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Characteristics and allowed behaviors of gay male couples' sexual agreements

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Abstract

Research has shown that gay male couples' sexual agreements may affect their risk for HIV. Few U.S. studies have collected dyadic data nationally from gay male couples to assess what sexual behaviors they allow to occur by agreement type and the sequence of when certain behaviors occur within their relationships. In our cross-sectional study, dyadic data from a convenience sample of 361 male couples were collected electronically throughout the U.S. by using paid Facebook ads. Findings from our study revealed that couples discussed their HIV status before having UAI, but established their agreement some time after having UAI. About half of the couples ($N = 207$) concurred about having an agreement. Among these couples, 58% concurred about explicitly discussing their agreement, 84% concurred about having the same type of agreement, and 54% had both men adhering to it. A variety of sexual behaviors were endorsed and varied by agreement type. Concordance about aspects of couples' agreements varied, suggesting the need to engage couples to be more explicit and detailed when establishing and communicating about their agreements. The allowed behaviors and primary reasons for establishing and breaking sexual agreements further highlight the need to bolster HIV prevention for gay male couples.

Keywords

Gay male couples; Sexual agreements; Allowed behaviors; HIV risk

In the U.S., men who have sex with men (MSM) remain disproportionately affected by HIV. MSM represent over half of all new and existing HIV infections each year, yet only account for about 2% of the US population (CDC, 2010). MSM are 44 to 86 times more likely to be diagnosed with HIV when compared to other men (CDC, 2010). Also, approximately one in five MSM in large U.S. cities are living with HIV (CDC, 2010). When considering novel approaches to HIV prevention, it is important to understand the context in which HIV transmission occurs. Recent estimates indicate that between 58% and 78% of MSM acquire HIV from their main partners, most likely due to a higher occurrence of practicing unprotected anal intercourse (UAI) within same-sex relationships (e.g., gay male couples) (Sullivan, Salazar, Buchbinder, & Sanchez, 2009). Thus, research in the U.S. has begun to

examine the relationship characteristics of gay male couples, and how these characteristics affect the individual and couples' risk for acquisition of HIV.

Because UAI is the primary sexual risk behavior for acquisition of HIV among gay men (Coates, 2008), studies have assessed which relationship factors affect gay men's engagement of UAI within and outside of their sexual relationships. For instance, prior research has identified that gay men have UAI with their main partners as a way to foster and strengthen their commitment to and satisfaction with the relationship (Davidovich, de Wit, & Stroebe, 2006; de Vroome, Stroebe, Sandfort, de Wit, & Van Griensven, 2000; McLean et al., 1994; McNeal, 1997; Worth, Reid, & McMillan, 2002), as well as, to demonstrate love, intimacy, and trust for one another (Appleby, Miller, & Rothspan, 1999; Blais, 2006; Davidovich, de Wit, & Stroebe, 2004; de Vroome et al., 2000; McLean et al., 1994; McNeal, 1997; Worth et al., 2002).

In addition to practicing UAI with their main partners, some studies have identified a subgroup of gay men who also have UAI with casual MSM partners (Chakravarty, Hoff, Neilands, & Darbes, 2012; Gass, Hoff, Stephenson, & Sullivan, 2012; Mitchell, Harvey, Champeau, & Seal, 2012; Mitchell & Petroll, 2012). Though the specific reasons why partnered gay men practice UAI within and outside of their relationships remain unknown, yet important for HIV prevention, research has identified some factors inversely associated with practicing UAI outside of relationships. For example, among gay couples who practice UAI, men who received HIV-specific social support from their main partners and those who had higher levels of commitment and value to their sexual agreements were less likely to have had UAI with a casual MSM partner (Darbes, Chakravarty, Beougher, Neilands, & Hoff, 2011; Mitchell et al., 2012; Mitchell & Petroll, 2012). To clarify, a sexual agreement is an explicit agreement made between two individuals about what sex-related behaviors may occur within and outside of their relationship (Hoff & Beougher, 2010). To better assess HIV risk among gay male couples, research has begun to examine the role that sexual agreements may have on gay men's practice of UAI with their main and their casual MSM partners (Crawford, Rodden, Kippax, & Van de Ven, 2001; Davidovich, de Wit, & Stroebe, 2000; Gass et al., 2012; Gomez et al., 2012; Hoff & Beougher, 2010; Hoff, Beougher, Chakravarty, Darbes, & Neilands, 2010; Hoff et al., 2009; Kippax, Crawford, Davis, Rodden, & Dowsett, 1993; Kippax et al., 1997; Mitchell et al., 2012; Mitchell, Harvey, Champeau, Moskowitz, & Seal, 2011; Mitchell & Petroll, 2012; Prestage et al., 2006; Prestage et al., 2008; Wheldon & Pathak, 2009).

In the U.S., Europe and Australia, sexual agreements appear to be common among gay male couples (Crawford et al., 2001; Davidovich et al., 2000; Elford, Bolding, Maguire, & Sherr, 1999; Gass et al., 2012; Hoff & Beougher, 2010; Mitchell et al., 2012; Moreau-Gruet, Jeannin, Dubois-Arber, & Spencer, 2000; Prestage et al., 2006; Prestage et al., 2008). A sexual agreement can be classified into one of two broad categories: an "open agreement" that permits certain sexual behaviors to occur outside of the primary relationship whereas a "closed agreement" does not permit any sexual behaviors to occur outside of the primary relationship. One particular type of an open sexual agreement is called "negotiated safety", which allows HIV-negative seroconcordant gay male couples to practice UAI within their relationship as long as both partner's serostatus remain HIV negative and both men practice

safer sex with secondary partners (Kippax et al., 1997). Prior studies have reported how prevalent closed monogamous and open nonmonogamous agreements are among gay male couples' relationships. Findings from these studies indicate that between 48% and 98% of gay male couples formed a sexual agreement (Gass et al., 2012; Mitchell et al., 2001; Prestage et al., 2006; Prestage et al., 2008), which included couples with closed monogamous sexual agreements or a variety of different open nonmonogamous sexual agreements (Adam, 2006; Bryant & Demian, 1994; Crawford et al., 2001; Hoff et al., 2009; LaSala, 2004a; 2004b; Parsons, Starks, DuBois, Grov, & Golub, 2011; Ramirez & Brown, 2010; Wagner, Remien, & Carballo-Diequez, 2000; Wheldon & Pathak, 2009; Worth et al., 2002). However, all of these studies collected data from convenience samples, which limits our ability to definitively state how common sexual agreements are among gay male couples.

