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### Permalink

<https://escholarship.org/uc/item/4c43v2rx>

### Journal

AIDS Education and Prevention, 32(4)

### ISSN

0899-9546

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### Publication Date

2020-08-01

### DOI

10.1521/aeap.2020.32.4.282

Peer reviewed



Published in final edited form as:

*AIDS Educ Prev.* 2020 August ; 32(4): 282–295. doi:10.1521/aeap.2020.32.4.282.

## IMMIGRANT GENERATIONAL DIFFERENCES IN SOCIAL SUPPORT AND SEXUAL RISK BEHAVIORS AMONG MEN WHO HAVE SEX WITH MEN IN SEATTLE, WASHINGTON

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### Abstract

Different immigrant generations may encounter distinct sexual opportunities with implications for HIV transmission. Yet, few studies have examined how immigrant generational status is associated with sexual risk behaviors among men who have sex with men (MSM). We explored relationships between immigrant generational status, social support, and sexual risk behaviors among English-speaking MSM using data from surveys conducted in Seattle, Washington, in 2014 ( $n = 323$ ). We compared the sexual risk behaviors and social support of first-generation, second-generation, and third- and higher-generation MSM, and examined whether immigrant generational status and social support were associated with sexual risk behaviors using logistic regression models. Second-generation MSM reported lower friend social support than first- or third- and higher-generation MSM ( $p < .05$ ). However, immigrant generational status was not associated with sexual risk behavior outcomes, even after accounting for social support. Results suggest that differences in immigration processes such as acculturation may be more predictive of risk behaviors than generational status alone.

### Keywords

immigrant generational status; social support; sexual risk behaviors; men who have sex with men; HIV risk

### INTRODUCTION

Men who have sex with men (MSM) represent approximately 2% of the United States (U.S.) population but account for 67% of all new HIV diagnoses (Centers for Disease Control and Prevention, 2017, 2018; Singh, Song, Johnson, McCray, & Hall, 2018). Among MSM, disparities in HIV prevalence persist among racial and ethnic minorities—many of whom are first- or second-generation immigrants (Lewis & Wilson, 2017). While several studies

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Thanks to Claire Huang for her valuable contributions to the Mobile Study design and data collection, and to Yuanjin Zhou for her contributions to the data analysis presented in the manuscript.

have documented high rates of sexual risk behaviors among U.S. immigrant populations (Althoff et al., 2017; De Santis, 2012; Ertl et al., 2018), few have examined how immigrant generational differences among MSM may play a role.

Immigrant generational status confers a particular social position with implications for health behaviors and outcomes (Alegria, 2009). Generational status has been commonly used as an indicator or proxy measure for acculturation (Creighton, Goldman, Pebley, & Chung, 2012) with the notion that first-generation (foreign-born) individuals are more likely to retain practices or values of their heritage country than later generations (Matera, Stefanile, & Brown, 2011). Hence, second-generation immigrants (individuals with foreign-born parents) are often perceived to be more “acculturated” or familiar with the host society than their first-generation counterparts (Miller, 2010). These frameworks, however, tend to conceptualize a unidirectional process of immigrant adaptation, where immigrants adjust or assimilate to the host society (National Academies of Sciences, Engineering, and Medicine, 2015). This approach precludes the reciprocal effects between immigrants and native-born individuals (Abraído-Lanza, Armbrister, Flórez, & Aguirre, 2006; Creighton et al., 2012) and also assumes that static, American norms or a mainstream culture exists (Creighton et al., 2012). As acculturation does not fully capture the bidirectional process of immigrant integration nor does it account for generational differences among groups (Creighton et al., 2012; Harder et al., 2018), a focused examination of the role of generational status in shaping sexual risk behaviors among MSM is warranted.

Further, generational status may shape experiences of and access to social support among MSM in unique ways. Social support is an important consideration for HIV prevention interventions, as it can enhance quality of life and protect against poor mental health outcomes (Green, 1993). Several studies suggest that social support plays a protective role against sexual risk behaviors among MSM (Benotsch, Kalichman, & Kelly, 1999; Qiao, Li, & Stanton, 2014). Notably, the ways in which social support shapes sexual behaviors may largely depend on the source and function of support as well as the sociodemographic characteristics of the target MSM population (Green, 1993; Qiao et al., 2014). While several studies have focused on social support and sexual risk behaviors among diverse populations of MSM in the U.S., no study has examined these relationships with attention to immigrant generational status.

