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## Sex, Status, Competition, and Exclusion: Intra-Minority Stress from Within the Gay Community and Gay and Bisexual Men's Mental Health

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### Abstract

Gay and bisexual men might face unique, status-based competitive pressures given that their social and sexual relationships often occur with other men, who are known to compete for social and sexual gain. In a multistage study, we tested intra-minority gay community stress theory – that status-focused elements of the gay community challenge the mental health of gay and bisexual men. We first created a measure of gay community stress with items derived from qualitative interviewing ( $n=49$ ); calculated its psychometric properties, including one-year temporal stability ( $n=937$ ); and confirmed its structural stability in distinct samples ( $n=96$ ;  $n=1,413$ ). Being stressed by perceiving the gay community's focus on sex, focus on status, focus on competition, and exclusion of diversity predicted gay and bisexual men's mental health over- and-above a comprehensive battery of traditional minority stressors ( $\beta=.17$ ,  $p<.01$ ) and mediated the influence of gay community status on mental health. To examine the impact of individual differences in status concerns (i.e., about masculinity, attractiveness, and wealth) on gay and bisexual men's feelings of within-community exclusion, a series of experiments manipulated 1) the sexual orientation (gay versus heterosexual) of rejecters ( $n=103$ ), 2) the social status of gay rejecters ( $n=83$ ), and 3) whether rejection from gay and bisexual rejecters was status-based or non-status-based ( $n=252$ ). Overall, these experiments provide partial support for the possibility that gay and bisexual men's status concerns underlie their experience of gay community stress. Together, these studies advance psychological and sociological accounts of gay and bisexual men's mental health beyond minority stress theory, with implications for intervention.

### Keywords

minority stress; LGBT community; status; masculinity; stigma

Sexual orientation disparities in mental health represent one of the most consistent findings in psychiatric epidemiology. Gay and bisexual men, in particular, are at increased risk of major depressive disorder, generalized anxiety disorder, and panic disorder as compared to heterosexual men (e.g., Cochran & Mays, 2009). Minority stress theory explains the source of this mental health disparity through gay and bisexual men's disproportionate exposure to social disadvantage, including the stress of discrimination, sexual orientation concealment, anxious expectations of rejection, and internalized homonegativity (Meyer, 2003a). Numerous studies using diverse methodologies support the association between exposure to these minority stressors and adverse mental health outcomes among gay and bisexual men (e.g., Newcomb & Mustanski, 2010; Pachankis, Ramrattan, & Goldfried, 2008). However, emerging evidence suggests that gay and bisexual men's exposure to minority stress may not fully explain the sizable mental health disparity they face (Mays & Cochran, 2001; Meyer, Schwartz, & Frost, 2008), yet additional sources of this disparity have rarely been proposed or investigated.

While minority stress theory represents the most common lens through which sexual minority individuals' mental health has been understood, we develop a novel theory suggesting that the mental health of gay and bisexual men, in particular, might be strongly determined by unique competitive pressures arising from the social and sexual stress of interactions *within* the gay community. This theory draws on the tenets of three others to suggest that gay and bisexual men in particular face a unique confluence of stressors apart from heterosexist stigma and distinct from those facing women and heterosexual men. Specifically, our theory of *intra-minority gay community stress* draws upon intrasex competition theory (Anderson, John, Keltner, & Kring, 2001; Singh-Manoux, Adler, & Marmot, 2003), sexual field theory (Green, 2014), and the theory of precarious manhood (Vandello, Bosson, Cohen, Burnaford, & Weaver, 2008) to suggest that gay and bisexual men face distinct stressors as a function of the status hierarchies affecting men in general which perhaps become magnified in communities made up of men who might be particularly compelled to show and defend their status.

Intrasex competition theory, an evolutionary theory of mate selection, suggests that because sexual benefits accrue to high-status men, competition among men is common and low-status men are at particular risk of stress, exclusion, and associated mental health symptoms. Substantial empirical evidence supports these tenets as applied to heterosexuals (e.g., Anderson, John, Keltner, & Kring, 2001; Singh-Manoux, Adler, & Marmot, 2003). Sexual field theory (Green, 2014) complements intrasex competition theory to suggest one way in which gay and bisexual men might be particularly stressed by these competitive, status-focused hierarchies. Namely, by virtue of sharing the same gender as their desired partners, gay and bisexual men can *size themselves* up using the same standards of social and sexual capital that they use to size up their potential partners. Using the language of sexual field theory, gay and bisexual men exist in the same structures of desire as their partners (Green, 2014), especially to the extent that the sexual fields surrounding gay and bisexual men are influenced by hegemonic standards of desirability (Levine & Kimmel, 1998). By this account, gay and bisexual men's looking glass self (Cooley, 1902) might be particularly reflective of one's own status measured against the status of the other gay and bisexual men in his playing field. To the extent that the general sociological field surrounding gay and

bisexual men is also characterized by these structures of desire, this stress might infuse gay and bisexual men's social, as well as distinctly sexual, interactions. Finally, because they exist against a societal backdrop that portrays them as "less than real men," gay and bisexual men might be particularly vulnerable to the status-based stressors of precarious manhood. The theory of precarious manhood (Vandello et al., 2008) would specifically suggest that gay and bisexual men might go to great lengths to defend their masculine status, perhaps even in their social and sexual interactions with other gay and bisexual men and perhaps even when such defenses come at a cost to their social and mental health.