Though agreements appear to be common, not all gay male couples establish a sexual agreement or concur about aspects of their sexual agreements. Specifically, Mitchell et al. (2011) found that less than half of the couples sampled concurred about having established a sexual agreement. And, among those couples who did have a sexual agreement, some couples had discrepant reports about the type of agreement in place and about their adherence to the agreement. Such discrepancies may indicate a lack of explicit communication or understanding about behaviors that are allowed to occur within a couple's sexual agreement.

In addition, the reasons why couples make a sexual agreement, and how these reasons may differ based on the couples' type of agreement and HIV status have recently been assessed by Hoff et al. (2010). Findings from this study highlighted how men in couples were more concerned about pleasing their main partner and enhancing or protecting their relationship than minimizing their risk for acquiring HIV and STIs (Hoff et al., 2010). A different study of partnered gay men, however, found that being monogamous and practicing safer sex were the most important characteristics of a sexual agreement (Gass et al., 2012). In addition, normative masculinity may also affect whether gay male couples establish a sexual agreement and the type of sexual agreement that they form. For example, Wheldon & Pathak (2009) found that partnered gay men with a high endorsement of normative masculinity predicted that men would be more likely to have an open sexual agreement that permitted UAI to occur outside of their relationship.

The reasons that men break their sexual agreements and their attitudes toward disclosing those breaks to their main partners have also been examined. The most commonly reported reasons include feeling sexually unsatisfied and being unable to control their impulses to have sex with other men (Hoff et al., 2009). In addition to this study, other research has identified that men frequently refrain from disclosing their breaks in sexual agreements to their main partners (Gass et al., 2012; Mitchell et al., 2012). However, men with greater trust, communication, and commitment to their relationship, as well as greater social support were less likely to report breaking their sexual agreements (Gomez et al., 2012). Men with higher levels of relationship satisfaction and reported investment in the sexual agreement are more likely to adhere to their sexual agreements (Mitchell et al., 2011).

Despite these advances in research on how sexual agreements may affect HIV risk among male couples, gaps in our knowledge still exist and further study is warranted. For instance, most studies conducted with male couples in the U.S. have occurred within a few cities, such as San Francisco, Portland, and Seattle, or have collected data from only one male in the couple. No study to date has collected dyadic data (i.e., from both men in the couple) from gay couples or enrolled couples living throughout the U.S. Moreover, our understanding of which behaviors are allowed or disallowed within sexual agreements is limited. Also, little data exists about men's communication with their partner about their sexual agreements, as well as the timing of when certain events occur in their relationship. Additionally, little data exists on whether couples concordance on aspects of their sexual agreements differ according to their demographic characteristics. As such, the present study aimed to further our understanding of sexual agreements among gay male couples who lived throughout the U.S. Specifically, we employed a novel recruitment and dyadic data collection method to assess: 1) the prevalence, and characteristics of, sexual agreements among a national convenience sample of gay male couples; 2) the sequence in which couples discuss their HIV status, engage in UAI, and establish a sexual agreement; 3) the primary reasons for establishing and breaking sexual agreements; 4) the primary reasons that men do and do not disclose breaks in the sexual agreement to their main partners; 5) the extent to which couples concur about aspects of their sexual agreements; 6) which behaviors are allowed in the couples' sexual agreements; and 7) whether couples who concurred about aspects of their sexual agreements (e.g., establishment, type, and adherence) differ by their demographic characteristics.

Method

Recruitment, Eligibility and Procedures

Recruitment was conducted through Facebook ® banner advertising. Banner advertisements are shown to individuals who have and use personal home pages. Advertisements target individuals based on demographics that they report on their Facebook profile.

During a ten-week recruitment period during 2011, ads were displayed to Facebook members who had certain demographic characteristics listed in their Facebook profile. Specifically, our study ads targeted Facebook members who described themselves as male, being 18 years of age and older, living anywhere in the US, interested in men, and had a current relationship status as either being in a relationship, engaged, or married. All Facebook users whose profiles met this initial eligibility criteria had an equal chance of being shown one of our three banner advertisements. In total, the banner ads were shown 8.5 million times (i.e., impressions) on potential participants' profiles. The ads briefly described the purpose of the study and included a picture of a male couple.

A total of 7,994 Facebook users clicked on at least one of the ads and were then directed to the study webpage. The study webpage briefly described the purpose of the study, what a participant could expect if he chose to participate (e.g., be asked to invite his main, male relationship partner to also participate in the study), and asked eligibility questions. Both men in the couple had to have met the following eligibility criteria in order to enroll in our study: be 18 years of age and older; live in the U.S.; be in a sexual relationship with another

male and have had either oral and/or anal sex with this partner within the previous three months. Eligible participants were asked to complete an electronic consent form. Consenting participants advanced to take the 30–40 minute confidential survey.

Because we were interested in collecting data from both men in the couple, we embedded a partner referral system in our survey. Specifically, participants were required to input their own and their main male partner's email address. The main male partner to the participant was then sent an email inviting him to participate in the study. Email addresses for both men in each couple were also used to link survey responses between the two men. Every fifth couple (i.e., 5th, 10th, 15th, etc.) that completed the survey received two modest incentives via email. The Medical College of Wisconsin Institutional Review Board approved the study protocol.