This study seeks to address this gap in the literature. The influence of generational status among MSM may be particularly unique given their marginalization as members of a sexual minority group. By documenting the relationships between immigrant generational status, social support, and sexual risk behaviors of MSM, this study aims to elucidate opportunities for targeted HIV prevention interventions. Specifically, we sought to determine whether sexual risk behaviors and social support differed by generational status among MSM in Seattle, Washington, an urban setting with a large population of diverse immigrants. We also examined the effects of generational status and social support on MSM’s sexual risk behaviors.

## METHODS

This study used data collected from a cross-sectional survey of MSM in Seattle, Washington, in 2014 as part of the Mobile Study ( $n = 339$ ). The Mobile Study was designed to measure migration rates, sexual behavior, and social support among MSM. To be eligible for the study, participants had to meet the following eligibility criteria: (1) MSM (identify as a man and report sex within the past 12 months with a man), (2) aged between 18 and 59 years, and (3) able to complete questionnaires in English. Notably, language of interview is among the most frequently used variable to measure acculturation (Haderxhanaj, Rhodes, Romaguera, Bloom, & Leichter, 2015), suggesting participants were comparable in their acculturation levels. As all participants completed the questionnaire in English, we were able to appropriately focus our analyses on generational status among MSM, with less potential of confounding by language or acculturation.

## PROCEDURES

Participant recruitment occurred in an STD clinic in downtown Seattle, Washington, where all patients completed screening questions at a kiosk. The study coordinator reviewed kiosk printouts that included the patient's clinic file to identify eligible participants. Eligible participants in the waiting room were invited to a private room where they were informed about the study. A total of 498 men were approached, and 360 men started the survey: a 72% response rate. Reasons for refusal included "no time" (41% of refusals), no specific reason given (39%), or failed to return to complete survey after agreeing (14%). Only 2 individuals, or 1.5% of refusals, were due to English language barriers. Out of 360 surveys, we dropped 21 because of incomplete data, for a final sample size of 339. Eligible and interested participants consented to participate in the study prior to completing the survey. The confidential questionnaires required approximately 45 minutes to complete and were administered through computer-assisted self-interview (CASI). All study procedures and protocols were approved by the Institutional Review Board at the University of Washington.

## MEASURES

**Sociodemographic Characteristics.**—The questionnaire assessed sociodemographic characteristics of MSM, including age, race/ethnicity, marital status, education, and income. Participants were also asked about their HIV status (HIV negative or HIV positive).

**Generational Status.**—Participants reported whether they were born in the U.S. and indicated the birth country of their mother and father. Participants who reported being born outside of the U.S. were categorized as first-generation immigrants. Participants who reported being born in the U.S. with either parent (mother or father) born outside of the U.S. were categorized as second-generation immigrants. Participants who reported being born in the U.S. with both parents also born in the U.S. were categorized as third- and higher-generation immigrants.

**Social Support.**—Social support was measured using the validated multidimensional scale of perceived social support ( $\alpha = .91$ ) (Dahlem, Zimet, & Walker, 1991; Zimet, Dahlem, Zimet, & Farley, 1988). Three subscales with strong factorial validity assessed

different sources of social support: (1) family ( $\alpha = .81-.90$ ), (2) friends ( $\alpha = .90-.94$ ), and (3) significant other ( $\alpha = .83-.98$ ) (Zimet, Powell, Farley, Werkman, & Berkoff, 1990). Participants responded to items on a 7 point-Likert scale (1: very strongly disagree, 7: very strongly agree). The responses to all social support items and the items for each subscale were averaged to calculate total social support scores and scores for family social support, friend social support, and significant other social support. Possible scores ranged from 1 (low social support) to 7 (high social support).

**Sexual Risk Behaviors.**—Sexual risk behaviors were assessed with questions about participants' sexual experiences and partners that have been shown to be associated with HIV transmission risk. Participants reported: (1) number of different men they had sex with in the last 12 months; (2) number of different men they had anal sex with in the last 12 months; (3) number of different men they had condomless anal sex with in the past 12 months; (4) number of different times they had condomless anal sex in the last 3 months; (5) whether the person they most recently had sex with was a main partner (person they feel committed to above anyone else and might call boyfriend/girlfriend, husband/wife, significant other, or life partner), casual partner (person they have sex with but do not feel committed to or do not know very well, or a regular partner who is not their main partner), or exchange partner (person they have sex with in exchange for things like money or drugs).

