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Parental Monitoring, Parent-Adolescent Communication about Sex, and Sexual Risk among Young Men who Have Sex with Men

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Abstract

Parental monitoring and parent-adolescent communication about sex protect against HIV-related sexual risk behaviors among heterosexual adolescents, but it is unknown if these findings generalize to young men who have sex with men (YMSM). Sexual orientation-specific stressors, including “coming out” to parents, complicate the family context of YMSM. We examined associations between parental monitoring, communication about sex, outness to cohabitating parents, and sexual behaviors. Ethnically diverse YMSM ages 14–19 provided cross-sectional data ($n = 257$). Monitoring and outness to parents interacted to predict recent same-sex unprotected anal intercourse (UAI). For YMSM who reported mixed or uncertain outness to parents, higher levels of perceived parental monitoring were associated with greater risk of UAI. Higher levels of communication about sex were associated with greater risk of UAI for YMSM out to parents. Parental monitoring and communication about sex might not protect YMSM against sexual risk in the same way they protect heterosexual youth. Future research should examine whether adapted forms of family factors could protect YMSM, and family-based HIV risk-reduction interventions for YMSM should be attuned to the unique ways family factors function within this group.

Keywords

YMSM; adolescent sexual risk; parental monitoring; communication about sex; coming out

Introduction

The HIV epidemic and young men who have sex with men

Young men who have sex with men (YMSM) are severely affected by the current HIV epidemic in the United States (1, 2). Thirteen percent of new HIV infections are among individuals aged 13 – 24 each year, and more than half of these infections result from male-to-male sexual contact (3, 4). Moreover, HIV incidence among YMSM ages 13 – 29 increased from 2006 – 2009, especially among Black/African American YMSM, while incidence in other groups remained stable (2). HIV prevalence among YMSM ages 15 – 22

is alarmingly high and has been estimated at 7% (5). However, no effective intervention strategies have been developed to reduce HIV risk behaviors in samples of YMSM with a mean age less than 23 (6). In considering possible intervention approaches for YMSM, researchers have pointed to parents as an untapped resource for assistance in intervening to reduce these young men's risk behaviors (7). However, virtually nothing is known about how parents might influence sexual behavior among YMSM (8).

Parental influences on sexual risk behaviors

Despite the paucity of research on family factors and sexual risk in YMSM, a robust literature has examined parental influences on adolescent sexual behavior within presumably heterosexual populations. Parental monitoring and parent-adolescent communication about sex have been established as two important predictors of adolescent sexual behaviors (9-11). However, it is unclear whether these findings generalize to the family experiences of YMSM. Parent-child dynamics change in important ways when a child is gay or bisexual: family rejection is common (12, 13), communication can be strained (14, 15), and secrecy looms in families where a child has not yet "come out" (14, 16). In this novel family context it is unclear whether parental monitoring or communication about sex operate in the same manner, and no previous research exists to inform this question. Below we review the literature on parental monitoring and parent-adolescent communication among heterosexual youth, and we discuss how these elements of the family context could function differently for YMSM, paying particular attention to possible differences among youth who have or have not revealed their sexual orientation, or "come out," to their parents.

Parental monitoring and knowledge

Previous research has consistently demonstrated that parental monitoring is related to sexual risk behaviors of adolescents. In two separate reviews of research on parental influences on adolescent sexual behaviors, increased parental monitoring was protective against a variety of sexual risk behaviors, including early sexual debut, failure to use condoms, increased sex frequency, and sex with more partners (9, 10). Parental monitoring has been associated with decreased risk for contracting an STI in previous research (9), and time alone at home has predicted sexual risk variables in multiple longitudinal studies (10). Parental knowledge, or how much a parent knows about their child and their activities, is an important component of parental monitoring which some previous research has conceptualized as distinct from other components of parental monitoring (such as in-person supervision and family rules to increase parent control over child activities) (17). Although parental knowledge is associated with less adolescent sexual risk (18, 19), previous research has indicated that direct parent supervision and less time spent alone at home are the most influential with respect to reducing adolescent sexual risk-taking behaviors (10, 20).

The existing literature imparts almost no information about how parental monitoring influences the sexual behaviors of YMSM. No previous studies have examined the parental monitoring variables mentioned above within a sample of YMSM. Although it did not test monitoring per se, O'Donnell and colleagues (2002) found that parental knowledge of MSM behaviors (knowing that their son has had sex with a man) was not associated with recent

unprotected anal sex among a sample of Latino YMSM (21). No known studies of parental monitoring more generally have been conducted with YMSM.

Parent-child relationships are often strained for YMSM (12, 15, 22), and parents of LGB adolescents report disconnecting from their children after they come out (23). It is logical to assume that many YMSM would disconnect in some ways from their families as well, especially if they experience parental rejection. This could mean that YMSM do not spend as much time at home after coming out, and parents may not monitor their children as strictly after they have come out. If YMSM have not yet come out to their parents, they may be more likely to “sneak around” in order to maintain secrecy about their personal lives, thereby inhibiting effective parental monitoring.

