Individual, Psychosocial, and Social Correlates of Unprotected Anal Intercourse in a New Generation of Young Men Who Have Sex With Men in New York City

Perry N. Halkitis, PhD, MS, MPH, Farzana Kapadia, PhD, MPH, Daniel E. Siconolfi, MPH, Robert W. Moeller, PhD, MEd, Rafael Perez Figueroa, MD, MPH, Staci C. Barton, BA, and Jaclyn Blachman-Forshay, BS

Objectives. We examined associations of individual, psychosocial, and social factors with unprotected anal intercourse (UAI) among young men who have sex with men in New York City.

Methods. Using baseline assessment data from 592 young men who have sex with men participating in an ongoing prospective cohort study, we conducted multivariable logistic regression analyses to examine the associations between covariates and likelihood of recently engaging in UAI with same-sex partners.

Results. Nineteen percent reported recent UAI with a same-sex partner. In multivariable models, being in a current relationship with another man (adjusted odds ratio [AOR] = 4.87), an arrest history (AOR = 2.01), greater residential instability (AOR = 1.75), and unstable housing or homelessness (AOR = 3.10) was associated with recent UAI. Although high levels of gay community affinity and low internalized homophobia were associated with engaging in UAI in bivariate analyses, these associations did not persist in multivariable analyses.

Conclusions. Associations of psychosocial and socially produced conditions with UAI among a new generation of young men who have sex with men warrant that HIV prevention programs and policies address structural factors that predispose sexual risk behaviors. (*Am J Public Health.* 2013;103:889–895. doi: 10.2105/AJPH.2012.300963)

Young men who have sex with men (MSM) continue to be at increased risk for the acquisition and transmission of HIV. Nationally, among those aged 13 to 24 years, the estimate of new HIV infections attributed to male-to-male sexual contact increased from 61% in 2006 to 71% in 2009.[1] In New York City between 2001 and 2008, 73% of HIV diagnoses among male adolescents and young adults were among young MSM.[2] These national and local surveillance data confirm that a third generation of MSM, a generation that did not witness the heightened morbidity and mortality of the early AIDS epidemic, continue to bear a disproportionate burden of HIV/AIDS. In addition to these epidemiological trends, adolescents and young adults are at heightened risk for HIV/AIDS because the periods of adolescence and young adulthood are marked by a higher prevalence of HIV-related risk behaviors such as unprotected sex and illicit drug use.[3,4] Moreover, these periods are often characterized by significant transitions and challenges for young MSM, specifically around the formation of sexual identity as well as coming out to family members and peers that may all coalesce to increase vulnerability for HIV.

To date, research related to HIV risk among MSM, and more specifically young MSM, has generally focused on understanding the influence of individual-level characteristics on risk-taking behaviors. For example, it is well established that factors such as educational attainment,[5] race/ethnicity,[6–8] sexual orientation,[9] age at sexual onset,[8,10] and relationship status[11,12] are associated with sexual risk-taking behaviors, such as engaging in unprotected anal intercourse (UAI). In addition, previous research indicates that those with a history of arrest and incarceration are more likely to engage in greater sexual risk behaviors than are those without such a history.[13,14]

More recently, research efforts have moved beyond examining individual-level characteristics by considering both protective and harmful psychosocial states that may either buffer against or exacerbate vulnerabilities that function as drivers of HIV-related sexual risk behaviors.[15,16] For instance, experiences of homophobia can often lead to discomfort with one's sexual identity and may act as a significant psychosocial stressor linked to increased sexual risk taking.[17,18] Conversely, young MSM with positive attitudes about homosexuality are less likely to have multiple sex partners and may be less likely to engage in UAI.[19] Finally, gay community affiliation may function to either protect against or exacerbate the risk for HIV transmission and acquisition.