In recent years, several lines of empirical evidence have converged to support these theoretical predictions that gay and bisexual men's mental health might be strongly influenced by their interactions with *each other* as a function of the status-based stressors noted above. First, gay and bisexual men often perceive other gay and bisexual men as upholding rigid notions of status, including masculinity, attractiveness, and wealth, which are perceived as stressful and disruptive of healthy identity formation (Blashill, 2011; Sánchez, Greenberg, Liu, & Vilain, 2009). Qualitative research finds that gay and bisexual men who are masculine, attractive, and wealthy possess the most sexual and social capital and therefore the most protection from status-based stress (Green, 2008). Second, compared to young heterosexual men, young gay and bisexual men in one study were more likely to derive their self-worth from status-focused success, which predicted their mental health difficulties across a daily diary observation (Pachankis & Hatzenbuehler, 2013), suggesting that gay and bisexual men might be particularly focused on their social standing. Qualitative findings suggest that gay and bisexual men's investment in status-focused success might be amplified at the community level, as gay and bisexual men compete with each other for social and sexual gain (Green, 2008). Finally, sexual, and maybe social, capital is distributed unequally in the gay community. Gay and bisexual men who are racial or ethnic minorities, older, HIV-positive, or bisexual, are argued to possess less sexual, and maybe social, capital than others, with clear implications for their wellbeing (Green, 2008; 2014; Haile, Rowell-Cunsolo, Parker, Padilla, & Hansen, 2014; McLean, 2008; White, Reisner, Dunham, & Mimiaga, 2014).

## The Present Study

Here we present a multimethod, multistage study to establish the importance of intra-minority stress to gay and bisexual men's mental health and the relevance of status concerns to this stress, consistent with the tenets of our emerging theory of intra-minority gay community stress. This theory assumes strong and pervasive status-based pressures surrounding gay and bisexual men, potentially even more psychologically taxing to gay and bisexual men's mental health than heterosexist stigma. Therefore, we hypothesize that intra-minority stress in the gay male community will explain gay and bisexual men's adverse mental health over-and-above traditional sources of minority stress as well as any general tendency to report life stress (Meyer, 2003b), thereby extending theoretical explanations for sexual orientation disparities in men's mental health beyond minority stress theory (Study 1). We also hypothesize that intraminority gay community stress will mediate the association between one's status in the gay community and their mental health. We also examine differences in intra-minority gay community stress by race and ethnicity, sexual orientation

identity, HIV status, socioeconomic status, relationship status, urbanicity of current residence, and age (Study 1). To experimentally test our theory, we further hypothesize that gay and bisexual men who possess lower social and sexual status, measured in terms of attractiveness, masculinity, and wealth, will experience more social stress upon being experimentally rejected by other gay men, but not when being rejected by heterosexual men (Study 2). We expect that the stressful effects of intra-minority rejection will be particularly strong when this rejection comes from higher-status gay men (Study 3). We also expect that gay and bisexual men of relatively lower perceived status will suffer the most stress and felt exclusion when rejected by other gay and bisexual men based on that status (Study 4). Overall, this set of studies investigates the phenomenon of intra-minority gay community stress and its source in status-based rejection concerns. The existence of such stress would not supplant the established role of minority stress on gay and bisexual men's mental health, but rather suggest a potentially distinct stress process through which gay and bisexual men's mental health can be compromised.

## Study 1

Study 1 seeks to provide initial evidence for the construct of intra-minority stress by uncovering its properties and testing its unique association with gay and bisexual men's mental health over-and-above traditionally-studied minority stressors. As our theory suggests that status concerns should be a predominant feature of gay and bisexual men's interactions with each other, we also sought to establish the association between intra-minority stress and one's status within the gay community. We first used multiple methods and multiple samples to develop a measure of intra-minority stress as perceived by a diverse group of gay and bisexual men. We then administered this scale to a large and geographically diverse sample of gay and bisexual men to assess relationships between intra-minority stress and mental health and the role of intra-minority stress in mediating the association between individual differences in gay community status and mental health.