Online Survey

The online survey service provider Survey Gizmo hosted our study webpage, electronic consent form, and confidential, online survey through the use of a secure access portal (i.e., <https://>). Only the primary investigator of the study and managers at Survey Gizmo had access to the study data. Though we collected each participant's email addresses, no other personal identifying information was collected. Email addresses were deleted after data collection was completed.

Measures

Sociodemographic characteristics—A variety of measures were used in our online survey to assess gay male couples' demographic and relationship characteristics, sexual risk behaviors (e.g., UAI), HIV serostatus, and aspects of their sexual agreements. Participants were asked questions about their sociodemographic characteristics, including: age, race/ethnicity, sexual orientation, highest level of education, student status, current employment status, personal income, type of geographic area of residence, and state of residence. Participants were also asked whether they had health insurance, and whether their primary medical doctor knew of their engagement of sexual behaviors with men. Measures pertaining to participants' relationship characteristics included relationship duration and cohabitation duration.

To assess sexual risk behaviors, participants were asked the number in times they had engaged in unprotected insertive and receptive anal intercourse with their main partner and any casual MSM partners during the previous three months. Men who reported having sex with a casual MSM partner were asked the number of times that they had engaged in unprotected insertive and receptive anal sex with casual MSM partners of perceived negative, positive, and unknown HIV status. Additionally, men were asked to report their own HIV status and their main partner's perceived HIV serostatus ('negative', 'positive', and 'I don't know'), as well as to report when their last test for HIV and STIs had occurred in months. Further, the men were asked to report the number of days into their relationship that they discussed their HIV status with their main partner, and started practicing UAI within the relationship. If either of these events had occurred at the start of the relationship

(i.e., immediately, right away), then men were asked to report with a “1” to indicate day one. If either these events had not occurred, then men were asked to report with a “0”.

Characteristics and allowed behaviors of the sexual agreement—Participants were asked about aspects of their sexual agreement through a variety of items, including characteristics of the sexual agreement, such as allowed behaviors and other rules, and breaks in adherence to the agreement. Specifically, participants were asked: whether they had established a sexual agreement (yes or no) with their main partner; the number of days after their relationship started that the sexual agreement was established; the primary reason for wanting a sexual agreement with their current main partner; whether their conversation to establish the sexual agreement included an explicit discussion of the agreement’s details or whether they were implied; the type of sexual agreement that was initially established and their current type of sexual agreement; and the number of times that they discussed their sexual agreement with their main partner in the previous three months. Both initial and current type of sexual agreement items were assessed categorically with the following response options, “We only have sex with each other and no one else”, “We have sex with each other, and we are allowed to have sex with others under certain guidelines/rules” and “We have sex with each other, and are allowed to have sex with others without any guidelines/rules”. Explicitness of conversation to establish the sexual agreement, also a categorical item, contained two possible response options of “Yes – explicitly discussed” and “No – more implied and assumed”.

Additional items about non-adherence to the sexual agreement assessed whether a participant and/or their main partner had broken their sexual agreement (ever and within the previous 3 months) and the number of times he and/or his main partner had broken their sexual agreement within the previous three months. For those men who reported having broken their sexual agreement recently, we asked the main reason why they broke the sexual agreement; whether they disclosed the break to their main partner; and the main reason they did or did not disclose the break to their partner.

“Allowed behaviors” refers to which type of sexual acts are allowed to occur within and outside of a couple’s relationship, according to their sexual agreement. Participants were asked which behaviors were allowed to occur with their main partner and, if applicable, with casual MSM partners. The allowed behaviors assessed are shown in Table 6.

Data Analysis

Data on participants’ engagement of receptive and/or insertive UAI with their main partner and any casual MSM partners was transformed into binary variables to indicate whether an individual had engaged in those behaviors (or not) in the previous three months. To obtain a greater understanding about why men established and recently broke their sexual agreement, participants were asked to provide a short answer (i.e., a few words) in open text fields in the survey. Research staff coded these responses into categories, which are listed in Tables 2 and 4.

Dyadic data from 361 MSM couples (722 individuals) were analyzed using Stata Version 11 (StataCorp, College Station, TX). Descriptive statistics including means, standard

deviations, rates, and percentages were calculated, as appropriate, for the measures. Tests of associations, including Fisher's exact and Pearson's Chi-square, were also performed to assess whether men within the couples concurred about aspects of their sexual agreements, as well as whether demographic characteristics of the couples differed according to their concurrence on establishment, type, and adherence to the sexual agreement.

Results

Sample Characteristics

The mean age for the individual and couple was 33.0 years. Though most men self-identified as White (77%), 34% of couples were of mixed race ($N = 124$). About a third of the sample resided in the Western region (32%) of the U.S. while the remainder of couples lived in the Northeast (17%), South (29%) and Midwest (22%) regions.

The average duration of the couples' relationship was 59.2 months (SD 65.8), and about half of the couples (59%) concurred about reporting the exact same time for their relationship duration. Most of the men (76%) lived with their main partner. Regarding HIV serostatus, 4% of the couples were HIV-positive seroconcordant, 11% were discordant, and 85% were HIV-negative seroconcordant. Participants' last HIV and STI tests occurred 37.6 and 19.1 months previously, respectively. On average, men had disclosed their HIV serostatus to their main partners 11.6 (SD 47.5) days into the relationship. Half of the couples (50%) reported the exact same number of day for when they disclosed their HIV serostatus within the relationship while another 28% of couples had both men reporting a difference between 1 and 10 days.

The majority of men (80%) had insertive and/or receptive UAI with their main partners. Approximately 79% of the couples agreed on whether UAI had occurred within the relationship, which included 67% of couples who had both men reporting "yes" while 12% had both men reporting "no". Men also reported that their practice of UAI began approximately 80.6 (SD 207.5) days into the relationship. Half of the couples (50%) had both men reporting the same number of days for when UAI began within their relationship while another 17% of couples had men whose responses differed by 1 to 10 days. Additionally, a quarter of the sample ($N = 179$) had sex with a casual MSM partner within the previous three months. Over half of these 179 men (57%) had UAI with a casual MSM partner. Table 1 describes additional details about the sociodemographic and relationship characteristics of the study sample of gay male couples, including how frequent they engaged in UAI within and outside of their relationship.

