 0.01$); thought their partner was dependable (t (105) = −2.34; $P < 0.05$); were committed to their sexual agreement (t (108) = −3.99; $P < 0.001$); were satisfied with their sexual agreement (t (108) = −2.76; $P < 0.01$); valued their sexual agreement (t (109) = −3.76; $P < 0.001$); and had fewer self-reports of UAI with a secondary sex partner within the previous three months (χ^2 (1) = 6.14; $P < 0.05$).

Results from the univariate multilevel random-intercept logistic regression modeling revealed factors that were significantly associated with both men in couples being concordant about having a sexual agreement as well as adhering to their sexual agreement with their main partner. Men who were concordant about having a sexual agreement with their main partner were more likely to be satisfied with their relationship (OR = 1.53 [CI 1.05 – 2.25], $P < 0.05$) and to perceive that their partner's last HIV test had occurred within

the previous three months (OR = 5.19 [CI 1.82 – 14.76], $P < 0.01$). Gay male couples in which both men adhered to their sexual agreement were more likely to: be satisfied with their relationship (OR = 2.76 [CI 1.54 – 4.95], $P < 0.01$); view their main partner as predictable (OR = 3.45 [CI 1.79 – 6.64], $P < 0.001$; have faith that their main partner was trustworthy (OR = 2.56 [CI 1.40 – 4.66], $P < 0.01$); and value the sexual agreement with their main partner (OR = 4.04 [CI 1.53 – 10.69], $P < 0.01$). Lastly, men who were concordant with their main partner about the type of sexual agreement were statistically no different than men who were discordant with their main partner about their type of sexual agreement on any of the relationship factors, self-reports of UAI, or HIV testing. Results from the univariate multilevel random-intercept logistic regression models are presented in Table 3.

DISCUSSION

To our knowledge, the present study is the first study to assess which factors are associated with gay male couples' concordance on aspects of their sexual agreement. Our findings suggest that relationship satisfaction, trusting one's partner, and investment in one's sexual agreement are important factors associated with men who were concordant with their main partner about having and adhering to their sexual agreement. These results further support that relationship factors are important reasons on why gay male couples have and adhere to a sexual agreement [19].

Although less than half of the couples were concordant about having a sexual agreement, not all of those couples had concurred about their type of sexual agreement, and far fewer were concordant on adhering to their sexual agreement. The inconsistencies found within couples' on aspects of their sexual agreements suggests that communication about sexual health may not occur or be explicit enough to provide a mutual understanding about their sexual agreement, which in turn, may affect the couple's ability to establish, agree on the type of, and adhere to the sexual agreement [21].

Measuring concordance on aspects of sexual agreements and associated factors may help inform future research and public health programs to develop novel approaches that aim to lower HIV and STI risk among gay male couples who lack a known HIV infection. Consistent with other studies of gay male couples, a high percentage of the men in this sample self-reported having UAI with their main partner. Our study also found that a higher percentage of the gay men who were discordant with their main partner about the type of, and adherence to, a sexual agreement had self-reported engaging in UAI with a secondary sex partner. Another study found that gay men who were committed to their sexual agreement with their main partner were significantly less likely to have had UAI with a secondary sex partner when UAI was practiced within their relationship [41]. Communication about sexual health, as measured by concordance with dyadic data, and relationship factors such as commitment to a sexual agreement and the relationship, appear to be important components that may help reduce the likelihood that a gay male who practices UAI with his main partner would also engage in UAI with a secondary sex partner.

Limitations of the present study include the use of a convenience sample and a cross-sectional study design that prohibits causal inference and generalizability. Other important limitations include the lack of data on the HIV serostatus, number of secondary sex partners, number of UAI acts with either partner type, and whether serosorting, strategic positioning, and withdrawal were used with any of the secondary sex partners, as well as measuring perceptions of HIV risk among the participants [42–46]. We also did not assess the specific rules of the participants' sexual agreements, whether UAI with a secondary sex partner was permitted, reasons for establishing a sexual agreement, or reasons for non-adherence. Lastly, we did not assess the timing and sequence of when participants' established their sexual agreement with respect to having UAI with their main partner, UAI with a secondary partner (if relevant), or disclosure of non-adherence to their sexual agreement.