## Method

**Scale**—We delineated the properties of intraminority gay community stress from in-depth qualitative interviews with 49 gay and bisexual men. Twenty of these men were recruited and interviewed in New York City in 2013; 29 were recruited and interviewed in New Haven and Hartford, Connecticut in 2014. Participants were recruited through advertisements posted to social and sexual networking websites and mobile applications (e.g., Craigslist, Facebook, Grindr) and in-person at gay community venues (e.g., bars, lesbian/gay/bisexual/transgender [LGBT] community events). Participants' mean age was 35.10 years ( $SD = 11.49$ ). Forty-one participants (84%) identified as gay and eight (16%) as bisexual. Eighteen participants (37%) were Black or African American, 20 (41%) were White, five (10%) were multiracial or another race/ethnicity, and six (12%) were Hispanic. Thirty participants (61%) had completed at least some college. The focus of the first set of interviews was on perceived associations among stress, health, and coping thus these interviewees were also selected for reporting significant symptoms of depression or anxiety and being behaviorally at risk of HIV infection (Pachankis, 2014). The focus of the second set of interviews was

broadly on stress, health, and perceptions of community in New Haven and Hartford without the specific health-related inclusion criteria.

Notably, the *a priori* purpose of these interviews was not to gather experiences of intra-minority stress. In fact, the idea for present study emerged from the repeated and unprompted mention of gay community stress across both samples of interviewees. The concept of intra-minority gay community stress was further developed through iterative and inductive coding. First, four trained research assistants independently reviewed transcripts and coded the data for indications of gay community stress, defined as experiencing stress or related emotions (e.g., anger, sadness, annoyance) from the actions of other gay and bisexual men, or specific mentions of the gay community as a source of stress. In order to identify the various properties of this broad concept, two trained research assistants then independently coded the resulting text for specific themes that described specific gay community stressors. The resulting comprehensive list of themes (i.e., body image, style demand, penis size, socioeconomic status, racial stereotypes, career success, idealizing hyper-masculinity, youth-driven, easy access to sex, difficulties maintaining monogamy, sexual pursuit of high-status partners, hyper-sexuality, valuing sex over relationships, small social networks, in-group cliquiness, lack of sincere support from friends, “shade” culture, recklessness towards others, materialism, rumors/cattiness, intra-minority conflict, judgment/criticism, social media, hookup apps, mistrust, excessive drinking and drug use, pressure to fit in, fear of HIV, discrimination toward men with HIV/STIs) was refined through a series of discussions among the coding team and subsequent reviews of the coded data. These themes were then translated into 27 scale items by a team of seven graduate students, postdoctoral fellows, and psychologists. To refine item wording and ensure comprehension, 12 gay and bisexual men who were diverse in terms of age, race/ethnicity, and geographic location completed these items, one-on-one in the presence of a member of our research team, while thinking aloud about item meaning and interpretation.

**Participants**—In February 2016, we administered these items to a sample of 1,409 participants recruited via the US’s largest gay and bisexual men’s sexual networking mobile application. To ensure adequate representation of gay and bisexual men across geographic locales, we recruited men in three waves. We first recruited men from the four largest U.S. cities (i.e., New York, Los Angeles, Chicago, Houston), which represented four distinct geographic regions (i.e., Northeast, West, Midwest, South). We then recruited men from 20 randomly selected small urban areas, defined as the 287 cities with a population of more than 100,000 excluding the ten most populous cities in the U.S (US Census, 2014). Finally, we recruited men from 20 randomly selected rural counties, defined as U.S. counties with a population of 250,000 or fewer (US Census 2013). Table 1 indicates the distribution of participants by population density.

Overall, 1,904 individuals completed an eligibility screen. Of these, 1,409 met the eligibility criteria including: being over age 18, currently living in the U.S., having been assigned male sex at birth, and identifying as a gay or bisexual man or reporting recent attraction to and sex with men. These participants proceeded with the survey and received a \$10 gift card, unless they elected to receive no compensation ( $n = 141$ ).

We omitted responses from participants who did not complete all demographic data ( $n = 114$ ), all Gay Community Stress Scale items ( $n = 139$ ), or the majority of minority stress ( $n = 448$ ) or outcome questionnaires ( $n = 363$ ). Our final analytic sample consisted of 937 respondents. As indicated in Table 1, we recruited a relatively diverse sample. The mean age was approximately 31. One-quarter of the sample identified as Hispanic and about one-quarter identified as bisexual. About half earned less than \$30,000 per year and about half resided in a large city. Retained participants were more likely to be younger, Hispanic, have a college education, identify as gay, and be single. All participants provided informed consent; the Yale University Human Subjects Committee of approved all studies in this manuscript under the following two protocols: “Gay community stressors among gay, bisexual, and queer men” (1512016893) and “Online social network study” (1611018686).