## STATISTICAL ANALYSES

First, we calculated descriptive statistics to characterize the overall sample stratified by immigrant generational status. We dichotomized responses for sexual risk behaviors into two groups for parsimony (lower risk vs. higher risk). As having multiple sex partners increases risk for HIV, participants reporting four or more male sex partners or four or more male anal sex partners in the past 12 months were considered higher risk groups, while those reporting three or fewer were grouped as lower risk (Koblin et al., 2006). Participants reporting more than one condomless anal sex partner in the last 12 months were categorized as higher risk and those reporting one or no condomless anal sex partner were considered lower risk (Rosenberg, Sullivan, Dinunno, Salazar, & Sanchez, 2011). The number of times participants had condomless anal sex in the last 3 months was recoded as no (= 0) or yes (= 1). Additionally, reports of last sex with a casual or exchange partner were grouped together as the riskier category, while reports of last sex with a main partner were categorized as lower risk (Rosenberg et al., 2011).

To determine associations between immigrant generation, social support, and each sexual risk behavior outcome, we conducted logistic regression models, controlling for sociodemographic covariates. Specifically, we performed two sets of analyses for all sexual risk behaviors. The first model examined generational status as the predictor variable for each higher risk sexual behavior outcome. The second model incorporated social support to assess its potential impact as a moderator between immigrant generation and the higher risk sexual behaviors. All analyses were conducted using STATA version 14.1.

## RESULTS

We examined data from 339 participants in the Mobile Study. Our final analyses included participants who reported information on generational status (whether participants and their parents were born in the U.S.) ( $n = 323$ ). Among participants, 13.6% of participants were first generation (born outside of the U.S.), 14.2% of participants were second generation (mother and/or father born outside of the U.S.), and 72.1% of participants were third and higher generation (born in the U.S.). The sociodemographic characteristics of participants are presented in Table 1, which provides overall distributions and distributions by generational status. Overall, the mean age of participants was 32 years. Approximately two-thirds (66%) of participants were White and 94% of participants were not married. About 41% of participants had completed college, and 79% of participants reported incomes of less than \$50,000. Results from  $\chi^2$  tests demonstrated that generational status groups significantly differed by race/ethnicity and HIV status. Third- and higher-generation participants were predominantly White (non-Hispanic) (77.9%) relative to second- and first-generation participants (39.1% and 31.8%, respectively). A greater percentage of third- and higher-generation participants reported positive HIV status (18.4%) than second- or first-generation participants (7.3% and 5.0%, respectively).

### SOCIAL SUPPORT AND GENERATIONAL STATUS

Overall, participants reported a mean total social support score of 5.3 from possible scores of 1 to 7. Examination of social support scores by generational status demonstrated key trends across total social support and subcategories (friend, family, significant other) of social support (Table 2). Specifically, second-generation participants reported the lowest social support scores (total and subcategories) relative to the other two groups. First-generation participants had the highest family and significant other social support scores while third- and higher-generation participants reported the highest friend and total social support scores. Notably, ANOVA analyses indicated that the only statistically significant group difference was across the friend social support scores ( $F = 3.13, p = .045$ ).

### SEXUAL RISK BEHAVIORS AND IMMIGRANT GENERATIONAL STATUS

Table 3 presents overall and immigrant generation specific reports of sexual risk behaviors. Among first-generation participants, 83% reported having sex with four or more different men in the last 12 months and 74% reported having condomless anal sex with four or more different men in the last 12 months. Among second-generation participants, 87% reported having sex with four or more different partners in the last 12 months and 64% reported having condomless anal sex with four or more different men in the last 12 months. Among third- and higher-generation participants, 75% reported having sex with four or more different partners in the last 12 months and 65% reported having condomless anal sex with four or more different men in the last 12 months. The majority of first-, second-, and third- and higher-generation participants reported having had condomless anal sex in the last 3 months. Overall, about 61% of participants' last sex occurred with a casual or exchange partner and 39% occurred with a main partner. Findings from  $\chi^2$  analyses indicated that immigrant generational groups did not significantly differ in reports of sexual risk behaviors.