Parent-adolescent communication about sex

Reviews of previous research conducted with heterosexual adolescents found that increased parent-child communication specific to sexual issues was associated with a number of adolescent sexual outcomes (24) and protected against early sexual debut, frequency of sex, and condom use (9). Adolescents who reported discussing condom use with their parents were more likely to report condom use at last sex than adolescents who had not discussed condom use with their parents (11).

No known studies have evaluated the influence of parent-child communication about sex on YMSM’s sexual risk behaviors. As discussed previously, parent rejection of sexual orientation is common (12, 15), and parents begin to perceive their children differently after they come out (23). As a result, parent-child communication changes in some ways following the disclosure of an adolescent’s sexual orientation to their parents. More specifically, it is possible parents feel as if they cannot effectively or appropriately communicate about sex with their LGB child, as parents may feel unknowledgeable about or uncomfortable with same-sex sexual behaviors. Finally, if YMSM have not disclosed their sexual orientation to their parents, they may receive sexual education from their parents that is not relevant to their same-sex attractions and behaviors, leading them to disregard communications about sexual issues with their parents.

Parent-Adolescent Relationship Quality as a Potential Confounder

One important factor which could confound the associations between both target family factors (monitoring and communication about sex) and outness to parents among YMSM is parent-adolescent relationship quality. Parent-adolescent relationship quality and attachment strength have been linked with outness to parents (25), parental monitoring (26), and parent-adolescent communication about sex (27). Parents are more likely to monitor adolescents frequently if attachment is strong (26), and parents with high quality relationships with their teens are more likely to have discussions with them about sexual topics (27). LGB adolescents are more likely to reveal their sexual orientation to a parent when they perceive a strong attachment to that parent (25). Because relationship quality could confound associations between outness and family factors, it is examined as a potential covariate for the present analysis.

Purpose and Hypotheses

The first aim of the present study is to determine how parental knowledge of a sons' sexual orientation influences the frequency of parental monitoring and parent-adolescent communication about sex reported by YMSM. Parents who are more aware of their sons' sexual orientation likely monitor their adolescents more effectively, as their monitoring efforts are not inhibited by their sons' attempts to maintain secrecy about their personal lives. However, for sexual communication, parents who are more aware of their sons' sexual orientation could feel less comfortable discussing sex with their adolescent. Thus, it is hypothesized that YMSM who are more open with their parents about their sexual orientation will report higher levels of parental monitoring and lower levels of parent-adolescent communication about sex than their YMSM peers who are less open with their parents about their sexual orientation.

The second aim of the present study is to examine whether family context (parental monitoring and parent-adolescent communication about sex) is associated with sexual risk behaviors among YMSM in the way it is among heterosexual youth. As discussed above, there are reasons to expect family factors might function differently within families of YMSM. However, this question has never been investigated empirically, and evidence from samples of heterosexual adolescents indicates family factors are generally protective against sexual risk among adolescents. Thus, it is hypothesized that higher levels of reported parental monitoring and parent-adolescent communication about sex will be associated with fewer sexual behaviors among YMSM, including HIV-related sexual risk behaviors. Finally, interactions between outness to parents and monitoring/communication will be explored for all outcomes to determine whether monitoring and communication function differently for YMSM depending on how open they are with their parents about their sexual orientation.

Method

Procedure

Data were collected as part of the Diverse Adolescents Sexual Health (DASH) study, a cross-sectional assessment of a variety of health behaviors and outcomes reported by an ethnically diverse sample of LGB adolescents. Adolescents were recruited from April 2007 to May 2010 through direct outreach at community centers serving LGB youth in four cities in the United States: Indianapolis, IN, Boston, MA, Philadelphia, PA, and Oakland, CA. In each of the four cities, one community-based organization that provided social and educational programming for sexual minority adolescents served as the base for recruitment and interviewing. The project was advertised through fliers, online social networking sites (i.e., MySpace and Facebook), direct outreach to youth who attended programming at the community based organizations, and through word-of-mouth from peer to peer.

Adolescents who arrived at one of the community centers to attend services or complete the DASH questionnaire were approached by a member of our study team. This member explained the DASH survey and assessed the adolescent's interest in participating. If an adolescent was interested in participating in the research, he was directed to an organization staff member who was not a member of the research study team. This additional step

allowed all adolescents involved in the study to speak with an unbiased person whom could ensure that no harm would come from participating in the survey. If the adolescent then reported interest in participating, a study team member obtained his verbal assent to participate and brought the youth to a private room in the offices of the community center.