## Measures

**Gay Community Stress Scale (GCSS).** Instructions for the GCSS were: “In the first column, please indicate how much you agree that the statement is true. In the second column, please indicate how stressed you feel by that potential aspect of the mainstream gay community. We understand that the gay community can mean different things to different people. Please answer the following questions in regard to your perception of the mainstream gay community.” Participants completed the 29 items of the Gay Community Stress Scale using two item stems. To further confirm our qualitative findings and for descriptive purposes, participants indicated the extent to which they believed that the item was true (i.e., “How much do you agree that the following is true?”) using a five-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*). For all primary analyses, participants also indicated the extent to which they perceived the item to be stressful (i.e., “How stressed/bothered are you by this potential aspect of the mainstream gay community?”) using a five-point scale from 1 (*not at all stressed bothered*) to 5 (*extremely stressed bothered*). We also asked participants to respond to the following question: “Is there an aspect of the mainstream gay community we have missed but which causes you stress?” We initially presented 27 items derived from our qualitative thematic analysis to the first 115 participants (12.2%) recruited. Of these 115 participants, 26 (22.6%) responded to the write-in option. Six of these participants noted that racism within the gay community was a source of stress (sexual racism was already included) whereas four indicated that the gay community’s preoccupation with sexual position identity (i.e., top, bottom, versatile) was a source of stress. Therefore, all subsequently recruited participants ( $n = 822$ , 87.7%) completed the original 27 items plus two additional items reflecting racism and preoccupation with sexual position identities given their perceived importance as gay community stressors.

After confirming the normal distribution of each perceived stress item, we performed a principal components extraction on the 29 items to estimate the factorability of the matrix of GCSS items and number of factors. The Kaiser-Meyer-Olkin index of .96 suggested the factorability of the matrix and four factors with eigenvalues over 1.0 were extracted. We then performed a factor analysis using maximum likelihood estimation and oblique rotation on the 29 items. Again, we identified four factors with eigenvalues greater than 1.0 and based on inspection of the scree plot (see Figure 1). These four factors accounted for 63.99% of the variance. We removed nine items that were weakly correlated with any given factor (i.e.,



less than .45). No remaining items loaded onto more than one factor (i.e., loadings not different by at least .10).

The four resulting factors described stress resulting from perceiving the gay community's focus on sex ( $\alpha = .90$ ), focus on status ( $\alpha = .90$ ), social competition ( $\alpha = .93$ ), and exclusion of diversity ( $\alpha = .80$ ). The items of the perceived community focus on sex factor encompassed perceptions of the gay community's hyper-sexuality and risky sex as well as perceptions that the gay community is focused on sex at the expense of romantic relationships. The perceived community focus on status factor contained items regarding the gay community's valuing of wealth and prestige. The perceived community competitiveness factor consisted of items describing fighting, gossip, materialism, and judgment within the gay community. The perceived community exclusion factor included items describing racism, sexual racism, and exclusion of HIV-positive gay and bisexual men. Together, the 20 items demonstrated strong internal consistency ( $\alpha = .95$ ). Factor loadings of the resulting 20 items are shown in Table 2.

To confirm the structural stability of this four-factor structure, we then performed two confirmatory factor analyses (CFA), using maximum likelihood estimation, on the resulting 20 items using AMOS 23 (Arbuckle, 2014). In order to conduct these CFAs, we administered the scale to two samples. First, we administered the scale to a sample of young adult gay and bisexual men ( $n = 96$ ) ( $M$  age = 28.71,  $SD = 1.80$ ; gay = 86.5%, bisexual = 6.2%, queer = 7.3%) who were recruited from LGBT-focused groups on US college campuses in 2009, a notably distinct recruitment venue (e.g., college campuses versus social media) and time period (i.e., seven years prior to the present study) than that used to recruit the sample for the exploratory factor analysis described above, thereby offering a particularly strong test of the stability of the scale structure. Details about this specific sample are described elsewhere (Pachankis, Sullivan, Feinstein, & Newcomb, 2018).

Second, we administered the scale to a sample of gay and bisexual men recruited via gay-specific social media in December 2017 in Sweden ( $n = 1,413$ ) ( $M$  age = 36.0,  $SD = 13.2$ ; gay = 71.8%, bisexual = 24.7%, other = 3.5%). By testing the factor structure of the scale in Sweden, we provide another strong test of the scale's structural stability. Sweden contains among the highest gender and income equality in the world (United Nations Development Programme, 2018) and very few structural forms of disadvantage for sexual minorities (International Lesbian, Gay, Bisexual, Trans and Intersex Association - European Region, 2015). Finding support for the scale's factor stability in Sweden can help to establish its cross-cultural validity and its ability to help explain, in the future, the persistent and paradoxical sexual orientation disparities in mental health that exist in Northern Europe despite this region containing among the world's most tolerant attitudes toward sexual minorities (Aggarwal & Gerrets, 2014). Monte Carlo estimations demonstrate that both of these sample sizes are sufficient for performing a four-factor CFA with 20 indicators and factor loadings of the magnitude found in the exploratory factor analysis (EFA) described above (Wolf, Harrington, Clark, & Miller, 2013). The four factors were allowed to correlate given evidence for significant associations among the subscales in the EFA.