## GENERATIONAL STATUS AND TOTAL SOCIAL SUPPORT AS PREDICTORS OF SEXUAL RISK BEHAVIORS

We conducted logistic regression analyses to assess whether immigrant generational status and total social support predicted sexual risk behaviors among MSM. We present results of the adjusted multivariate regression models with the third-generation participants as the referent group in Table 4. Across all sexual risk behavior outcomes, second-generation participants did not statistically differ in risk from first- or third- and higher-generation participants in the adjusted models. Further, generational status did not significantly predict the odds of engaging in riskier sexual behaviors (see Table 4). When including total social support in the model, the odds ratios for sexual risk behaviors almost uniformly declined, but the magnitudes of change were quite small. Total social support was negatively associated with the odds of participants' last sex being with a casual or exchange partner (AOR: 0.73; 95% CI [0.58, 0.91];  $p < .05$ ). Total social support was also marginally significant ( $p$  values nearing .05) in reducing the odds of having four or more male sexual partners and four or more male anal sex partners in the last 12 months (see Table 4). Notably, the adjusted odds ratios for social support predicting sexual risk behaviors were below 1.0 across all outcomes except for having had condomless anal sex in the last 3 months.

## DISCUSSION

The purpose of this study was to examine immigrant generational differences in social support and sexual risk behaviors of MSM. Results were based on a sample of English-speaking MSM recruited from an STD clinic in Seattle, Washington. Overall, second-generation participants tended to report lower levels of social support than first- or third- and higher-generation participants. Findings demonstrated that among this sample, generational status was not significantly associated with sexual risk behaviors, and that social support played a slightly protective role against sexual risk behavior outcomes, including last sex being with a casual or exchange partner in the adjusted models.

As mentioned, the dichotomized measures of sexual risk behaviors and the measure of total social support did not statistically differ by generational status. Notably, in negative binomial regression models conducted with outcomes as count variables, results were similar. While we expected differences in sexual risk behaviors among groups, the lack of significant differences has implications for HIV risk prevention with attention to generational status.

Findings suggest that several other factors may be at play that were not accounted for in the study. While similar acculturation levels among participants based on their ability to complete surveys in English were a strength in our study's objective to focus on the role of generational status, results suggest that language, acculturation, or other associated processes are important considerations for examining differences in sexual risk behaviors among MSM. As demonstrated in prior research, acculturation may be correlated with HIV-related health behaviors (Mizuno, Borkowf, Ayala, Carballo-Diéguez, & Millett, 2015; Sánchez, Rice, Stein, Milburn, & Rotheram-Borus, 2010). While immigrant generational status may shape social experiences and life circumstances, the pathways from these experiences that lead to acculturation or integration among immigrants may be more directly

linked to individual-level decision making. Further, we did not account for length of time in the U.S., which is an important consideration for immigrant integration and acculturation (National Academies of Sciences, Engineering, and Medicine, 2015). Hence, first-generation participants with longer time in the U.S. may be more integrated and similar to second- and third- and higher-generation participants than other first-generation participants. Additionally, country of origin may shape how acculturation or integration occurs; first-generation participants from English-speaking countries or countries with cultural and social similarities to the U.S. may experience integration more quickly than individuals from countries without English as their primary language that have greater cultural differences.

Notably, generational status groups statistically differed by race/ethnicity and HIV status. While differences in race/ethnicity by generational status were expected given the relationship between country of birth or parental country of birth and race/ethnicity, studies that examine generational status among MSM of the same racial/ethnic background may obtain more focused findings about generational status and target outcomes. While we controlled for race/ethnicity in the logistic regression models, we were unable to stratify results by both generational status and race/ethnicity due to sample sizes.

The finding that the third- and higher-generation group had a higher percentage of HIV-positive participants (18.4%) than did first- or second-generation participants (5.0% and 7.3%, respectively) may be attributable to several factors, including differences in HIV status by race/ethnicity, specifically the higher proportion of Black/African American third- and higher-generation respondents. Similar to most all other studies in the U.S., HIV prevalence among Black men in the sample was significantly higher than non-Black participants. Moreover, higher HIV prevalence in the U.S. relative to first-generation participants' countries of origin may be another potential explanatory factor. While second-generation participants were also born in the U.S., their social and sexual networks may be distinct from that of third- and higher-generation participants (Amirkhanian, 2014). Hence, the riskier sexual networks of third- and higher-generation participants may be attributable to the HIV status differences found in the study.