All participating adolescents were then oriented to the Audio Computer Assisted Self-Interview (ACASI) program used to complete the questionnaire. The ACASI program allows the interviewee to listen to questions through earphones and enter their responses into a laptop computer. The increased privacy of this data collection method has been found to elicit higher response rates from adolescents on potentially sensitive variables such as same-sex sexual behaviors (28, 29). Participants were left alone to respond to the questionnaire, which was completed in 35-65 minutes. Finally, participants were compensated with a \$25 gift card upon completion of any portion of the survey. A waiver of parental consent was obtained to ensure that participation in the current study did not reveal participants' sexual orientation to their parents.

Participants

Inclusion criteria for the DASH study included being between 14-19 years old, and either (a) reporting a non-heterosexual (i.e. gay, lesbian, bisexual, queer, etc.) sexual orientation or (b) same-sex sexual behaviors involving genital contact within the past year. Participants were included in the present analysis if they identified their current biological sex as male and reported cohabitating with at least one parent at time of survey (i.e. living with a parent at least one day per week) ($n = 257$).

Sixty-seven percent of the sample identified their sexual orientation as gay, 25% as bisexual, and 8% identified as "queer" or with some other sexual orientation. Thirty-five percent of the sample identified their ethnicity as Black/African American, 30% as mixed, 22% as White/Caucasian, and 13% as something else (including Latino, Asian, Pacific Islander, and Native American). Participants' ages ranged from 14 – 19 ($M = 17.37$; $SD = 1.32$).

Measures

Parental monitoring: Parental monitoring was measured with six items from the youth version of the Loeber Supervision & Involvement Scale (30). This measure assesses parental knowledge (e.g. "How often do your parents or caregivers know where you are when you are away from home?" and "When you are out, how often do your parents or caregivers know what time you will be home?") and other aspects of parental monitoring, including rules about curfew ("How often do you have a set time to be home on school nights?") and facets of child disclosure to parents ("If your parents or caregivers are not at home, how often do you leave a note for them or call them about where you are going?"). Participants reported how often each item applied to their family situation using a five-point Likert scale (0: never; 1: rarely; 2: sometimes; 3: often; 4: always), and one composite mean score was calculated for each participant. The six-item scale evidenced strong internal consistency within this sample ($\alpha = .79$).

Communication about sex: Parent-adolescent communication about sex was assessed with ten items adapted from the Sexual Communication Scale (31). Items included asked participants if they had discussed issues with their parents such as when to start having sex, physical and sexual development, masturbation, handling pressure to have sex, condoms, HIV/AIDS, other sexually transmitted diseases, and choosing sex partners. Participants indicated how often they had discussed each issue with their parents or caregivers on a three-point scale (0: not at all; 1: once or twice; 2: several times), and one composite mean score was calculated for each participant. Internal consistency for the ten-item measure was strong within this sample ($\alpha = .89$).

Outness to cohabitating parents: Each participant reported how many parents or caregivers they lived with at time of survey and how open they were with each parent or caregiver about their sexual orientation. Participants rated each individual parent or caregiver's knowledge of their sexual orientation according to four categories, including: 0: "Person definitely does not know about my sexual orientation;" 1: "Person probably does not know about my sexual orientation;" 2: "Person probably knows about my sexual orientation;" and 3: "Person definitely knows about my sexual orientation." Only parents who participants lived with for at least one day per week were used in operationalization of outness in the present analysis. Participants were classified into three groups according to how open they were with their cohabitating parents about their sexual orientation: 0: not out to parents (all cohabitating parents probably or definitely did NOT know of their sexual orientation; $n = 50$); 1: mixed or uncertain outness to parents (all cohabitating parents *probably* knew of their sexual orientation OR there was a mixture of knowledge about their sexual orientation between their cohabitating parents [e.g. one cohabitating parent definitely knew about sexual orientation and one cohabitating parent probably did not know about sexual orientation]; $n = 59$)¹, and 2: out to all parents (all cohabitating parents definitely knew of their sexual orientation; $n = 148$).

General relationship quality: For each parent or caregiver listed, three items were used to assess participants' level of support from and closeness with that parent/caregiver. These items were previously used in the National Longitudinal Study of Adolescent Health (32) and included "How often do you enjoy doing things with this person?" "How often is this person warm and loving toward you?" and "How close do you feel toward this person?" Participants' responses were coded using a five-point Likert scale, and one composite mean score across all reported parents/caregivers was calculated for each participant. The three-item scale evidenced strong internal consistency within this sample ($\alpha = .91$).