The two CFAs confirmed the structural stability of the scale in these new samples. Item loadings were highly similar to those found in the original factor analysis and we found identical fit for both a first-order model with the four latent subscale factors and a second-order model with an overarching second-order latent gay community stress factor (US student sample: RMSEA= .07 [90% CI: .05-.09], TLI= .92, CFI= .93; Swedish sample: RMSEA= .05 [90% CI: .05-.06], TLI= .94, CFI= .93) suggesting the appropriateness of examining either the subscales or the overall scale in subsequent analyses. Cronbach's alpha for the entire scale in the US student sample was .93 (perceived community focus on sex,  $\alpha = .90$ ; perceived community focus on status,  $\alpha = .87$ ; perceived community focus on competition,  $\alpha = .91$ ; perceived community focus on exclusion,  $\alpha = .81$ ) and in the Swedish sample was .96 (perceived community focus on sex,  $\alpha = .89$ ; perceived community focus on status,  $\alpha = .85$ ; perceived community focus on competition,  $\alpha = .92$ ; perceived community focus on exclusion,  $\alpha = .78$ ).

In order to confirm the temporal stability of our scale, we re-contacted participants from the primary study one year after their initial participation to complete the gay community stress measure again. Results from the 318 participants who were able to be re-contacted support the scale's one-year test-retest reliability ( $r = .55$ ).

**Demographics.:** Participants in the primary study indicated their age, sexual identity, race/ethnicity, HIV status, income, employment status, educational attainment, and relationship status. We asked participants to indicate the state, city, and ZIP code of their current residence, which we then linked to 2014 Census estimates of the population size of these locales.

**Minority stress.:** We administered measures of the stress constructs delineated in minority stress theory, including both distal, societally based stressors (i.e., discrimination) and proximal, psychological stressors (i.e., internalized homophobia, rejection sensitivity, concealment; Meyer, 2003a).

*Discrimination* was assessed with the Everyday Discrimination Scale (Williams, Yu, Jackson & Anderson, 1997), a nine-item self-report scale assessing the degree to which participants experience interpersonal discrimination in their day-to-day lives ( $\alpha = .92$ ). Previous research finds that this scale predicts mental health symptoms among sexual minorities (e.g., Mays & Cochran, 2001).

*Internalized homonegativity* was measured using the Internalized Homophobia Scale (Martin & Dean, 1992), a nine-item self-report scale assessing unease about same-sex desires, rejection of sexual orientation, and avoidance of same-sex attraction ( $\alpha = .92$ ). Previous research demonstrates associations between this scale and depression, anxiety, and relationship problems (e.g., Frost & Meyer, 2009).

*Gay-related rejection sensitivity*, or the anxious expectation of sexual orientation-based rejection, was assessed with the Gay-Related Rejection Sensitivity Scale (Pachankis, Goldfried, & Ramrattan, 2008). The 14-item self-report scale assesses anxious expectations of sexual orientation-based rejection across a number of ambiguously rejecting scenarios ( $\alpha$



= .92). Prior research demonstrates relations between this scale and gay and bisexual men's mental health (e.g., Pachankis, Goldfried & Ramrattan, 2008).

*Sexual orientation concealment* was assessed using the Sexual Orientation Concealment Scale (Meyer, Rossano, Ellis, & Bradford, 2002), a five-item self-report scale assessing the degree to which individuals have disclosed their sexual orientation to various groups of people ( $\alpha = .86$ ). Research demonstrates associations between this scale and internalized homonegativity and gay community connectedness (Frost & Meyer, 2009).

**General stress.:** To control for general tendencies to report stress, in all analyses we included a measure of general life stress during the past month, assessed using the Perceived Stress Scale (Cohen, Kamarck & Mermelstein, 1983). This 14-item self-report scale assesses the degree to which participants experienced general stress across various situations in the past month ( $\alpha = .78$ ). Previous research demonstrates associations between this scale and mental health outcomes across diverse samples of gay and bisexual men (e.g., Reed, Prado, Matsumoto & Amaro, 2010).