The finding that second-generation participants reported lower levels of social support than first- or third- and higher-generation participants aligns with frameworks suggesting that ethnic boundaries persist among networks (Windzio & Bicer, 2013). Specifically, second-generation MSM may find it more difficult to create friendships and close relationships due to ethnic or cultural boundaries. First-generation immigrants often have ties to places where they move, given that family and/or friends are often the impetus for relocation, and third- and higher-generation participants often have social support networks in place due to family or friend stability. Conversely, second-generation participants may feel somewhat caught in between cultures due to being born in a different country than their parents and not having established support networks (Padilla, Alvarez, & Lindholm, 1986). This experience may result in barriers to certain social networks and result in lower levels of social support among second-generation MSM.

As research has documented that social support and social networks can shape opportunities for sexual relationships and influence HIV risk among MSM (Amirkhanian, 2014), further



examination of how different types of social support develop for MSM in relation to generational status in the U.S. is warranted. Low social support may be associated with riskier sexual behaviors among MSM as the lack of emotional intimacy can lead to physical-intimacy seeking via sexual encounters (Dilley, McFarland, Sullivan, & Discepola, 1998; Saleh, van den Berg, Chambers, & Operario, 2016). Our findings suggested that social support may play a slightly protective role against higher risk sexual behaviors among MSM; yet the majority of participants across all generational groups reported engaging in riskier behaviors. Hence, exploration of how other factors linked to generational status shape social support and sexual risk among this population may provide greater insight into strategies for risk reduction.

Further, findings from the regression models demonstrated that social support significantly decreased the odds of sex with a casual or exchange partner. This finding highlights that participants with a main or steady partner may have greater social support. Alternatively, participants with greater social support may be more likely to have a main or steady partner.

Several limitations should be considered when interpreting study results. As a cross-sectional study, causality cannot be determined. The study's small sample size limited our ability to clearly identify associations. Length of time in the U.S. may be influential in migrants' acculturation or integration process and their access to social support, warranting longitudinal studies that account for this factor. Hence, a more multifaceted examination of immigration, acculturation, integration, race/ethnicity, and country of origin may capture the nuanced experiences of generational statuses and their roles in the sexual behaviors of MSM.

Further, as recruitment occurred in a clinic, participants may reflect a subset of the MSM population that is connected to health care and health services. Future studies should examine generational status and its role in sexual risk behaviors among a sample of MSM that captures diversity across several factors, including linkage to health care.

Notably, this study was conducted in Seattle, Washington, a metropolitan area currently recognized for its strong economy and liberal policies. Yet results are not generalizable to all MSM in Seattle or other metropolitan areas, as study participants may have resided outside of the Seattle area. Further, participants may have lived in different neighborhoods with disparate sociodemographic characteristics. Geographic areas and neighborhoods may vary in opportunities for sexual risk behaviors and/or social support for MSM (Keene, Bader, & Ailshire, 2013). Neighborhoods with higher levels of poverty, for example, may pose greater barriers to immigrant integration than do more affluent neighborhoods (Schieman, 2005). Neighborhood characteristics can also lead to experiences of discrimination or financial hardship among MSM, which have been shown to be associated with risky sexual situations (Ayala, Bingham, Kim, Wheeler, & Millett, 2012). Moreover, availability of and access to social support may largely depend on the interaction between individual-level characteristics such as language, socioeconomic status, and racial/ethnic background, and the predominant demographic characteristics of the neighborhood (Franzini & Fernandez-Esquer, 2004). While migration undoubtedly shapes the characteristics of neighborhoods, the neighborhood's history of migration and its attitudes toward migrants can have different

implications for different immigrant generations of MSM. For example, MSM who migrate to neighborhoods that are considered “immigrant friendly” and are accepting of sexual and racial/ethnic minorities may have different experiences than MSM who migrate to neighborhoods that are considered less so. Taken together, contextual considerations are invaluable for understanding how immigrant generational status and social support influence behaviors among MSM populations (Ayala et al., 2012). Future studies may pay greater attention to the specific social and physical environments in which different generational groups of MSM engage in behaviors. Moreover, linkages between specific locations of residence and generational status may provide a more dynamic picture of how contexts change with the entry of different immigrant generational groups.