Exposure and access to gay neighborhoods with norms promoting safer sexual behaviors may lead to safer sexual practices, such as consistent condom use, among MSM[20] as well as greater awareness about HIV education and services available to MSM.[21] However, higher gay community affinity among a younger generation of MSM may be associated with greater sexual risk taking in the absence of norms promoting safer sexual behaviors.[22]

Increasingly, empirical research has examined the impact of social factors for their association with sexual risk taking among MSM overall.[23] For example, several studies have linked poverty and economic disadvantage as socially produced risk factors associated with sexual risk taking among MSM.[24,25] These associations may be more pronounced among individuals with higher levels of residential or housing instability or homelessness because they may engage in sex work to secure vital material resources and therefore be at an increased risk for HIV transmission and acquisition.[24,26–28] Because of the need to understand the effect of individual, psychosocial,

and social factors on HIV risk among young MSM, we sought to characterize how these factors influence sexual risk behaviors, specifically UAI, in a sample of young MSM. These findings have the potential to inform novel HIV/AIDS-related prevention and intervention efforts for this new generation of men.

METHODS

We collected data between May 2009 and July 2011 from the baseline assessment of an ongoing prospective cohort study of young MSM. Briefly, the overall goal in the parent study was to follow the development of HIV-related risk behaviors and outcomes in a cohort of urban young MSM in New York City as they transitioned from adolescence into young adulthood.

We recruited participants across the 5 boroughs of New York City using active (e.g., approaching individuals to solicit study participation) and passive (e.g., posting flyers, advertising on Web sites) methods over 23 months between June 2009 and May 2011. Venue-based recruitment occurred at community events, afterschool events, service agencies, public spaces (e.g., parks, street corners, high pedestrian traffic areas), and bars, clubs, and nightlife venues.[29] Internet recruitment occurred via popular youth Web sites, social networking Web sites, and dating Web sites.

To be eligible for this study, prospective participants had to be aged 18 to 19 years at time of study entry, be biologically male, reside in the New York City metropolitan area, report having had sex with another man in the 6-month period before screening, and self-report a negative HIV serostatus. We ensured racial/ethnic diversity of our sample by setting a fixed number of participants in each targeted racial/ethnic group, so Black, Latino (across race), Asian/Pacific Islander, and multiracial or other men constituted the majority (> 66%) of the sample.

In the baseline assessment, we collected data on individual-level sociodemographics and behaviors, psychosocial characteristics, and social factors. We collected survey data via audio computer-assisted self-interviews to reduce the impact of differential reading ability, social desirability bias, and interviewer feedback. We collected data on recent sexual behaviors using the Timeline Followback measure (TLFB).[30] The TLFB is a semistructured, interviewer-administered assessment designed to collect detailed information about sexual behaviors during the 30 days preceding baseline assessment. The TLFB relies on critical life events as anchors to prompt recall of sexual behaviors on each day of the month and uses a personalized calendar to record all reported episodes of sexual activity. We remunerated all participants for their time and effort in accordance with local community guidelines.

We screened 2068 individuals for eligibility, the majority of whom were ineligible because of age. Of those eligible for the study, 602 young MSM completed the baseline between July 2009 and May 2011. Two were determined to be duplicates and 2 did not complete the full assessment, yielding a baseline sample of n = 598. Although a self-reported HIV-negative serostatus was required for initial enrollment in the study, we conducted HIV testing at baseline to confirm self-reported HIV serostatus. In this process, we detected 6 cases of HIV infection. We excluded these participants from the present analysis, yielding a final analytic sample of n = 592 confirmed HIV-negative young MSM.

Independent Variables

At the individual level, we collected data on sociodemographic characteristics, including race/ethnicity and perceived familial socioeconomic status categorized as lower, middle, and upper class. We derived educational enrollment from participant reports of whether they were currently enrolled in school or last grade completed. We assessed sexual identity using the 6-point Kinsey scale[31] (ranging from exclusively heterosexual to exclusively homosexual). For analytic purposes, we dichotomized sexual identity on this scale as exclusively homosexual versus not exclusively homosexual (6 vs < 6).

We asked participants if they were currently in a relationship with another man as an indication of current relationship status. In addition, participants indicated the age at which they first engaged in insertive anal intercourse and receptive anal intercourse, respectively, and whether that episode was consensual. Finally, we determined history of arrest by asking participants to report whether they had ever been arrested in their lifetime.