Characteristics of the Sexual Agreement

Individual-level—More than two-thirds of the men (70%) indicated they had a sexual agreement with their main partner. The reasons why men wanted to establish a sexual agreement with their main partner varied. Almost a quarter of the men reported that their primary reason was wanting to minimize their own and/or main partner's risk for acquiring HIV and STIs. Other common reasons reported by the men included: wanting monogamy; to fulfill sexual desires within and/or outside the relationship; to establish guidelines to manage

expectations; and to build and maintain trust. Table 2 lists the men's primary reasons for wanting to establish a sexual agreement with their main partner.

On average, men established their sexual agreement about 174 days into the relationship. However, concurrence about when the sexual agreement was established varied greatly amongst the couples; less than a quarter of the couples had both reporting the same number of days for when they established their agreement. Most men (69%) indicated that they explicitly discussed the sexual agreement with their main partner when it was first established. Participants discussed their sexual agreement approximately 4.3 times with their main partner within the previous three months.

Some couples reported a change in the type of sexual agreement they had currently compared with when they originally established one. Specifically, over half of the men (63%) indicated that their original type of sexual agreement with their main partner was "We only have sex with each other and no one else", 34% reported "We have sex with each other, and we are allowed to have sex with others under certain guidelines/rules" and 3% of the men chose "We have sex with each other, and are allowed to have sex with others without any guidelines/rules". When asked about their current type of sexual agreement, fewer men (56%) chose "We only have sex with each other and no one else" while more (41%) selected "We have sex with each other, and we are allowed to have sex with others under certain guidelines/rules".

Regarding breaks in the sexual agreements, 31% of the men indicated that they and/or their main partner had ever broken the sexual agreement. Within the previous three months, 9% of men broke and 5% of men perceived their main partners to have broken their sexual agreement. On average, men reported breaking their sexual agreement 3 times and perceived their main partners to have broken their agreement 1.6 times within the previous three months. Relatively few men (30%) disclosed to their main partners about breaking the sexual agreement. When asked about the primary reason for not disclosing their recent break, over half of the men (53%) chose "I didn't want to give him a reason to not trust me" while 31% selected "I feared that the relationship would end if I told him". Among those who did disclose the break to their main partner, over half of the men (57%) indicated that their primary reason was "We believe in and practice open lines of communication with each other" while 29% chose "Trust". Additional information about the samples' sexual agreement characteristics is provided in Table 3.

Additionally, the reasons why men recently broke the sexual agreement with their main partner varied. Some men (28%) reported being sexually frustrated within their relationship as their primary reason for breaking the sexual agreement. Other men reported breaking their sexual agreement because they were horny (24%), had the opportunity (6%), or were addicted to sex (3%), among other reasons. Table 4 lists the men's primary reasons for breaking the sexual agreement with their main partner.

Couple-level—Though 70% of men indicated having a sexual agreement with their main partner, only 57% of couples ($N = 207$) concurred about having a sexual agreement ($\chi^2(1) = 55.7, p < 0.001$). Among these 207 MSM couples, 80% concurred about having the same

original type of sexual agreement ($\chi^2(4) = 106.5, p < 0.001$) and 84% concurred about having the same type of sexual agreement currently ($\chi^2(4) = 134.7, p < 0.001$). Over half of the couples (58%) concurred about explicitly discussing their sexual agreement when it was first established ($\chi^2(1) = 8.5, p < 0.01$). Eleven percent of the couples concurred that their discussion was more implied and assumed while 31% disagreed about whether or not an explicit discussion had occurred.

Regarding ever breaking the sexual agreement, 6% of the 207 couples had both men who broke the agreement, 40% of couples had one partner who broke the agreement, and 54% of the couples had both men who had adhered to it ($\chi^2(9) = 132.4, p < 0.001$). Within the previous three months, 5% of the couples had both men break their agreement, 15% had one partner break the agreement, while 80% of couples had both men adhering to it ($\chi^2(1) = 19.8, p < 0.001$). Additional dyad-level data of gay male couples' sexual agreements are described in Table 5.

Allowed Behaviors of the Sexual Agreement

According to the current type of sexual agreement, participants endorsed which behaviors they were allowed to engage in with their main partner, other partners, and anyone/everyone. The following results pertain to gay couples who concurred about having the same current type of sexual agreement ($N = 174$). As anticipated, men who reported having a closed type of sexual agreement (i.e., "We only have sex with each other and no one else") endorsed being able to engage in a variety of behaviors, including unprotected oral sex and UAI, with their main partner. However, some men within this category also endorsed being able to kiss (2–5%), to cuddle with (1–5%), and to masturbate (2%) with others and/or with anyone. Men who reported having an open type of sexual agreement with guidelines (i.e., "We have sex with each other, and we are allowed to have sex with others under certain guidelines/rules") endorsed being able to engage in a wide variety of behaviors with their main partner, others, and/or with anyone. However, some distinctions were noted. Though more men in this category indicated that having UAI with their main partner was allowed, some of the men also reported being able to have UAI with others (12–25%). Conversely, more men endorsed being able to have unprotected oral sex with anyone when compared to having the same behavior with their main partners. Moreover, one couple, reported having an open type of sexual agreement without guidelines (i.e., "We have sex with each other, and are allowed to have sex with others without any guidelines/rules") endorsed being able to do a variety of behaviors with anyone, including giving and/or receiving unprotected oral sex without ejaculation, masturbating, cuddling, and going on dates. Unlike men within the couples with closed agreements or open agreements with guidelines, neither male in the open agreement without guidelines couple endorsed being able to engage in UAI, either within and/or outside of their relationship. Table 6 provides further details about the range of endorsed behaviors according to the couples' current type of sexual agreement.