The main strength of this study was the use of dyadic data with multilevel modeling analyses to examine which factors were associated with men who were concordant on having a sexual agreement, the same type of sexual agreement, and adhering to the sexual agreement with their main partner. Findings from the present study suggest that differences on important relationship factors and sexual risk behaviors (i.e., UAI) exist and are contingent upon the concordance on aspects of sexual agreements among gay male couples who self-reported not having an HIV infection.

Future research that measures the prevalence, motivating factors, rules, and concordance on different aspects of sexual agreement among gay male couples within the U.S. is needed to assess the potential that sexual agreements could be used as an effective HIV prevention strategy. Moreover, studies should consider the HIV serostatus differences, sexual agreement types, the frequency and explicitness of communication about sexual health, and accounts of sexual risk behaviors and practices among gay male couples to reflect the diversity within this population and more importantly, the factors that may enhance or minimize HIV and STI risk. These advances in research will help develop future HIV prevention efforts for gay male couples.

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Table 1

Descriptive statistics of characteristics, sexual agreements, UAI, and HIV testing among 142 gay male couples (N = 284 MSM)

Characteristics	N (%)
Age of individual and couple, *Mean* (SD)	34.1 (8.4, 7.6)
Race	
Caucasian	241 (85%)
Non-white	28 (10%)
Mixed	15 (5%)
Relationship duration	
< 2 years	101 (35%)
> 2 years	183 (65%)
Relationship type	
Strictly monogamous	144 (51%)
Open to some degree	140 (49%)
Sexual Agreements	
Made sexual agreement with main partner[a]	187 (66%)
Type of sexual agreement[b]	
Only sex with each other	87 (47%)
Sex together while with others	81 (44%)
Sex with whomever whenever	17 (9%)
Explicitly discussed sexual agreement in detail	144 (77%)
Non-adherence to sexual agreement with main partner	38 (20%)
Disclosed non-adherence of sexual agreement to main partner	18 (43%)
Unprotected Anal Intercourse (UAI)	
UAI with main partner	257 (90%)
UAI with a secondary partner	28 (10%)
HIV Testing	
Self-reported last HIV test[c]	
< 3 months	68 (24%)
> 3 months	212 (75%)
Perceived last HIV test of main partner[c]	
< 3 months	44 (15%)
> 3 months	232 (82%)

Notes:

[a]The subsample of 187 men who reported having a sexual agreement with their main partner also reported on their type of sexual agreement, any episodes of non-adherence, and disclosure of those episodes to their partner.

[b]Only one participant reported 'Sex together and only he can with others' for type of sexual agreement. Minimal missing data (i.e., 1 case) existed for type of sexual agreement.

[c]Four men self-reported that they have never been tested and 5 men perceived their main partner as never been tested. Three cases were missing for perceived main partner's last test.