With regard to psychosocial-level characteristics, we captured gay community affinity by responses to the statement, "I feel part of the gay community in New York City," measured on a 5-point Likert scale ranging from strongly agree to strongly disagree.[22] We categorized scores as high (≤ 2) versus medium–low (≥ 3). We assessed gay-related stigma via 2 subscales of the HIV Stigma Scale that we modified to assess stigma associated with sexual orientation: personalized stigma (e.g., "I have been hurt by how people have reacted to learning I'm gay") and public attitudes (e.g., "Most people who are gay are rejected when others find out") on a 4-point Likert scale ranging from strongly disagree to strongly agree (Cronbach $\alpha = 0.80$ and 0.79, respectively).[32] We dichotomized scores as low versus high ($\leq 6, \leq 4$ vs $> 6, > 4$) for both subscales. We measured internalized homophobia using a 4-item scale (e.g., "Sometimes I wish I was not gay/bisexual/transgender.").[33] Participants indicated their response on a 5-point Likert scale ranging from strongly disagree to strongly agree (Cronbach $\alpha = 0.87$). We dichotomized scores as low (< 12) or high (≥ 12).

For factors at the social level, we dichotomized housing status as stably housed (e.g., primary residence in a family apartment or house) or unstably housed or homeless (e.g., primary residence in a shelter or abandoned building).[34] Finally, we measured residential instability by the number of moves participants had experienced since birth; we dichotomized scores as low (≤ 2) or high (> 2).[35]

Dependent Variable

Participants provided information on the frequency of unprotected anal insertive (insertive UAI) and anal receptive (receptive UAI) intercourse during the 30 days preceding the baseline interview. We first examined these behaviors separately as any insertive UAI and any receptive UAI. In doing so, we identified 81 (14%) and 65 (11%) young MSM who reported engaging in receptive UAI and insertive UAI, respectively; in addition, 31 (5%) reported both receptive UAI and insertive UAI. On initial examination of these 2 variables, we detected a nonnormal distribution arising from a high degree of zero responses as well as limited variability in the frequencies of reported receptive UAI and insertive UAI.

Reports of receptive UAI were positively associated with reporting insertive UAI (odds ratio [OR] = 8.70; 95% confidence interval [CI] = 4.93, 15.34). Because of the strength of this association, the distributional characteristics we observed during exploratory data analysis, and our overarching objective (i.e., to examine factors associated with UAI among young MSM), we collapsed receptive UAI and insertive UAI into 1 comprehensive measure of recent UAI (19%; n = 115). We examined recent UAI dichotomously as ever versus never in the 30 days preceding baseline assessment.

Statistical Analyses

We first conducted descriptive analyses to characterize the sample and assess the extent of UAI. Next, we used bivariate comparisons employing the χ^2 test of independence for categorical variables to compare individual, psychosocial, and social factors with self-reported UAI in the 30-day period preceding baseline assessment; we used the independent sample *t*-test to compare age of sexual debut variables. We included independent variables found to be significantly associated with recent UAI ($P < .05$) in bivariate analyses as well as those derived from a priori hypotheses in multivariable logistic regression models. In the unadjusted model (model 1), we entered variables singly to examine association with UAI.

In model 2, we examined individual-level covariates in the form of sociodemographic characteristics and sexual and relationship factors simultaneously in explaining UAI, while controlling for race/ethnicity. In model 3, we added psychosocial- and social-level factors to the model to assess the relative importance of these sets of factors to individual-level characteristics with UAI, again while controlling for race/ethnicity. We obtained the model of best fit by first retaining the individual-level factors associated with UAI and then considering that psychosocial- and social-level factors improved the fit of the final model. We assessed model fit by use of the –2 log-likelihood value.

RESULTS

In this sample of 592 young MSM aged 18 to 19 years (38% Hispanic/Latino, 29% White non-Hispanic, 15% Black non-Hispanic, 13% mixed or other race/ethnicity, and 5% Asian/Pacific Islander), the majority were currently enrolled in school (86%); yet a slightly smaller proportion perceived their socioeconomic status to be upper class rather than middle or lower class (Table 1). Age at sexual debut differed slightly by behavior type, with a slightly lower age at first receptive anal intercourse (mean = 16.2 years; SD = 1.8) than age at first insertive anal intercourse (mean = 16.3 years; SD = 1.7). Although reporting same-sex behavior with another man was an eligibility criterion for study entry, 41% of participants self-identified as exclusively homosexual and no individuals identified as exclusively heterosexual. Finally, a little more than one quarter of these men reported currently being in a relationship with another man.