Sexual behaviors: Finally, a variety of sexual behaviors were assessed in the DASH survey. First, all male participants were asked: "Have you ever had sexual contact with another male?" For this study, sexual contact was defined as any genital contact. Participants were

Footnote inserted here: ¹ To ensure it was appropriate to collapse YMSM who reported uncertain parent knowledge (i.e., parents who probably, but did not definitely, know) with YMSM who reported mixed parent knowledge into one group, we conducted analyses to determine if these groups differed significantly, and to examine whether primary study effects differed between these groups. To do this, we selected participants falling into these groups and dichotomized parental knowledge as mixed knowledge ($n = 24$) v. uncertain knowledge ($n = 35$). No significant differences were found among these two outness groups on mean levels of primary study variables or in estimating the associations between those variables.

also asked how many male sexual partners they had had in the past six months, and this outcome was dichotomized (no partners v. any partners). In addition, all participants who reported at least one male sex partner in the past six months were asked about specific sexual risk behaviors with other males, including any receptive or insertive anal sex without a condom in the past six months. This variable was also dichotomized for purposes of analyses (none v. any unprotected anal sex) into one unprotected anal intercourse (UAI) outcome.

Results

Bivariate Associations and Descriptive Statistics

Table I presents descriptive statistics for and associations among all continuous predictors, outcomes of interest, and demographic variables. As seen in Table I, age was correlated with monitoring and recent UAI, and as anticipated, general parent-adolescent relationship quality was correlated with parental monitoring, communication about sex, recent sex with another male, and any sex with another male. Thus, both age and relationship quality were included in subsequent analyses as covariates. For categorical demographics (sexual orientation, outness to cohabitating parents, ethnicity, and city of recruitment), ANOVAs and Chi-Square analyses were conducted to test their bivariate associations with family factors and sexual behaviors. Sexual orientation was associated with ever having sexual contact with another male ($\chi^2 = 7.04, p = .030$) and having sexual contact with a male in the past six months ($\chi^2 = 7.58, p = .023$). In both cases, participants who identified as gay or bisexual were more likely to report male sexual partners than participants who identified as queer or “other.” Outness to cohabitating parents was associated with ever having sexual contact with another male ($\chi^2 = 7.70, p = .021$) and having sexual contact with a male in the past six months ($\chi^2 = 10.96, p = .004$). For both sexual contact variables, participants who reported mixed/uncertain outness to parents were more likely to report sexual contact than participants who were not out to parents. Associations between outness and monitoring ($F = 3.54, p = .030$) and outness and general relationship quality ($F = 10.83, p < .001$) were significant, with participants who were out to all parents reporting higher levels of monitoring and relationship quality than participants who were not out to parents. City of recruitment and ethnicity were not significantly associated with any target outcomes or with perceived parental monitoring or communication about sex. Therefore, city and ethnicity were not included as covariates in subsequent analyses.

Mean group differences in family factors

The first aim of the current study was to examine whether participants’ outness to parents was associated with the degree to which their parents monitored and communicated about sex. Two one-way ANCOVAs were used to estimate mean values of monitoring and communication, respectively, across the three outness groups while controlling age and sexual orientation. Outness was associated with monitoring ($F = 4.28, p = .015$), such that participants who were out to all parents also perceived more parental monitoring efforts when compared to participants who were not out to parents. Outness was not associated with communication about sex.

To determine whether the observed differences in parental monitoring across outness groups occurred because of differences in relationship quality among these groups, we conducted an additional ANCOVA examining parental monitoring across outness groups utilizing all of the same covariates plus relationship quality. Outness was unassociated with monitoring above and beyond relationship quality ($F = 0.92, p = .399$). These results indicate perceived monitoring varies according to how much participants' parents know of their sexual orientation, but that this effect is likely driven by differences in general relationship quality.

Associations between family factors and sexual behaviors

The second aim of the current study was to determine whether parental monitoring and parent-adolescent communication about sex were associated with sexual behaviors of YMSM, including HIV-related sexual risk behaviors. First, using data from all participants, logistic regression models were estimated predicting ever having sexual contact with a male and having sexual contact with a male in the past six months from parental monitoring, parent-adolescent communication about sex, general parent-adolescent relationship quality, outness to cohabitating parents, age, and sexual orientation. In addition, each model included the interactions of outness to cohabitating parents with both monitoring and communication. Prior to computing interaction terms, parental monitoring and communication about sex were standardized (with mean zero) to reduce collinearity in the interaction terms and facilitate interpretation of regression coefficients (33). Results (see Table II) indicate neither parental monitoring nor communication were associated with ever having had same-sex contact, or with having had same-sex contact in the past six months. Parent-adolescent relationship quality was positively associated with the odds of reporting recent sexual contact.

Next, the subset of participants who reported some sexual contact with a male in the past six months ($n = 206$) were selected to examine predictors of recent UAI. Covariates in this analysis were the same as in the previous analyses. Results presented in Table II indicate greater parent communication about sex was significantly associated with risk for UAI. Although the interaction term for communication and outness was not significant, its presence in the model indicated a positive association between communication and UAI was present for participants who were out to all parents (the reference group for the analysis) but not necessarily for other groups (see Table II). Additionally, parental monitoring significantly interacted with outness to cohabitating parents to predict recent UAI.