Also important to note is that our sample included MSM aged between 18 and 59 years, and generational status may uniquely influence young or adolescent MSM who may not yet have disclosed their sexual identities or engaged in sexual partnerships (Glick & Golden, 2014). Further, given the importance of parental and family social support in shaping adolescent sexual risk behaviors (Luster & Small, 1994; Miller, 2002), social support may play a particularly unique role in the relationship between generational status and sexual risk among adolescent MSM (Glick & Golden, 2014).

Overall, our study demonstrated that generational status may not directly predict sexual risk behaviors among a sample of English-speaking MSM in Seattle, Washington. Hence, attention to the specific processes implicated by generational status, such as acculturation and integration, may explain why sexual risk behaviors were similar across groups. The immigrant integration process may be particularly unique for MSM populations; as MSM are more susceptible to victimization and discrimination than non-sexual minority groups (Harper & Schneider, 2003), migration to another location may present an opportunity to escape sexually oppressive situations (Carrillo, 2004). The new destinations of migrant MSM may offer immediate and vast opportunities for sex, allowing risky sexual behaviors to be more accessible (Kobrak, Ponce, & Zielony, 2015). Yet these behaviors may vary with time and other social and political factors that can affect access to social or sexual networks. While the U.S. may offer greater opportunities for risky sex for migrant MSM and lead to increased engagement in risky sexual behaviors, the appeal and novelty of these sexual opportunities may dissipate with time (Egan et al., 2011). Hence, first-generation MSM who become more integrated may begin to engage in behaviors that reflect second- or third- and higher-generation MSM (Egan et al., 2011). Subsequent studies may focus on this dynamic and time-variant aspect of the migration and integration process and its differential influences on sexual risk behaviors.

As the immigrant population continues to grow in the U.S., consideration of generational status and associated processes is critical for HIV prevention efforts for MSM. Migration can broaden the geographic spaces in which individuals’ networks reside, which have implications for individual, social, and contextual predictors of sexual behaviors and HIV risk. Closer assessment of these networks and the roles they play with attention to MSM’s generational status may further explain the complex findings of this study.

## Sources of support:

University of Washington Center for AIDS Research New Investigator award (NIH/NIAID P30 AI27757), and a Eunice Kennedy Shriver National Institute of Child Health and Human Development research infrastructure grant (P2C HD042828), to the Center for Studies in Demography and Ecology at the University of Washington.

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**TABLE 1.**Sociodemographic characteristics by generational status among MSM in Seattle, WA ( $n = 323$ )