In bivariate analyses (Table 2), young MSM who reported being in a relationship with another man at baseline were more likely to report UAI than were men not in a relationship ($P < .001$), as were young MSM with a lifetime history of arrest ($P = .03$). Additionally, young MSM not currently enrolled in school were more likely to report UAI, although this association only approached significance ($P = .079$). In terms of psychosocial factors, those who reported a greater sense of gay community affinity were more likely to report UAI ($P = .014$) than were those with lower levels of gay community affinity. However, young MSM reporting higher levels of internalized homophobia were less likely to report engaging in UAI ($P = .046$). With regard to social factors, young MSM reporting unstable housing conditions and greater residential instability were more likely to report engaging in UAI ($P < .001$ and $P = .011$, respectively).

Using multivariable analysis, we examined the relationship between individual-, psychosocial-, and social-level factors and UAI among young MSM (Table 3). We fit the model in 2 steps. Block 1 (adjusted model 1) included individual variables (relationship status and arrest history), and block 2 (adjusted model 2) included the individual variables with the addition of the psychosocial and socially produced variables (gay community affinity, internalized homophobia, current housing, and residential instability). We tested both models controlling for race/ethnicity. In the final adjusted model (model 2), controlling for race/ethnicity, UAI was positively associated with being in a relationship with another man (adjusted odds ratio [AOR] = 4.87; 95% CI = 3.07, 7.72) and a lifetime history of arrest (AOR = 2.01; 95% CI = 1.12, 3.60). Although gay community affinity was associated with UAI in unadjusted analysis, this association only approached statistical significance in adjusted analysis ($P = .1$). Similarly, whereas higher levels of internalized homophobia were associated with reduced likelihood of reporting

TABLE 1—Sample Sociodemographic Characteristics of Young Men Who Have Sex With Men Aged 18–19 Years: New York City, 2009–2011

Variable	No. (%), Mean ±SD, or Median (IQR)
Race/ethnicity	
Hispanic/Latino	225 (38.0)
White, non-Hispanic	173 (29.2)
Black, non-Hispanic	88 (14.9)
Mixed race	55 (9.3)
Asian/Pacific Islander	29 (4.9)
Other	22 (3.7)
School enrollment	
Enrolled	509 (86.0)
Not enrolled	83 (14.0)
Perceived socioeconomic status	
Lower	198 (33.4)
Middle	218 (36.8)
Upper	176 (29.7)
Sexual identity[a]	
Exclusively homosexual	245 (41.4)
Not exclusively homosexual	347 (58.6)
Relationship status	
In male–male relationship	157 (26.5)
Not in a relationship	435 (73.5)
Lifetime arrest history	
Arrested	90 (15.2)
Never arrested	502 (84.8)
Age at sexual onset, y	
Receptive anal intercourse	
Mean ±SD	16.2 ±1.8
Median (IQR)	16.5 (15–17)
Insertive anal intercourse	
Mean ±SD	16.3 ±1.7
Median (IQR)	17 (16–18)

Note. IQR = interquartile range. The sample size was n = 592.
[a]Derived from the Kinsey Sexual Identity scale.

TABLE 2—Bivariate Associations Between Individual, Psychosocial, and Social Factors With Unprotected Anal Intercourse in Young Men Who Have Sex With Men: New York City, 2009–2011