**Mental health symptoms.:** We used the Brief Symptom Inventory (Derogatis & Melisaratos, 1983) to capture depression, anxiety, and somatic symptoms across the past week using six items assessing depressive symptoms (e.g., "feeling blue"), six items assessing anxious symptoms (e.g., "feeling tense or keyed up"), and six items assessing somatic symptoms (e.g., "nausea or upset stomach") ( $\alpha = .94$ ). Research among diverse gay and bisexual male populations demonstrates consistent associations between this scale and several measures of minority stress and wellbeing among gay and bisexual men (e.g., Lelutiu-Weinberger et al., 2014).

**Gay community status.:** Participants responded to three items capturing individual differences in social and sexual status, selected based upon their prominence during our qualitative interviews and other qualitative studies of gay community interactions (Green, 2008). The measure consisted of an item assessing masculinity (i.e., "If someone compared you to other guys your age, they would say that you are:" with response options from 1 [*much more feminine*] to 5 [*much more masculine*] (D'Augelli, 2002); attractiveness (i.e., "How attractive are you?") with response options from 1 (*very attractive*) to 5 (*not at all attractive*) (Harris et al., 2009); and income (i.e., "Which best describes your total yearly personal income during the last year?" with response options from *less than \$10,000* to *\$100,000 or more*). Because these items loaded onto a single factor (loadings ranged .63 to .70) that accounted for 39.3% of the variance, we used the mean of the z score of each of these items as an index of status within the gay community.

**Data Analytic Plan—**No participants in the final analytic sample were missing demographic or mental health outcome data. Missing values for the minority stress predictors ranged from 3.8% to 5.2% and were imputed from demographic variables and relevant completed measures using PROC MI (SAS 9.4). Similarly, although no participants were missing values on the original 27 items of the Gay Community Stress Scale, we imputed values for the two items not completed by the first 115 participants from the other

27 items and demographic measures using PROC MI. All measures were normally distributed.

After establishing internal reliability, scale structure, and factor stability as described above, we tested our first hypothesis that intra-minority stress, now operationalized in terms of the scales four factors (i.e., stress from perceiving the gay community's focus on sex, focus on status, focus on competition, and exclusion of diversity), would predict mental health symptoms over-and-above minority stress and general life stress. We used linear regression to examine the association between the GCSS and mental health symptoms, controlling for demographic covariates, all distal and proximal minority stress measures, and general life stress. We then examined our second hypothesis, that intra-minority stress, operationalized as the four factors of the GCSS, would mediate the association between individual differences in status and mental health. To do so, we first used linear regression to estimate the association between status and GCSS and then GCSS and mental health symptoms after controlling for demographic covariates associated with mental health symptoms. A 95% bias-corrected bootstrap confidence interval for the product of these paths that does not include zero provides evidence of a significant indirect effect of individual differences in status on mental health symptoms through GCSS (Preacher & Hayes, 2008). We calculated this indirect effect using the PROCESS macro (v2.15) for SPSS (Hayes, 2013).

## Results and Discussion

We first examined the overall endorsement of the 20 scale items in our sample. Using the agreement stem, participants indicated a relatively high degree of agreement with each of the items, with the mean agreement across items being 3.65 ( $SD = 0.63$ ; range 1-5). Participants expressed the lowest agreement with the item, "In the mainstream gay community, there is a lot of mistrust among friends" ( $M = 3.07$ ,  $SD = 1.02$ ) and highest agreement with the item, "The mainstream gay community is overly focused on sex" ( $M = 4.05$ ,  $SD = 0.97$ ). Using the stress stem, participants indicated experiencing a relatively moderate degree of stress from the gay community. The mean stress reported from the 20 items was 2.27 ( $SD = .89$ ). Participants expressed the lowest stress from the item, "The mainstream gay community overly values men who are powerful and high status." ( $M = 1.91$ ,  $SD = 1.11$ ) and highest stress from the item, "In the mainstream gay community, there is a lot of risky sex" ( $M = 2.97$ ,  $SD = 1.37$ ).

Importantly, 36.01% of the variance in the Gay Community Stress Scale remained unaccounted for by the 20 included items. Further, items were derived from a sample of 49 gay and bisexual men living in the northeast US. Therefore, the four included factors of the Gay Community Stress Scale might not represent all of the potentially important aspects of gay community stress for all gay and bisexual men in all global regions; this might be particularly true for aspects of gay community stress represented by single items on our scale, which we removed, or those aspects not reported by our qualitative sample. At the same time, by asking our initial national sample of 115 gay and bisexual men to write-in additional gay community stressors not covered by the original 27 items, we uncovered two additional items applicable to a wider sample of gay and bisexual men, thereby enhancing confidence in the broader generality of our scale.