Couples who concurred about aspects of their sexual agreements (e.g., establishment, type, and adherence) also differed by some of their demographic characteristics. For example, couples' HIV status did not statistically differ according to their concordance on establishment and type of sexual agreement. However, couples' HIV status did statistically

differ on whether the couples' concurred about adherence to the sexual agreement ($\chi^2(4) = 9.1, p < 0.05$). Additionally, interracial and non-interracial couples statistically differed on whether they concurred about having a sexual agreement ($\chi^2(1) = 8.3, p < 0.01$), and about their type of agreement ($\chi^2(2) = 23.7, p < 0.001$). Specifically, a higher proportion of non-interracial couples concurred about having a sexual agreement, and chose and concurred to have an open sexual agreement. Compared to couples who had both men older than 29 years of age, more couples with one or both men who were 29 years and younger (e.g., YMSM) concurred and chose to have a closed sexual agreement ($\chi^2(1) = 14.1, p < 0.001$). Education level of the couples was associated with whether they concurred about having the same type of sexual agreement ($\chi^2(1) = 4.5, p < 0.05$). More couples who had men with a bachelor's and/or higher degree concurred about their type of sexual agreement than couples who had men with less than a Bachelor's degree. No other demographic characteristics, such as employment and living environment, were found to be statistically associated with whether couples' concurred about aspects of their sexual agreements.

Discussion

This study helps to further our understanding of sexual agreements among gay male couples in the U.S. Some of our findings provide new insights about the characteristics of gay male couples' sexual agreements while other data provide support of data previously reported in the literature. Before this study, the sequence of when couples disclosed their HIV status, engaged in UAI and established a sexual agreement was unknown. Our sample of couples indicated that, on average, they discussed their HIV status before having UAI, but established their sexual agreement some time after having UAI. Given that a sexual agreement determines what sexual behaviors may occur within and outside of the relationship, helping couples establish a sexual agreement before they engage in UAI could protect men from HIV and STIs.

The variety of primary reasons that men provided for wanting to establish a sexual agreement with their main partner mirrored what Hoff et al. (2010) reported. Previous studies with partnered gay men have found that other primary factors affect whether gay couples form nonmonogamous agreements (e.g., open with or without guidelines), including men's endorsement of masculinity, and their desire for sexual variety and greater sexual satisfaction (LaSala, 2004b; Wagner, Remien, & Carballo-Dieuez, 2000; Wheldon & Pathak, 2009). However, more men in our sample, similar to what Gass et al. (2012) recently found, indicated their primary reason was to minimize their risk for acquisition of HIV and STIs. The men among our Internet-based sample of gay couples indicated that their risk of acquiring HIV and STIs was one of their most important reasons for why they formed a sexual agreement within their relationship.

Our study identified important findings regarding the stability of sexual agreements over time. Though most couples reported having the same type of sexual agreement currently from when they originally established an agreement, some couples did transition from having a closed agreement to having a more open sexual agreement. This change suggests that couples' sexual agreements are not necessarily static, may change over time, and are quite diverse (Hoff & Beougher, 2010; Parsons et al., 2011).

We also identified that a significant minority of couples had had a violation of their sexual agreement, an essential consideration if sexual agreements are to be added to HIV prevention strategies. Almost a third of the sample reported ever breaking the sexual agreement with their main partner, and a few of the men had done so within the previous 3 months. Among those who broke their agreement recently, the top two reasons provided included being sexually frustrated within the relationship and feeling horny, which reflect what Hoff et al. (2009) found among a sample of gay male couples in San Francisco. Some men in our sample did not provide a reason why they broke their agreement, but rather, how they broke the agreement, which almost universally included them having had UAI with a casual MSM partner. Breaks in sexual agreements that involve one male having had UAI outside of the relationship could, under certain circumstances, increase the couples' risk for acquisition of HIV, including when: the primary partner is unaware of this break; UAI is practiced within the relationship; the couple is HIV-negative seroconcordant; and UAI occurred with a casual MSM partner with an HIV-positive status. Prior research in Australia and the Netherlands has found that HIV risk increased among HIV-negative seroconcordant couples when UAI was practiced within the relationship and at least one of the men had had UAI outside of their relationship (Davidovich et al., 2000; 2004; Kippax et al., 1993; Kippax et al., 1997).

To utilize sexual agreements for HIV prevention, we need to understand the reasons that agreements are violated. The reasons that men in our sample disclosed breaking their agreements are similar to what has previously been reported (Hoff et al., 2009). However, this study contributes new data about why men chose not to disclose the violations of their sexual agreements to their partner. Men in our sample indicated that creating mistrust and fearing that the relationship would end had prevented them from telling their main partners about their breaks in the sexual agreement. These reasons suggest that maintaining the relationship supersedes potentially exposing their partner to HIV. As such, encouraging gay male couples to have and maintain satisfying relationships may help reduce their risk for acquisition of HIV (Gomez et al., 2011). In addition, reframing sexual agreements to emphasize the importance of protecting one's partner from HIV, including an upfront plan for disclosing breaches in the agreement, may improve their effectiveness in preventing new HIV infections.

Related to risk of acquisition of HIV are what behaviors men allow to occur based on the type of sexual agreement that they have with their main partner. Not surprisingly, most men who reported having a closed sexual agreement allowed sexual behaviors to occur only with their main partner. However, a few of the men within this group also endorsed that they could masturbate, kiss, and cuddle with casual MSM partners. These findings emphasize that closed sexual agreements may vary and permit certain sexual behaviors to occur with others. Unlike the men with closed agreements, some men with open agreements had endorsed being able to engage in UAI with a casual MSM partner. Though our data are the first to report such findings, it remains unclear whether the couples had other stipulations, such as the use of seroadaptive practices like serosorting and strategic positioning (CDC, 2009; CDC, 2010; Eaton et al., 2009; Parsons et al., 2005; Van De Ven et al., 2002), in conjunction with their agreements for allowing UAI to occur outside of the relationship.