Variable	UAI (n = 115), % (No.) or Mean ±SD	No UAI (n = 477), % (No.) or Mean ±SD	χ^2 (*P*) or *t* (*P*)[a]
Race/ethnicity			2.077 (.838)
Hispanic/Latino	19.1 (43)	80.9 (182)	
White, non-Hispanic	21.4 (37)	78.6 (136)	
Black, non-Hispanic	15.9 (14)	84.1 (74)	
Mixed race	21.8 (12)	78.2 (43)	
Asian/Pacific Islander	13.8 (4)	86.2 (25)	
Other	22.7 (5)	77.3 (17)	
School enrollment			3.092 (.079)
Enrolled	18.3 (93)	81.7 (416)	
Not enrolled	26.5 (22)	73.5 (61)	
Perceived socioeconomic status			0.631 (.729)
Middle	21.2 (42)	78.8 (156)	
Lower	18.8 (41)	81.2 (177)	
Upper	18.2 (32)	81.8 (144)	
Sexual identity[b]			1.301 (.254)
Exclusively homosexual	21.6 (53)	78.4 (192)	
Not exclusively homosexual	17.9 (62)	82.1 (285)	
Relationship status			58.502 (< .001)
In male–male relationship	40.1 (63)	59.9 (94)	
Not in a relationship	12.0 (52)	88.0 (383)	
Lifetime arrest history			4.730 (.03)
Arrested	27.8 (25)	72.2 (65)	
Never arrested	17.9 (90)	82.1 (412)	
Gay community affinity			5.990 (.014)
High	24.1 (60)	75.9 (189)	
Medium–low	16.0 (55)	84.0 (288)	
Gay-related stigma, personalized			0.090 (.764)
High	19.9 (57)	80.1 (229)	
Low	19.0 (58)	81.0 (248)	
Gay-related stigma, public			0.334 (.563)
High	18.4 (52)	81.6 (230)	
Low	20.3 (63)	79.7 (247)	
Internalized homophobia			4.000 (.046)
High	14.0 (22)	86.0 (135)	
Low	21.4 (93)	78.6 (342)	
Current housing			11.313 (.001)
Stably housed	18.3 (102)	81.7 (455)	
Unstably housed or homeless	43.3 (13)	56.7 (17)	
Residential instability			6.446 (.011)
High	23.1 (77)	76.9 (257)	
Low	14.7 (38)	85.3 (220)	
Age at sexual onset, y			
Receptive anal intercourse[c]	16.167 ±1.950	16.162 ±1.760	0.024 (.981)
Insertive anal intercourse[d]	16.211 ±1.744	16.384 ±1.644	0.891 (.373)

Note. UAI = unprotected anal intercourse. The sample size was n = 592.
[a]χ^2 test used for all variables except for age at sexual onset, for which the *t*-test was used.
[b]Derived from Kinsey Sexual Identity scale.
[c]Number of respondents was n = 90 for receptive UAI and n = 328 for no receptive UAI.
[d]Number of respondents was n = 95 for insertive UAI and n = 323 for no insertive UAI.

UAI in unadjusted analysis, this association was no longer statistically significant in the final model (*P* = .583). Finally, both unstable housing or homelessness (AOR = 3.10; 95% CI = 1.32, 7.25) and residential instability (AOR = 1.75; 95% CI = 1.10, 2.79) were associated with greater odds of reporting UAI in this sample of young MSM.

DISCUSSION

The baseline data for this cohort of young MSM aged 18 to 19 years and residing in New York City indicate an overall prevalence of UAI of 19.4%. Although reports of UAI in this sample were slightly lower, they were consistent with prior studies of sexual risk behavior among young MSM.[11,36–38] Furthermore, although slightly more than a quarter of men in this sample was in a same-sex relationship at the time of the study interview, 40% of this group reported UAI, indicating a heightened exposure risk for HIV in this group. Additionally, although men who were not currently in a relationship were less likely to report UAI, serial casual episodes of UAI may still place them at greater risk for HIV infection.

Consistent with previous research, key individual-level factors were associated with reported UAI among young MSM. The first, being in a relationship with another man, was the strongest predictor of engaging in UAI. Although young MSM in primary relationships tend to report higher rates of UAI,[9,21,37] a subset of these men may engage in UAI only with a primary partner or only with HIV-seroconcordant partners, thereby negotiating safer sexual behaviors.[39] However, this negotiated safety may be undermined if a partner's serostatus is unknown,[21] if a partner or the participant engage in UAI with other individuals outside the primary relationship, or if there is rapid primary partner turnover or multiple serial partnerships in a short duration of time.[40–42] Because previous reports suggest that more than two thirds of HIV transmissions among MSM may be traced to primary or main partners,[43] HIV interventions and prevention programs that include components geared toward strengthening partner and relationship norms around safer sexual behaviors are critical to stemming HIV in this new generation of young MSM. Furthermore, this robust finding