Table 1 shows group differences in intra-minority stress by demographic characteristic. Gay and bisexual men who reported a Hispanic identity, gay or queer identity, lower income, less educational attainment, being single, and being younger reported higher intra-minority stress (when examined as the average of the four factors) than their respective comparison groups. Highlighting the importance of examining subscale differences across these demographic characteristics, Table 1 shows that, in some cases, these demographic differences in gay community stress were strongly explained by the most conceptually relevant aspect of gay community stress. For instance, the significant difference between single and partnered participants in the total GCSS score is mostly explained by single participants' greater stress from perceiving a gay community focus on sex. Likewise, the difference in the total GCSS score between those who earn higher versus lower incomes is primarily due to the higher stress due to perceiving the gay community's focus status among those with lower incomes. Further, participants of color are particularly stressed by the gay community's exclusion of diversity.

Table 3 shows the pattern of associations between the GCSS subscales and measures of distal and proximal minority stress, general life stress, and mental health. All subscales show significant positive associations with rejection sensitivity, perceived discrimination, general life stress, and mental health symptoms. Perceived community focus on exclusion was the only subscale to not show associations with internalized homonegativity, and the only subscale to show a significant association, in this case, negative, with sexual orientation concealment. All GCSS subscales were negatively associated with status.

To determine if the average of the four subscales of the GCSS would predict mental health symptoms over-and-above minority stressors and general life stress, we conducted a hierarchical multiple regression, adjusting for demographic covariates that demonstrated bivariate associations with mental health symptoms (Table 4). The first step added measures of both the distal (i.e., discrimination) and proximal (i.e., sexual orientation concealment, internalized homonegativity, rejection sensitivity) stressors of minority stress theory. The second step added the measure of general life stress to control for general tendencies to report stress. The third step added the GCSS. All minority stressors, except concealment, showed significant associations with mental health symptoms, as did general life stress. The addition of the GCSS significantly improved the model's fit. Gay community stress – operationalized as stress from perceiving the gay community's focus on sex, focus on status, focus on competition, and exclusion of diversity – showed a significant association with mental health symptoms in the context of all other predictors, supporting our first hypothesis.

To test whether participants' experience of gay community stress would mediate the association between individual differences in status and mental health (Figure 2), we first conducted a linear regression to examine the association between status and gay community stress and between gay community stress and mental health symptoms in the context of all relevant demographic covariates. We then calculated the bias-corrected bootstrap confidence interval for the product of these paths. We found a significant negative association between status and gay community stress ( $B = -0.13$ , 95% CI =  $-0.23, -0.04$ ,  $p < .01$ ) and a significant positive association between gay community stress and mental health symptoms

( $B = 0.24$ , 95% CI = 0.19, 0.28,  $p < .01$ ). The effect of status on mental health symptoms was reduced, albeit to a small degree, in the context of gay community stress (from  $B = -0.23$ , 95% CI =  $-0.31, -0.16$ ,  $p < .01$  to  $B = -0.20$ , 95% CI =  $-0.28, -0.13$ ,  $p < .01$ ), and there was a significant indirect effect of status on mental health symptoms through gay community stress ( $B = -0.03$ , 95% CI =  $-0.06, -0.01$ ,  $p < .01$ ), supporting our second hypothesis.

The results of this study provide initial evidence for the existence of intra-minority stress defined in terms of the stress of perceiving the gay community's focus on sex, focus on status, focus on competition, and exclusion of diversity; its significant role in gay and bisexual men's mental health; and the potential role of status-based pressures in contributing to this phenomenon. As such, these results support our emerging theory of intra-minority gay community stress. Extending upon existing theories as applied to gay and bisexual men (i.e., intrasex competition theory, sexual fields theory, and precarious manhood theory), our theory of intra-minority gay community stress suggests that gay and bisexual men's mental health might be particularly affected by status-based pressures given that the status-based pressures facing men in general might be exacerbated in a community made up of men that relies on each other for social and sexual reward.

Notably, we derived Gay Community Stress Scale items from participants recruited from gay community virtual and in-person venues, both social and sexual, whereas we recruited the national sample in which we tested our hypotheses solely from a sexual networking mobile application for gay and bisexual men. While items did not originally derive solely from within a sexual field, we tested our hypotheses in a distinctly sexual field. Sexual field theory suggests that the phenomenon of intra-minority gay community stress uncovered here might be particularly likely to operate in the sexual field emblemized by such mobile applications (Green, 2014). Yet whether the phenomenon would operate as strongly in the broader sociological field surrounding gay and bisexual men remains unknown. Indeed, participants in the national sample reported the lowest agreement with the item "In the mainstream gay community, there is a lot of mistrust among friends," suggesting perhaps that gay and bisexual men's friendship fields might not perpetuate the phenomenon of status-based pressures. Future research ought to examine the sociological boundaries of this phenomenon.