Because our study collected data from both men in the gay couple, our methodology allowed us to examine the extent that couples concurred about certain aspects of their sexual agreement. For instance, the percentage of couples who concurred about having a sexual agreement was lower than what participants had reported individually regarding having a perceived agreement with their partner (e.g., 57% vs. 70%). Discrepancies within the couples also existed about the explicitness of their conversations while first establishing their sexual agreement, the type of sexual agreement, adherence to their agreement, and other characteristics about their relationship. In addition, differences according to the couples' HIV-status, race, and age (e.g., YMSM) differed and appeared to affect whether they concurred on aspects of their sexual agreements. Further research is warranted to examine how race and other cultural and demographic characteristics impact couples' establishment, type, and adherence to a sexual agreement. To that calling, some research in this topic area has been conducted with Latino gay male couples (Beougher, Gomez, & Hoff, 2011).

Reporting these differences is important for HIV prevention among gay male couples. Specifically, differences detected within the couple about the establishment and type of sexual agreement have direct implications for their risk of acquisition of HIV and STIs. Similarly, the frequency and explicitness of communication about sexual health, including sexual agreements, that occurs within the couple is also important for HIV prevention. Although our findings indicate that, on average, couples had discussed their sexual agreement four times within the previous 3 months, 42% of the couples had either did not have an explicit discussion when they established their sexual agreement, or disagreed on whether they had such a discussion. Thus, it is possible that some of these men are making assumptions about what they are allowed to do sexually outside of their relationship, unbeknownst to their main partners.

Our study is not without limitations. First, our study used a convenience sample of Internet-using gay male couples. Generalizations about couples who do not self-identify as gay, have access to the Internet, as well as those who do not use Facebook or click on banner ads shown on Facebook, may differ from those who participated in our study. Use of a cross-sectional study design also precludes us from making inference of causation. As previously mentioned, we did not assess whether couples allowed UAI to occur outside of their relationship based on using seroadaptive risk reduction strategies and did not assess how other relationship characteristics, such as trust and commitment, affect aspects of the couples' sexual agreements.

To further our understanding of how gay male couples' sexual agreements affect an individual's and a couple's risk for acquisition of HIV, future research must explore the intersection of allowed behaviors of sexual agreements with certain seroadaptive risk reduction strategies among gay male couples. Moreover, future studies that explore the processes that couples undergo when establishing, changing, and adhering to their agreements are also needed to fully elicit how agreements affect couples' relationships and risk for HIV. Though one recent study has examined what relationship characteristics predict gay men to break the sexual agreement with their main partner (Gomez et al., 2012), less is known about the characteristics of the couples with both men adhering to their

agreement, and the factors that prevent both of the men from breaking it. Our suggestions for future research on gay male couples' sexual agreements require further inquiry that may be best accomplished by using a mixed methods, longitudinal study design that collects data from both men in the couple.

Our present study is the first to provide data about sexual agreements from a national sample of Internet-using gay male couples in the U.S. We used a novel data collection method that enabled us to describe new and support formerly known characteristics about gay male couples' sexual agreements. As such, the data we report increases our understanding of sexual agreements with regard to HIV prevention. Future development of HIV prevention strategies for gay male couples should consider the role that sexual agreements have on the individual and couples' risk for acquisition of HIV.

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TABLE 1

Sociodemographic and Relationship Characteristics of 361 Gay Male Couples, 722 MSM

Individual-level characteristic	N	%
Sexual orientation		
Gay	709	98
Bisexual	13	2
Race/ethnicity		
White	559	77
Hispanic or Latino	67	9
African American	28	4
Mixed race	36	5
Other ^a	32	5
Highest education level		
Some graduate school or completion of adv. degree(s)	172	24
Bachelors degree	172	24
Some college, associate degree or trade cert.	298	41
Some H.S., H.S. diploma, or G.E.D.	80	11
Currently a student	221	31
Employment status		
Full or part-time employed	574	80
Unemployed	148	20
Geographic area of residence		
Urban or suburban	644	89
Rural	78	11
Health insurance		
Yes	545	75
No	177	25
Self-reported HIV status		
Negative	606	84
Positive	91	13
Do not know	25	3
Discussed HIV status before first sex with main partner	558	77
Self-reported insertive and/or receptive UAI within previous three months		
Main partner	578	80
Casual MSM partner	179	25
Main partner and casual MSM partner	88	12
	M	SD
UAI with main partner [range] ^b		
As receptive partner, no ejaculation [0–90]	2.3	6.3
As receptive partner, with ejaculation [0–100]	6.3	13.2
As insertive partner, no ejaculation [0–180]	3.3	11.2

Individual-level characteristic	N	%
As insertive partner, with ejaculation [0–150]	6.1	13.3
UAI with casual HIV-negative MSM partner [range] ^b		
As receptive partner, no ejaculation [0–15]	0.3	1.4
As receptive partner, with ejaculation [0–12]	0.6	1.9
As insertive partner, no ejaculation [0–20]	0.5	1.9
As insertive partner, with ejaculation [0–18]	0.6	2.0
UAI with casual HIV-positive MSM partner [range] ^b		
As receptive partner, no ejaculation [0–15]	0.1	1.1
As receptive partner, with ejaculation [0–10]	0.2	1.0
As insertive partner, no ejaculation [0–5]	0.2	0.6
As insertive partner, with ejaculation [0–5]	0.3	0.9
UAI with casual HIV-unknown status MSM partner [range] ^b		
As receptive partner, no ejaculation [0–50]	0.6	4.0
As receptive partner, with ejaculation [0–50]	0.7	4.2
As insertive partner, no ejaculation [0–50]	0.8	4.3
As insertive partner, with ejaculation [0–50]	0.7	4.2
Last HIV test in months	37.6	64.7
Last STI test in months	19.1	38.0
Relationship duration in months	59.2	65.8
Cohabitation duration in months	47.0	65.7
Days into relationship when first discussed HIV status	10.0	22.8
Days into relationship when started having UAI	84.1	211.3
Days into relationship when sexual agreement was first established ^c	174.3	480.8
Couple-level characteristic	N	%
Discussed HIV status before first sex within the relationship		
Couples with both men reporting yes	242	67
Couples with both men reporting no	45	12
Couples with disagreement	74	21
Had insertive and/or receptive UAI within relationship in last three months		
Couples with both men reporting yes	274	76
Couples with both men reporting no	57	16
Couples with disagreement	30	8
Relationship duration in months		
Couples with both men reporting same relationship duration	212	59
Couples with men reporting difference of 1 – 3 month duration	106	29
Couples with men reporting difference of more than 4 months	43	12
Cohabitation duration in months		
Couples with both men reporting same cohabitation duration	195	54
Couples with men reporting difference of 1 – 3 month duration	93	26
Couples with men reporting difference of more than 4 months	73	20
Days into relationship when first discussed HIV status		