Exploring interactions between family factors and outness in predicting UAI

The interaction between monitoring and outness in predicting UAI was probed across the three levels of outness to parents (see Figure I). For YMSM who were not out to parents, parental monitoring approached a positive association with UAI ($B = .717, p = .073$). For YMSM who reported mixed or uncertain outness to parents, parental monitoring had an even stronger positive relation to UAI ($B = .927, p = .019$). In this group, a one standard deviation increase in parental monitoring was associated with more than a two-fold increase in the odds of having had recent UAI ($OR = 2.527$). Among YMSM who were out to their parents, parental monitoring was unassociated with UAI ($B = -.355, p = .144$).

Discussion

Our findings suggest a number of ways sexual orientation could be related to parenting behaviors widely thought to be protective against adolescent risk behaviors. First, we found that outness to cohabitating parents was associated with parenting behaviors. YMSM who were out to their parents perceived more parental monitoring, and this effect was likely driven by higher reported general parent-adolescent relationship quality within these families. Additionally, while perceived parental monitoring and parent-adolescent communication about sex are generally protective against sexual behaviors among presumably heterosexual adolescent samples, results from the current study indicate these findings may not generalize to YMSM. On average, monitoring and communication were not protective against sexual activity or sexual risk for YMSM in this study, and for some subgroups of YMSM, parental monitoring and communication about sex were actually associated with greater risk of UAI.

Higher levels of perceived monitoring were associated with being out to parents in the present study, and, while not directly tested, this effect was likely mediated by general relationship quality. Because the current study used a measure of monitoring which emphasized perceived parental knowledge, a component of monitoring often dependent on adolescent disclosure to parents (34), the adolescent's willingness and comfort in disclosing details about his life would be key in providing the information parents require to have greater knowledge. Thus, our finding that YMSM who were out to their parents about their sexual orientation (something the adolescent likely disclosed to his parents in the past) also perceived more parental monitoring could be explained by YMSM's openness in sharing information about their life with their parents. In addition, previous research has linked parent-adolescent relationship quality and attachment strength to parental monitoring behaviors and also to adolescents' willingness to disclose information useful in monitoring efforts (26). LGB adolescents are also more likely to reveal their sexual orientation to their parents when relationship quality is high and they have strong attachments to their parents (25), so increased relationship quality could facilitate YMSM disclosure to parents, which would in turn allow parents to monitor more effectively. Thus, these findings could be indicative of long-standing patterns of positive parent-adolescent interactions within some families of YMSM which could have preceded the adolescent coming out.

The current study also suggests parental monitoring, commonly thought to be protective against adolescent risks, might not function similarly for YMSM. We identified no protective benefit of parental monitoring within the current sample, and our data suggest monitoring is related to risk for some YMSM (i.e., those whose parents were less aware of their sexual orientation). It is possible that parental monitoring efforts are thwarted within families of gay and bisexual young men in unique ways, leading parents to have incorrect or incomplete knowledge of their child's activities and whereabouts, especially when YMSM are not out to their parents. Previous research with heterosexual adolescents has shown that adolescents who perceive their parents as disapproving of activities they engage in are more likely to lie to their parents than adolescents who do not perceive disapproval (35). Thus, it is possible that monitoring efforts by parents of YMSM may be inhibited by their sons taking additional actions, including avoidance of disclosure or lying to parents, to conceal

aspects of their personal life, especially if they perceive their parents as rejecting of their sexual orientation. YMSM could be dishonest with their parents about their whereabouts in order to spend time with other YMSM, go online to meet other YMSM without their parents' knowledge, or, if a parent does not know about her son's sexual orientation, spend time with a potential sexual partner while his parent is not aware.

How open YMSM are with their parents about their sexual orientation moderated how parental monitoring was associated with reports of recent UAI. YMSM who reported uncertain or mixed outness to parents were more likely to report UAI when they also perceived more parental monitoring. For these groups of YMSM, higher levels of parental monitoring were associated with risk of UAI, whereas previous research has generally linked parental monitoring with protection against sexual risk. A risk association between monitoring and UAI approached significance for YMSM who were not out to parents as well. This is perhaps the most important issue raised by the current study, and it is possible that parental knowledge of sexual orientation fundamentally changes the ways in which parental monitoring functions within families of YMSM. When one parent knows and another does not, or when YMSM think there is a possibility that their parents know but have not yet explicitly discussed sexual orientation with them, parents' efforts to monitor could lead their sons to be increasingly secretive. This could be occurring within households of YMSM who are not out to their parents as well. In the context of trying to maintain secrecy, it might be more difficult for YMSM to plan for sex and thereby use condoms consistently. YMSM who are not out to all of their parents, but who are monitored closely, may not be able to keep condoms on their person or in their room at home for fear their parent will discover they are having sex, which could lead to a discussion about sexuality and sexual orientation.