TABLE 3—Binary Logistic Regression Analysis of Young Men Who Have Sex With Men: New York City, 2009–2011

Variable	UOR (95% CI)	Model 1, AOR[a] (95% CI)	Model 2, AOR[a] (95% CI)
Relationship status			
In male–male relationship	4.94 (3.21, 7.60)	5.16*** (3.32, 8.02)	4.87*** (3.07, 7.72)
Not in a male-male relationship (Ref)	1.00	1.00	1.00
Lifetime arrest history			
Arrested	1.76 (1.05, 2.95)	2.01* (1.15, 3.52)	2.01* (1.12, 3.60)
Never arrested (Ref)	1.00	1.00	1.00
Gay community affinity			
High	1.66 (1.10, 2.50)	. . .	1.47 (0.93, 2.33)
Medium–low (Ref)	1.00	. . .	1.00
Internalized homophobia			
High	0.60 (0.36, 0.99)	. . .	0.85 (0.49, 1.50)
Low (Ref)	1.00	. . .	1.00
Current housing			
Unstably housed or homeless	3.41 (1.61, 7.25)	. . .	3.10** (1.32, 7.25)
Stably housed (Ref)	1.00	. . .	1.00
Residential Instability			
High	1.74 (1.13, 2.66)	. . .	1.75* (1.10, 2.79)
Low (Ref)	1.00	. . .	1.00

Note. AOR = adjusted odds ratio; CI = confidence interval; UOR = unadjusted odds ratio. The sample size was n = 592.
[a]Adjusted models controlled for race/ethnicity.
*$P \leq .05$; **$P \leq .01$; ***$P \leq .001$.

calls for the continuation of prevention efforts that focus on relationship dynamics, condom negotiation, and negotiated safety in this new generation of young MSM.

Second, we identified a lifetime history of arrest among young MSM as a correlate of recent UAI. Such early experiences with incarceration and the lack of availability of condoms in jail and prison settings,[14] which may heighten risk related to both consensual and nonconsensual sex, may increase not only the risk of UAI in these settings but also the risk of UAI outside these settings.[44] Moreover, it is important to note that among young MSM, a history of incarceration has also been associated with increased mental health burden, substance use, homelessness, and sexual and physical abuse during adulthood.[13,14] For young MSM, an arrest history may be further marginalizing and may limit their employment opportunities or other protective factors.

With regard to psychosocial factors, we found that both higher levels of gay community affinity and lower levels of internalized homophobia were associated with increased likelihood of UAI in bivariate analysis but that these associations were no longer statistically significant in multivariate analysis. In terms of gay community affinity, prior studies have found that high levels of gay community affinity are inversely associated[45] or not associated[22] with sexual risk behaviors. We note these findings, although they may run counter to the general understanding of the influence of gay community affinity on UAI. These previous studies were conducted during a different period, when community-level norms of sexual risk and risk taking in gay communities may have been more conservative. Therefore, these previous associations may no longer be relevant to a newer generation of young MSM whose behaviors may be shaped by norms in the gay community that may be more accepting of unprotected sexual behaviors. As such, these associations merit further, more careful, and open exploration, as we recognize that community-level norms are not static but dynamic and reflect current sociocultural climates.

Furthermore, such investigations must attend to how sexual risk may be shaped not only by factors such as the context of the gay community and engagement with the gay community but also by the individual's characteristics that he brings to the gay community context. We recognize there is likely wide diversity in how young MSM define these constructs and that such investigations must seek to delineate how young MSM define gay community and community engagement.

Finally, in this sample of young MSM, gay community affinity was inversely related to internalized homophobia. As such, young MSM with lower levels of internalized homophobia were also more likely to report engaging in recent UAI. Although this bivariate finding is also counter to previous investigations of the association between psychosocial risk factors and UAI, it warrants further exploration in this new generation of young MSM. Moreover internalized homophobia may be related to other internalized conceptions of self and of worth, and collectively such self-perceptions may be fueled by societal conditions experienced by gay, bisexual, and other MSM and may influence sexual risk behaviors.