Couple-level characteristic	N	%
Couples with both men reporting same number of days	180	50
Couples with men reporting difference of 1 – 10 days	103	28
Couples with men reporting difference of more than 10 days	78	22
Days into relationship when started having UAI		
Couples with both men reporting same number of days	179	50
Couples with men reporting difference of 1 – 10 days	60	17
Couples with men reporting difference of more than 10 days	122	33
Days into relationship when sexual agreement was first established ^d		
Couples with both men reporting same number of days	50	24
Couples with men reporting difference of 1 – 30 days	58	28
Couples with men reporting difference of more than 30 days	99	48

Note.

^a Other included MSM who self-identified as Asian, Native American Indian, Native Hawaiian/Pacific Islander, or having another race not listed.

^b Data represents self-reports of UAI that occurred during the three months prior to assessment.

^c Reported by 506 MSM who indicated having a sexual agreement with their main partner.

^d Reported by 207 couples who concurred about having established a sexual agreement.

TABLE 2

Primary Reason Reported for Establishing a Sexual Agreement With Their Main Partner

Primary reason for establishing sexual agreement	N = 506	%
Minimize HIV/STI risk	115	23
Wanting monogamy/exclusivity	78	15
Fulfill sexual desires within and/or outside relationship	74	15
Establish guidelines to manage expectations	72	14
Build and maintain trust	51	10
Clear and open communication	26	5
Maintain and strengthen relationship	21	4
Commitment to each other	21	4
Honesty	18	4
Love	17	3
Prevent infidelity	13	3
Respect and fairness	13	3
Satisfy main partner	8	2
Understanding	7	1
Comfort level	6	1
Cheated on in prior relationship	6	1
Intimacy	5	1
Avoid jealousy	4	< 1
Had sexual agreement in prior relationship	2	< 1
Other	12	2

TABLE 3

Characteristics of Sexual Agreements Reported by 506 Partnered Gay Men

Characteristic	N	%
MSM who reported having a sexual agreement with main partner	506	70
Original type of sexual agreement ^a		
Only have sex with main partner	319	63
Sex with each other and allowed to have sex with casual partners under certain guidelines	171	34
Sex with each other and allowed to have sex with casual partners without any guidelines	16	3
Current type of sexual agreement ^a		
Only have sex with main partner	284	56
Sex with each other and allowed to have sex with casual partners under certain guidelines	206	41
Sex with each other and allowed to have sex with casual partners without any guidelines	16	3
Discussed sexual agreement explicitly when first established	348	69
Sexual agreement ever broken in the relationship		
Yes – by one or both men in the couple	159	31
No – both men in the couple kept their agreement	347	69
Sexual agreement broken within the previous three months		
Perceived that main partner broke	26	5
Self-reported break	46	9
Disclosed break to main partner within previous three months ^b		
No	32	70
Yes	14	30
Primary reason for disclosing recent break to main partner ^c		
We believe in and practice open lines of communication with each other	8	57
I told him because it was just the right thing to do	1	7
Trust	4	29
Part of our agreement includes full disclosure of any breaks	1	7
Primary reason for not disclosing recent break to main partner ^d		
I didn't want to give him a reason to not trust me	17	53
I feared that the relationship would end if I told him	10	31
I didn't know how to tell him	5	16
	M	SD
Number of times men reported talking about their sexual agreement ^e	4.3	10.7
Number of breaks in sexual agreement by self ^e	3.0	3.9
Perceived number of breaks in sexual agreement by main partner ^e	1.6	1.0

Note.

^aData on types of sexual agreements are based on men (n = 506) who reported having an established sexual agreement with their main partner.

^bPercentages are among the 46 men who self-reported recently breaking the sexual agreement.

^cPercentages reflect the 14 men who disclosed their recent sexual agreement break to the main partner.

^d Percentages reflect the 32 men who did not disclose their recent sexual agreement break to the main partner.

^e Data reported by participants are events that happened within the previous three months.

TABLE 4

Primary Reason Reported for Breaking the Sexual Agreement With Their Main Partner

Primary reason for breaking agreement	N = 46	%
Sexually frustrated (within relationship)	13	28
Horny/heat of the moment	11	24
Opportunity came up	6	13
Sex addiction	3	7
Rebellion (toward main partner/relationship)	3	7
Miscommunication	1	2
Intoxicated	1	2
Other ^a	8	17

Note.

^a Other also included six men who indicated *how* they recently broke the sexual agreement with their main partner, but not the reason why (e.g., had UAI with someone else).