While parental monitoring was not protective against sexual risk in the current study, it is still possible that adapted forms of monitoring could account for the unique family context of YMSM and protect against risk. Considering the above findings, parents whose child is not out to them might monitor their child's relationships in a way that will not protect against sexual risk. The lack of a protective effect in the current study could possibly be attributed to the inability of the current construct and measurement of parental monitoring (which is based on research with heterosexual adolescents) to fully capture the unique family context of YMSM. Monitoring behaviors not assessed in the current study, such as close parental monitoring of same-sex relationships, could help to limit opportunities for YMSM to engage in sexual behaviors. Future research should examine whether parental monitoring efforts tailored to the needs of YMSM might help to protect these adolescents from sexual risk.

In contrast to our hypothesis that parents of YMSM who were out would feel less comfortable discussing sex with their children, no differences in communication about sex were detected across outness groups. This could result from the relatively low rate of communication about sex for all participants ($M = .51$ for composite of all items, range = 0 – 2). Parents are less likely to communicate about sex with their children at all if the parent reports discomfort discussing sexual topics with their child (36). This likely explains the low level of communication about sex in the present sample, as parents of YMSM likely feel

uncomfortable talking about sex with their son if they either know or suspect he is gay or bisexual. The relatively low-levels of parent-adolescent communication about sex in the present sample may have hampered this study's ability to detect significant effects of communication.

However, a risk association between frequency of communication about sex and UAI for YMSM whose parents have full knowledge of their sexual orientation did emerge. This finding does not necessarily differ substantially from the literature on frequency of communication and risk among heterosexual adolescents, as some studies have also found positive associations between frequency of communication and sexual risk (38). The quality of parent-child communication about sex is pivotal, and there is evidence that certain stylistic aspects of parent communication about sex are more important than the frequency of sexual communication in terms of risk associations (39). Parents who are comfortable communicating with their adolescents about sex, are open and receptive during these conversations, give their adolescents direct advice about sex, and openly disagree with their children about sexual issues have adolescents who report fewer sexual risk behaviors (20, 39).

Effective communication about sex could be a more difficult task for parents of YMSM, making more frequent efforts by these parents less effective in reducing risk. For example, parents of YMSM frequently tell their sons they are worried they will contract HIV (40). It is possible that YMSM do not find these discussions helpful, and that parents' worries about HIV eclipse other issues during conversations about sex such as choosing partners and using condoms. In addition, the timing of initial conversations about sex between parents and adolescents has associations with sexual behaviors (41), and some parents of YMSM may discuss sex with their son as soon as they learn of his minority sexual orientation. The timing of this conversation might not be ideal, and its effectiveness could be detrimentally influenced by parents' concurrent emotional distress when learning their son is gay or bisexual (14). In these cases, increased frequency of communication about sex would not be protective and could confer additional risk for UAI.

Like any study, the contributions of the current investigation must be evaluated within the context of methodological limitations. The current study is limited by its cross sectional design, making it difficult to determine the direction of any possible causal associations. Researchers have found that bidirectional associations are common within parent-child relationships (42), and it is possible that some parenting behaviors assessed in the present study were driven by YMSM behaviors. Although we suggest that monitoring might increase risk, it is possible that associations between parental monitoring and sexual behaviors are a result of parents knowing about their son's sexual behaviors. For example, parents could know that their son is sexually active, and subsequently increase the frequency of their monitoring efforts. However, because we did not see any association between monitoring and having sex (only risk), we think this explanation is unlikely within these data. As noted above, YMSM who were out to their parents perceived higher levels of monitoring, and previous research from samples of both LGB and heterosexual adolescents indicates this is possibly because these YMSM have higher-quality relationships with their parents. One other possible explanation for this finding is that parents could increase their

monitoring efforts after finding out their son is gay or bisexual. Furthermore, if YMSM make attempts to hide their sexual orientation or activities from their parents by lying or sneaking around, this could also increase parents' efforts to monitor their sons. Future research should use longitudinal datasets to disentangle potential bidirectional associations between parent and child behaviors within families of YMSM.

Additionally, our measure of monitoring largely assessed perceived parental knowledge, and stronger associations could be found if more direct facets of monitoring were assessed (e.g., time spent at home with parents, adolescent disclosures to parents). Future research with YMSM should more thoroughly assess separate components of parental monitoring, including parental knowledge, adolescent disclosure of information to parents, and direct surveillance efforts by parents (34). Similarly, only the frequency of communication about sex was measured. While this is one important aspect of communication, a variety of dimensions of communication about sex are important, including parental comfort, openness, and knowledgeableness (20, 39), and these facets of communication could be compromised and/or complicated within families of YMSM. Finally, this study relied on youths' reports of their parents' behaviors. Although this method is common in the literature (12, 16), future research should confirm that our findings generalize when parents themselves are surveyed about their own behaviors and triangulate findings from both parent and child reports.