Table 2

Results of bivariate analyses

	Having a Sexual Agreement N = 142 Dyads		Type of Sexual Agreement N = 68 Dyads		Adherence to Sexual Agreement N = 56 Dyads	
Couple-level Concordance	Reported having	Reported none or disagreed	Reported same	Reported different	Both men adhered	One or both men did not adhere
Sample size: Individuals / dyads	136 / 68	148 / 74	112 / 56	24 / 12	60 / 30	52 / 26
Relationship Factor [range]	***M* (SD)**	***M* (SD)**	***M* (SD)**	***M* (SD)**	***M* (SD)**	***M* (SD)**
Age	35.3 (9.49)*	33.2 (7.07)	35.2 (9.68)	35.5 (8.77)	30.9 (7.14)***	40.2 (9.91)
Investment model [0 – 6]						
Commitment	5.46 (0.70)	5.36 (0.83)	5.48 (0.69)	5.38 (0.75)	5.52 (0.60)	5.43 (0.79)
Satisfaction	4.95 (0.92)**	4.62 (1.00)	4.97 (0.94)	4.86 (0.81)	5.24 (0.65)***	4.65 (1.12)
Investment	4.73 (0.83)	4.58 (0.90)	4.70 (0.83)	4.87 (0.82)	4.65 (0.87)	4.75 (0.77)
Quality of alternatives	3.52 (1.06)*	3.25 (1.16)	3.52 (1.05)	3.53 (1.10)	3.76 (0.96)**	3.24 (1.09)
Trust scale [0 – 6]						
Predictability	4.37 (1.18)	4.35 (1.14)	4.44 (1.15)	4.03 (1.30)	4.62 (0.91)	4.23 (1.35)
Dependability	4.45 (1.09)	4.31 (1.08)	4.46 (1.08)	4.43 (1.14)	4.68 (0.78)*	4.20 (1.32)
Faith	5.04 (0.85)*	4.79 (1.01)	5.09 (0.85)	4.80 (0.79)	5.31 (0.63)**	4.84 (1.00)
Sexual agreement investment scale [0 – 4]						
Commitment	3.48 (0.66)	3.42 (0.63)[a]	3.48 (0.68)	3.52 (0.61)	3.70 (0.43)***	3.22 (0.81)
Satisfaction	3.06 (0.76)	2.81 (0.92)[a]	3.06 (0.78)	3.08 (0.69)	3.24 (0.68)**	2.84 (0.84)
Value	3.40 (0.68)	3.22 (0.77)[a]	3.43 (0.69)	3.24 (0.61)	3.64 (0.47)***	3.18 (0.81)
Self-reports of UAI	# (%)	# (%)	# (%)	# (%)	# (%)	# (%)
UAI with main partner	122 (90%)	135 (91%)	103 (92%)	19 (79%)	56 (93%)	47 (90%)
UAI with secondary partner	17 (13%)	11 (7%)	11 (10%)*	6 (25%)	2 (3%)*	9 (17%)
HIV testing within past 3 months						
Self-report	44 (32%)**	24 (16%)	33 (29%)	11 (46%)	18 (30%)	15 (29%)
Main partner (perceived)	33 (24%)***	11 (7%)	24 (21%)	9 (38%)	15 (25%)	9 (17%)

Notes: Results of individual-level mean scores of relationship factors are from two-sample t tests. Results of self-reports of UAI are from Chi-square tests of association and Fisher's exact test.

*$P < 0.05$,

** $P < 0.01$,

*** $P < 0.001$

[a] Of the 74 dyads, 51 had discrepant reports about the establishment of a sexual agreement. The remaining 23 dyads were concordant about not having a sexual agreement. Data for the sexual agreement investment scale reflects the individual scores from the 51 men in the discrepant couples.

Table 3

Odds ratios and 95% confidence intervals from random-effects logistic regression analysis of factors associated with gay male couples' concordance of having a sexual agreement, and gay male couples' concordance of adhering to their sexual agreement

	Having a Sexual Agreement N = 142 Dyads	**Adherence to the Sexual Agreement N = 56 Dyads**
Couples' concordance (yes vs. no)	68 vs. 74	30 vs. 26
Relationship Factor	**OR (95% CI)**	**OR (95% CI)**
Investment model: Satisfaction	1.53 (1.05 – 2.25)*	2.76 (1.54 – 4.95)**
Trust scale: Predictability	0.95 (0.26 – 3.46)	3.45 (1.79 – 6.64)***
Trust scale: Faith	1.32 (0.89 – 1.97)	2.56 (1.40 – 4.66)**
Sexual agreement investment scale: Value	1.24 (0.38 – 4.03)	4.04 (1.53 – 10.69)**
Perceived partner's last HIV test (< 3 months vs. other)	5.19 (1.82 – 14.76)**	2.45 (0.11 – 51.95)

Notes

* $P < 0.05$,

** $P < 0.01$,

*** $P < 0.001$