TABLE 5

Couples' Concordance About Their Sexual Agreement Establishment, Type, Discussions, and Adherence

Characteristic	N	%
Establishment of a sexual agreement ***		
Couples with one male who reported having a sexual agreement	92	25
Couples with both men who reported not having a sexual agreement	62	17
Couples with both men who reported having a sexual agreement	207	57
Couples who concurred about their original type of sexual agreement ***	166	80
Only have sex with main partner ^a	103	62
Sex with each other and allowed to have sex with casual partners under certain guidelines ^a	61	37
Sex with each other and allowed to have sex with casual partners without any guidelines ^a	2	1
Couples who concurred about their current type of sexual agreement ***	174	84
Only have sex with main partner ^b	92	53
Sex with each other and allowed to have sex with casual partners under certain guidelines ^b	81	47
Sex with each other and allowed to have sex with casual partners without any guidelines ^b	1	< 1
Type of discussion when sexual agreement was first established **		
Couples who concurred their discussion was explicit ^c	121	58
Couples who concurred their discussion was more implied and assumed ^c	22	11
Couples who reported discordance about their type of discussion ^c	64	31
Sexual agreement ever broken in relationship ***		
Yes – by both men in the couple	13	6
Yes – by one male in the couple	73	40
No – both men in couple kept their agreement	112	54
Sexual agreement broken in relationship within previous three months ***		
Yes – by both men in the couple	10	5
Yes – by one male in the couple	31	15
No – both men in couple kept their agreement	166	80

Note.

^aRow percentages are based on the 166 gay male couples who concurred about their original type of sexual agreement.^bRow percentages are based on the 174 gay male couples who concurred about their current type of sexual agreement.^cRow percentages are based on the 207 gay male couples who concurred about establishing a sexual agreement.*
 $p < 0.05$ **
 $p < 0.01$ ***
 $p < 0.001$

TABLE 6

Differences in Endorsed Allowed Sex-related Behaviors by Type of Partner and Sexual Agreement Among the 207 Couples Who Concurred About Their Current Type of Sexual Agreement

Allowed behavior	Closed agreement				Open agreement with guidelines				Open agreement without guidelines			
	92 Couples, 184 MSM				81 Couples, 162 MSM				1 Couple, 2 MSM			
	Main partner	Others	All	%	Main partner	Others	All	%	Main partner	Others	All	%
UAI	%	%	%	%	%	%	%	%	%	%	%	%
Receptive UAI, no ejaculation	49	0	0	38	5	12	0	0	0	0	0	0
Receptive UAI, with ejaculation	76	0	0	55	2	17	0	0	0	0	0	0
Insertive UAI, no ejaculation	52	0	0	36	5	15	0	0	0	0	0	0
Insertive UAI, with ejaculation	76	0	0	54	3	25	0	0	0	0	0	0
Oral sex												
Give and/or receive unprotected oral sex, no ejaculation	77	0	0	11	12	60	0	0	0	0	100	100
Receive unprotected oral sex and be swallowed	88	0	0	28	5	56	50	0	50	0	50	50
Give unprotected oral sex and swallow	86	0	0	36	4	50	50	0	50	0	50	50
Masturbation	96	0	2	10	2	84	0	0	0	0	100	100
Cuddling	91	1	5	22	2	69	0	0	0	0	100	100
Kissing, no tongue	74	2	5	10	1	69	0	0	0	0	100	100
Kissing, with tongue	92	2	2	18	2	75	0	0	0	0	100	100
Group sex	18	1	0	15	1	80	50	0	50	0	50	50
Repeat sex without main partner	--	1	--	--	46	--	--	100	--	--	--	--
Sex with close friend(s)	14	1	1	8	8	46	50	0	50	0	50	50
Sex not at home	69	0	0	18	6	64	50	0	50	0	50	50
Sex at home	90	0	1	25	4	62	0	0	0	0	50	50
Exchanging contact information	32	6	9	10	13	65	0	0	0	0	100	100
Conversation about HIV status	54	3	10	12	5	77	0	0	0	0	100	100
Physically sleeping together	75	2	8	40	1	49	0	0	0	0	100	100
Dating	81	2	5	50	35	0	0	0	0	0	100	100

Note. Among gay couples who concurred about their current type of sexual agreement, column percentiles represent the proportion of men who selected the allowed sex-related behavior by partner type (only with main partner vs. only with others vs. all, indicating everyone/anyone) based on their current type of sexual agreement.

Demographic Differences Between Couples Concordance on Aspects of Their Sexual Agreement: Establishment, Type and Adherence

TABLE 7

Demographic	Establishment of a sexual agreement				Type of current sexual agreement				Adherence to sexual agreement			
	Couples		Couples		Couples		Couples		Couples		Couples	
	Both no	1 yes	Both yes		Closed	Open			Both broke	1 kept	Both kept	
	n	n	n	p ^a	n	n	n	p ^a	n	n	n	p ^a
HIV status of the couple												*
Negative	45	68	162		75	62	8		17	112		
Positive	5	7	16		5	6	1		1	9		
Discordant	12	17	29		12	14	0		7	19		
Race of the couple				**				***				
Interracial	23	39	62		37	16	3		6	44		
Non-interracial	39	53	145		55	66	6		19	96		
YMSM couple ^b								***				
Yes	35	53	109		61	38	5		15	79		
No	27	39	98	31	44		4		10	61		
Education						*						
Bachelor's or higher	31	41	100	40	45		5		14	66		
Less than a Bachelor's	31	51	106	52	37		4		11	74		
Employed												
Yes	50	77	161	75	62		8		21	108		
No	12	15	46	17	20		1		4	32		
Environment												
Urban & suburban	52	82	187	82	75		7		24	125		
Rural	10	10	20	10	7		2		1	15		

Note. Data within the type of sexual agreement column includes only the couples who concurred that they established a sexual agreement (i.e., 174 couples of the 207 couples). Similarly, data within the adherence to sexual agreement column only includes couples who concurred about their current type of sexual agreement (i.e., 174 couples).

^a Fisher's exact and Pearson's chi-square tests of association were used to assess whether a significant association existed between the demographic characteristics of the couples and aspects of their sexual agreement; the unit of analysis was the couple.

b YMSM represents young men who have sex with men couples. Specifically, yes under YMSM couple indicates one or both men in the couple were 29 years old and younger.

* $p < 0.05$
 ** $p < 0.01$
 *** $p < 0.001$