Our findings have multiple implications for future research assessing the family environments and sexual behaviors of YMSM. Given that family factors, particularly parental monitoring, appeared to operate differently for YMSM than they have throughout much of the literature on heterosexual youth, these findings should first be replicated in other samples of YMSM. Additionally, future research should explore the possible reasons why parent behaviors might be less protective for YMSM. As mentioned above, developing revised constructs and measures of parental monitoring and communication about sex that would more clearly capture and speak to the experiences of YMSM and their families will be key. Qualitative investigations with families of YMSM might be particularly well-suited for exploring these possibilities. Future research with YMSM should also make efforts to compare their experiences with parental monitoring and communication about sex to those of their heterosexual peers. Comparative studies would allow researchers to determine whether the frequency and/or qualities of these family factors are significantly different from how their heterosexual peers experience them.

The current study also has implications for clinical practice with YMSM, especially with regard to HIV risk-reduction interventions. Researchers have previously advocated for family-based HIV interventions for YMSM which incorporate parents (7). However, not all YMSM can be reached by family-based HIV prevention interventions. Only YMSM who have revealed their sexual orientation to at least one parent could be enrolled in this kind of intervention, and it is likely that most participants in these interventions would be out to all parents. Parent communication about sex was positively associated with UAI among YMSM who were out, suggesting that interventions should use caution when attempting to simply increase the frequency of parent communication about sex. Other forms of intervention, such as improving the quality of communication about sex, rather than frequency, could be

more fruitful. Such quality communication about sex likely hinges on parents developing comfort with and knowledge about same-sex sexual behaviors. In addition, instructing parents to communicate about sex at times when they are not feeling strong emotions (i.e. not during conflict) and in ways that do not concurrently communicate rejecting messages about their son's sexual orientation (e.g. "If you have sex, you'll get HIV.") could increase the quality and effectiveness of these communications.

A common element in parent interventions is educating parents about the importance of effective monitoring. However, frequency of monitoring was not found to be protective for any groups of YMSM in the present study, indicating that increasing parental monitoring (as we currently understand it) might not protect against sexual risk. Ensuring that parents are monitoring appropriate behaviors given their sons' sexual orientation would be key, and instructing parents to be attentive of their sons' same-sex relationships could be helpful. Moreover, our findings suggest that caution should be taken when addressing monitoring in households where knowledge of a child's sexual orientation is mixed or uncertain, as this could inadvertently increase sexual risk if the monitoring efforts are not attuned to the unique needs of YMSM. Family-focused HIV prevention strategies for YMSM should also pursue other avenues of intervention, such as decreasing parent rejection of sexual orientation and increasing family support for YMSM (12, 43).

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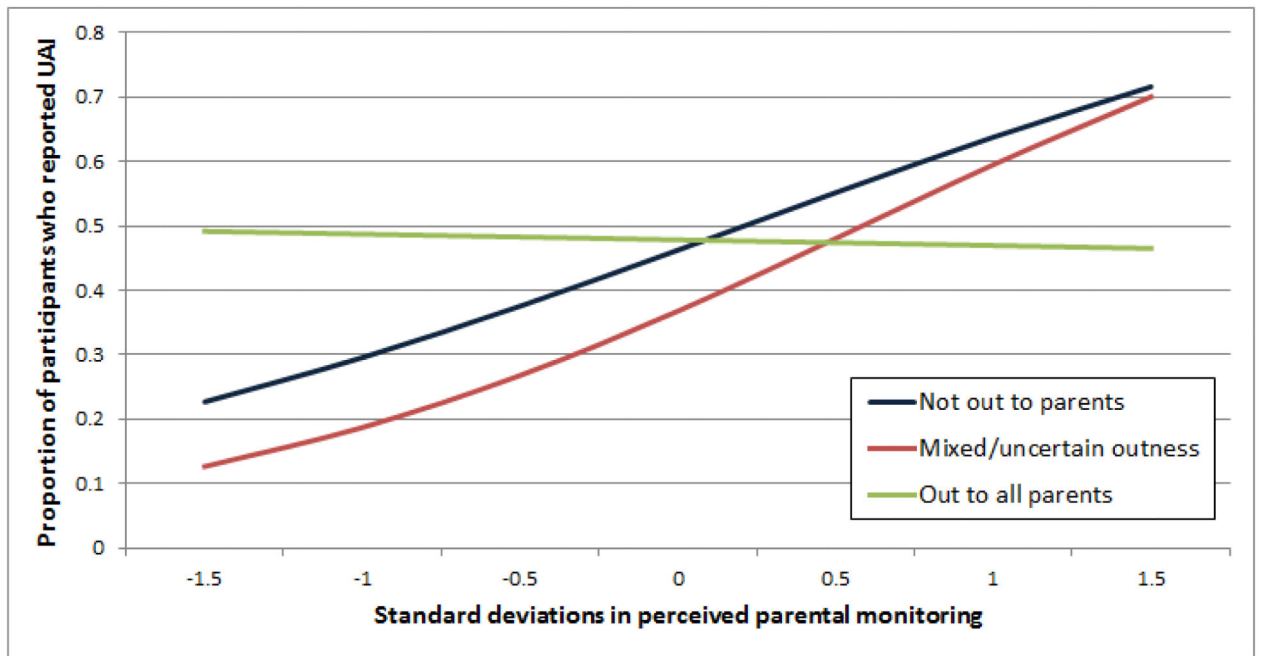