In terms of social factors, unstable housing or homelessness and residential instability

were associated with UAI. Young MSM who identify as gay men (like other lesbian, gay, bisexual, and transgender youth) leave home at younger ages and at higher rates than do heterosexual youth. Homelessness may be associated with sexual victimization,[25] sex work,[21,34] sexual risk behaviors, and substance use,[24] factors that may increase the risk for engaging in UAI and, ultimately, for acquisition and transmission of HIV infection. Furthermore, the psychosocial burden and instability of relationships associated with a lack of stable housing or transience[34] may erode protective factors and exacerbate risk behaviors for particularly marginalized homeless or unstably housed young MSM.

Limitations

We acknowledge some study limitations. As is the case with many behavioral studies, our findings are subject to the biases of self-report. However, our use of audio computer-assisted self-interview technology likely minimized the bias of underreporting or socially desirable responding, thus reducing concerns about information bias.

In addition, the use of psychometrically robust and culturally sensitive instruments increases our confidence in the data collected as well as the findings. Next, the use of the TLFB calendar-based technique as a means of gathering information on unprotected sexual behavior allowed us to collect sexual risk behaviors over a 30-day period—less than the more commonly used 3- or 6-month referent period.[46]

Although these data may underestimate sexual risk behaviors, they are more likely to accurately reflect sexual risk taking and are less subject to recall or memory bias.[46] Individuals tend to rely on episodic memory for short-term recall periods[46,47]; thus the TLFB, which uses episodic and contextualized recall of risk behavior, is well suited for the 30-day recall period we used.

We also note that the rates of behaviors in our sample even with a 30-day referent period are comparable to those reported in previous investigations using episodic and aggregate measures of sexual risk and with more extended time frames.[8] Finally, as is the case with cross-sectional data, we cannot make causal inferences with regard to the study findings.

Conclusions

Our findings suggest that psychosocially and socially produced conditions may be critical in understanding the sexual risk behaviors of this new generation of young MSM. Of particular significance is the finding that young MSM with arrest histories and unstable housing are more likely to engage in UAI. Such individual and structural vulnerabilities are consistent with previous research on young MSM[15] and on MSM in general,[48,49] and are informed by a theory of syndemic production.[3] In this view, the sexual risk behavior of young MSM is understood as not just an individual's behavior but also a vulnerability predisposed by socially produced conditions[3] and forms of structural violence, thus suggesting that a broader, more comprehensive approach to developing and delivering HIV public health interventions is warranted. Specifically, whereas structural interventions may be more appropriate for young MSM experiencing socially produced vulnerabilities, individual- and dyad-level components in HIV prevention interventions are still warranted, as young MSM continue to be at risk for HIV in the context of sexual and romantic relationships. ■

About the Authors

Perry N. Halkitis, Farzana Kapadia, Daniel E. Siconolfi, Robert W. Moeller, Rafael Perez-Figueroa, Staci C. Barton, and Jaclyn Blachman-Forshay are with the Center for Health Identity, Behavior, and Prevention Studies, Steinhardt School of Culture, New York University, New York. Perry N. Halkitis and Farzana Kapadia are also with the Langone School of Medicine, New York University.

Correspondence should be sent to Perry N. Halkitis, New York University, 82 Washington Square East, Pless 555, New York, NY 10003 (e-mail: pnh1@nyu.edu). Reprints can be ordered at http://www.ajph.org by clicking the "Reprints" link.

This article was accepted June 21, 2012.

Contributors

P. N. Halkitis was the principal investigator of this project and with F. Kapadia conceptualized the article and led all analyses. D. E. Siconolfi, R. W. Moeller, and S. C. Barton were project directors for this study and responsible for study implementation and data collection. All authors fully contributed to the writing and preparation of this article.

Acknowledgments

This work was supported by the National Institute on Drug Abuse (contract R01DA025537).

Human Participant Protection

The study protocol was approved by New York University's institutional review board, and a certificate of confidentiality (DA-09-002) was obtained from the Department of Health and Human Services, National Institutes of Health, National Institute on Drug Abuse.

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