|                        | Total <sup>a</sup><br>( $n = 323$ )<br>$n$ (%) | 1st generation<br>( $n = 44$ )<br>$n$ (%) | 2nd generation<br>( $n = 46$ )<br>$n$ (%) | 3rd+ generation<br>( $n = 233$ )<br>$n$ (%) |
|------------------------|--|---|---|---|
| Age (years)            |  |   |   |   |
| 18–24                  | 75 (23.22)                                     | 13 (29.55)                                | 10 (21.74)                                | 52 (22.32)                                  |
| 25–34                  | 145 (44.89)                                    | 19 (43.18)                                | 24 (52.17)                                | 102 (43.78)                                 |
| 35–44                  | 59 (18.27)                                     | 9 (20.45)                                 | 8 (17.39)                                 | 42 (18.03)                                  |
| 45 +                   | 44 (13.62)                                     | 3 (6.82)                                  | 4 (8.70)                                  | 37 (15.88)                                  |
| Race/ethnicity*        |  |   |   |   |
| White (non-Hispanic)   | 212 (66.04)                                    | 14 (31.82)                                | 18 (39.13)                                | 180 (77.92)                                 |
| Hispanic               | 53 (16.51)                                     | 13 (29.55)                                | 20 (43.48)                                | 20 (8.66)                                   |
| Black/African American | 22 (6.85)                                      | 0 (0.00)                                  | 1 (2.17)                                  | 21 (9.09)                                   |
| Asian                  | 25 (7.79)                                      | 15 (34.09)                                | 6 (13.04)                                 | 4 (1.73)                                    |
| Other <sup>b</sup>     | 9 (2.80)                                       | 2 (4.55)                                  | 1 (2.17)                                  | 6 (2.60)                                    |
| Marital status         |  |   |   |   |
| Married                | 19 (5.96)                                      | 4 (9.76)                                  | 3 (6.52)                                  | 12 (5.17)                                   |
| Not married            | 300 (94.04)                                    | 37 (90.24)                                | 43 (93.48)                                | 220 (94.83)                                 |
| Education              |  |   |   |   |
| High school or less    | 42 (13.08)                                     | 5 (11.36)                                 | 3 (6.52)                                  | 34 (14.72)                                  |
| Some college           | 148 (46.11)                                    | 16 (36.36)                                | 23 (50)                                   | 109 (47.19)                                 |
| Completed college      | 131 (40.81)                                    | 23 (52.27)                                | 20 (43.48)                                | 88 (38.10)                                  |
| Income                 |  |   |   |   |
| \$0–\$9,999            | 70 (23.41)                                     | 9 (23.68)                                 | 5 (12.20)                                 | 56 (25.45)                                  |
| \$10,000–\$19,999      | 50 (16.72)                                     | 4 (10.53)                                 | 4 (9.76)                                  | 42 (19.09)                                  |
| \$20,000–29,000        | 57 (19.06)                                     | 7 (18.42)                                 | 11 (26.83)                                | 39 (17.73)                                  |
| \$30,000–\$49,999      | 58 (19.40)                                     | 7 (18.42)                                 | 13 (31.71)                                | 38 (17.27)                                  |
| \$50,000 +             | 64 (21.40)                                     | 11 (28.95)                                | 8 (19.51)                                 | 45 (20.45)                                  |
| HIV status*            |  |   |   |   |
| HIV positive           | 44 (15.02)                                     | 2 (5.00)                                  | 3 (7.32)                                  | 39 (18.40)                                  |

<sup>a</sup>Total sample sizes for categories may vary due to missing data;<sup>b</sup>Other included Native Hawaiian, Pacific Islander, American Indian, and Alaska Native.\*  $p < .05$ .

**TABLE 2.**Social support by generational status among MSM in Seattle, WA ( $n = 323$ )

|                                   | <b>Total</b>  | <b>1st generation</b> | <b>2nd generation</b> | <b>3rd+ generation</b> | <b>ANOVA</b>           |
|-----------------------------------|---------------|-----------------------|-----------------------|------------------------|------------------------|
|                                   | <i>M (SD)</i> | <i>M (SD)</i>         | <i>M (SD)</i>         | <i>M (SD)</i>          |                        |
| Total social support <sup>a</sup> | 5.29 (1.42)   | 5.32 (1.29)           | 4.90 (1.78)           | 5.36 (1.35)            | $F = 2.12, p = .121$   |
| Family social support             | 4.84 (1.79)   | 5.00 (1.71)           | 4.58 (1.97)           | 4.87 (1.77)            | $F = 0.64, p = .529$   |
| Friend social support             | 5.59 (1.51)   | 5.47 (1.41)           | 5.12 (1.95)           | 5.71 (1.40)            | $F = 3.13, p = .045^*$ |
| Significant other social support  | 5.40 (1.71)   | 5.51 (1.60)           | 4.98 (2.01)           | 5.46 (1.66)            | $F = 1.60, p = .203$   |

<sup>a</sup>Scores ranged from 1 (low social support) to 7 (high social support).

\*  $p < .05$ .

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**TABLE 3.**Sexual risk behaviors by generational status among MSM in Seattle, WA ( $n = 323$ )