Figure I. Interaction of parental monitoring and outness to parents predicting proportion of participants who reported UAI in past six months.

Table I

Intercorrelations among primary study variables

Variable	M	SD	1	2	3	4	5	6	7
1. Age	17.37	1.32	-	0.02	-0.21 **	-0.05	0.05	0.10	0.08 *
2. Relationship quality	2.64	0.98		-	0.38 **	0.20 **	0.17 **	0.19 **	0.01
3. Parental monitoring	2.29	0.98			-	0.29 **	0.14 *	0.08	0.05
4. Sex Communication	0.51	0.46				-	0.08	0.05	0.06
5. Any sex w/ male	0.88	0.33					-	0.77 **	†
6. Recent sex w/ male	0.81	0.40						-	†
7. Recent UAI	0.49	0.50							-

Notes:

**
 $p < .01$,*
 $p < .05$,†
Correlations between UAI and other sexual behaviors not calculated because only participants who reported sexual contact with a male were asked questions about UAI.

Table II

Logistic regression models of sexual behaviors estimated from family factors, outness, and demographics

Predictor	Any sex with male ¹			Any sex w/ male in past six mo. ¹			UAI in past six months ²		
	Wald	Odds Ratio	(95% CI)	Wald	Odds Ratio	(95% CI)	Wald	Odds Ratio	(95% CI)
Age		1.201	(.878 - 1.643)		1.251	(.959 - 1.631)		1.138	(.890 - 1.453)
Sexual Orientation									
Gay		REF			REF			REF	
Bisexual		0.896	(.342 - 2.346)		0.699	(.321 - 1.523)		1.813	(.900 - 3.651)
Queer/Other		0.265*	(.082 - .862)		.265*	(.089 - .786)		4.676*	(1.081 - 20.224)
Monitoring		1.326	(.695 - 2.531)		1.228	(.700 - 2.155)		0.701	(.436 - 1.128)
Sex Communication		1.048	(.553 - 1.986)		0.795	(.478 - 1.320)		1.554*	(1.045 - 2.311)
Relationship Quality		1.378	(.902 - 2.106)		1.500*	(1.037 - 2.171)		0.855	(.602 - 1.215)
Outness to Parents	3.944			5.240			0.484		
Definitely Out (2)		REF			REF			REF	
Prob. Out/Mixed (1)		2.024	(.576 - 7.118)		1.259	(.515 - 3.077)		0.635	(.301 - 1.338)
Prob./Def. NOT Out (0)		0.532	(.200 - 1.418)		0.439	(.191 - 1.007)		0.938	(.383 - 2.299)
Interactions³									
Monitoring X Outness O	0.460			1.388			10.956**		
Monitoring X Outness I		0.871	(.364 - 2.082)		0.648	(.298 - 1.409)		2.922*	(1.187 - 7.195)
Monitoring X Outness II		1.282	(.413 - 3.982)		0.969	(.401 - 2.344)		3.603**	(1.501 - 8.648)
Communic. X Outness O	0.285			1.886			3.967		
Communic. X Outness I		1.316	(.469 - 3.693)		1.791	(.737 - 4.350)		0.487	(.191 - 1.242)
Communic. X Outness II		1.036	(.284 - 3.783)		1.537	(.577 - 4.095)		0.521	(.234 - 1.159)

Odds ratio calculated with all covariates in the model, and 95% confidence interval estimated around multivariate odds ratio.

Notes:

**
 $p < .01$,*
 $p < .05$ ¹ Analyses conducted on full sample ($n = 257$).² Analyses conducted on subsample reporting sexual contact with male in past six months ($n = 206$).³ Interactions with categorical predictor were calculated. 0: omnibus test of interaction; I: interaction comparing levels 0 and 2 of outness; II: interaction comparing levels 1 and 2 of outness.