|  | Total <sup>a</sup><br>( $n = 323$ )<br>$n$ (%) | 1st generation<br>( $n = 44$ )<br>$n$ (%) | 2nd generation<br>( $n = 46$ )<br>$n$ (%) | 3rd+ generation<br>( $n = 233$ )<br>$n$ (%) |
|--|--|---|---|---|
| Number of different male sex partners in last 12 months            |  |   |   |   |
| 0–3  | 68 (22.15)                                     | 7 (17.07)                                 | 6 (13.33)                                 | 55 (24.89)                                  |
| 4+   | 239 (77.85)                                    | 34 (82.93)                                | 39 (86.67)                                | 166 (75.11)                                 |
| Number of different male anal sex partners in last 12 months       |  |   |   |   |
| 0–3  | 105 (34.09)                                    | 11 (25.58)                                | 16 (35.56)                                | 78 (35.45)                                  |
| 4+   | 203 (65.91)                                    | 32 (74.42)                                | 29 (64.44)                                | 142 (64.55)                                 |
| Number of different condomless anal sex partners in last 12 months |  |   |   |   |
| 0–1  | 106 (34.42)                                    | 16 (38.10)                                | 15 (33.33)                                | 75 (33.94)                                  |
| 2+   | 202 (65.58)                                    | 26 (61.90)                                | 30 (66.67)                                | 146 (66.06)                                 |
| Had condomless anal sex in last 3 months                           |  |   |   |   |
| No   | 66 (22)  | 11 (26.19)                                | 7 (16.67)                                 | 48 (22.22)                                  |
| Yes  | 234 (78)                                       | 31 (73.81)                                | 35 (83.33)                                | 168 (77.78)                                 |
| Partner type of last sexual partner                                |  |   |   |   |
| Main partner   | 119 (39.02)                                    | 14 (35.90)                                | 14 (32.56)                                | 91 (40.81)                                  |
| Causal/exchange partner  | 186 (60.98)                                    | 25 (64.10)                                | 29 (67.44)                                | 132 (59.19)                                 |

Note. Groups were not statistically significantly different at  $p < .05$ .

<sup>a</sup>Total sample sizes for categories may vary due to missing data.



**TABLE 4.** Logistic regression models predicting sexual risk behaviors among MSM in Seattle, WA ( $n = 323$ )

| Risk outcomes                                     | Model 1           |                   | Model 2           |                   | Model 1           |                   | Model 2           |                   | Model 1           |                   | Model 2           |                   |
|---|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|   | AOR (95% CI)      | AOR (95% CI)      | AOR (95% CI)      | AOR (95% CI)      | AOR (95% CI)      | AOR (95% CI)      | AOR (95% CI)      | AOR (95% CI)      | AOR (95% CI)      | AOR (95% CI)      | AOR (95% CI)      | AOR (95% CI)      |
| 4+ male sexual partners in last 12 months         | 1.51 (0.45, 5.05) | 1.37 (0.40, 4.68) | 2.63 (0.86, 7.98) | 2.50 (0.83, 7.89) | 0.94 (0.33, 2.65) | 0.89 (0.31, 2.52) | 0.85 (0.28, 2.60) | 0.81 (0.26, 2.48) | 1.08 (0.42, 2.78) | 1.13 (0.43, 2.95) | 1.08 (0.42, 2.78) | 1.13 (0.43, 2.95) |
| 4+ male anal sex partners in last 12 months       | 2.37 (0.76, 7.43) | 1.98 (0.62, 6.35) | 1.10 (0.46, 2.66) | 0.96 (0.39, 2.37) | 1.26 (0.52, 3.08) | 1.20 (0.49, 2.96) | 2.19 (0.66, 7.24) | 2.30 (0.69, 7.63) | 1.77 (0.74, 4.24) | 1.61 (0.64, 4.03) | 1.77 (0.74, 4.24) | 1.61 (0.64, 4.03) |
| 2+ condomless anal sex partners in last 12 months | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 |
| 2+ condomless anal sex partners in last 3 months  | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 |
| Had condomless anal sex in last 3 months          | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 |
| Had sex with casual/exchange partner              | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 |
| 3rd+ generation (ref)                             | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 |
| Total social support                              | 0.79 (0.61, 1.02) | 0.82 (0.66, 1.01) | 0.98 (0.79, 1.20) | 1.11 (0.88, 1.41) | 0.72 (0.58, 0.91) | 0.72 (0.58, 0.91) | 0.72 (0.58, 0.91) | 0.72 (0.58, 0.91) | 0.72 (0.58, 0.91) | 0.72 (0.58, 0.91) | 0.72 (0.58, 0.91) | 0.72 (0.58, 0.91) |

Note. All models controlled for sociodemographic covariates (age, race, marital status, education, income, and HIV status).

\*\*\*  $p < .01$ .