Future research ought to also further examine demographic differences in the experience of this phenomenon. We found that those who reported a Hispanic identity, gay or queer identity, lower income, less educational attainment, being single, and being younger reported higher intra-minority gay community stress than their respective comparison groups. Many of these characteristics are markers of low sexual capital within gay and bisexual men's sexual fields (Green, 2014) with known negative associations with wellbeing (e.g., Haile, Rowell-Cunsolo, Parker, Padilla, & Hansen, 2014; McLean, 2008; White, Reisner, Dunham, & Mimiaga, 2014). Some of these characteristics, on the other hand, might be markers of embeddedness within gay and bisexual men's sexual fields and therefore exposure to associated status pressures. For instance, the fact that bisexual men reported lower intra-minority stress than gay men suggests that perhaps bisexual men are relatively less embedded within gay and bisexual men's sexual fields and thereby less affected by the

mental health implications of intra-minority stress, necessitating future research into reasons behind the consistently poorer mental health experienced by this group (e.g., Kertzner, Meyer, Frost, & Stirratt, 2009; Mereish, Katz-Wise, & Woulfe, 2017). The same might be true for those who are older and partnered, who might be more insulated from the pressures of the sexual field. We find that some of the associations between these demographic characteristics and gay community stress are strongly explained by the most conceptually relevant aspect of gay community stress. For instance, the significant difference between single and partnered participants in the total GCSS score is mostly explained by single participants' greater stress from perceiving a gay community focus on sex (rather than its focus on status, focus on competition, and exclusion of diversity). The fact that some demographic groups were under-represented in this study (e.g., those with some high school education, those who identify as heterosexual) also demands future research into demographic distinctions across gay and bisexual men's experiences of intra-minority stress.

## Study 2

Study 1 results suggest that gay and bisexual men, who rely on each other for social *and* sexual rewards, might perceive a variety of stressors as embedded features of their (gay) communities. Our theory of intra-minority gay community stress suggests that these stressors should be status-based, because the gay community and its members exist within a hegemonic sexual field characterized by clear structures of desirability and sexual exchange (Green, 2014) and against a backdrop of precarious masculine status (Vandello et al., 2008). Yet, the cross-sectional nature of Study 1 precludes inferring causality in the association between status concerns and gay community stress. Further, because status represents an important determinant of behavior across social interactions (Berger, Cohen, & Zelditch 1972), knowing if and how status concerns affect gay and bisexual men's interactions with each other remains unknown.

Study 2 sought to experimentally test whether individual differences in status predict stress emerging from gay and bisexual men's interactions with each other. Specifically, Study 2 compared implicit feelings of social exclusion when gay and bisexual men were led to believe that they were being rejected either by other gay men or by heterosexual men. This effect was examined as a function of participant's social and sexual status (i.e., masculinity, attractiveness, and wealth). We used a deception paradigm to give participants the impression that they were being personally rejected by an online chat group made up of either gay men or of heterosexual men. Minority stress theory would suggest that rejection by heterosexual men would be stressful, given that minority stress theory argues that heterosexuals' higher status than sexual minorities represents the ultimate source of the sexual orientation disparity in mental health problems (Meyer, 2003). However, consistent with our theory of intra-minority gay community stress, we hypothesized that rejection by other gay men would also yield felt exclusion given other gay men's potential for social *and* sexual reward. Our theoretical account would also suggest that lower-status participants would experience more social exclusion when rejected by other gay men, but that participant's status would be less relevant to their reactions to rejection from heterosexual men. That is, rejection from both heterosexual men and from gay men are expected to activate rejection-related stressful processes, although the strength and nature of those

processes might differ. Here, we hypothesize that status concerns will uniquely predict diminished felt belonging upon rejection by other gay men.

## Method

**Participants**—Participants were recruited from existing online panels formed according to a variety of demographic factors. Therefore, when participants in these panels were contacted with an invitation to participate in a study, they were masked to the specific demographic eligibility criteria being used for any particular study. We used panel recruitment for this study to minimize demand characteristics, as it allowed us to recruit participants who were naïve to the fact that they were selected because of their sexual orientation. A total of 140 eligible participants completed the study; of these, we omitted 37 participants who failed one or more attention checks. Our final sample consisted of 103 gay and bisexual men, including men who identified as gay ( $n = 81$ ), bisexual ( $n = 21$ ), and uncertain ( $n = 1$ ). The sample was predominantly white (85.4%) and possessed full-time employment (58.3%). The mean age was 32.9 ( $SD = 14.0$ ).

**Procedure**—Upon providing consent, participants completed demographic measures and were then randomized into one of two conditions. In both conditions, participants were redirected to a “Social Networking Study” website where they were provided with instructions regarding the cover story of their role and responsibilities. Specifically, participants were informed they were participating in a larger study on how “group members respond to each other in an online venue.” As part of this study, participants were assigned the role of a “contributor” who were asked to create a personal profile listing information regarding their hobbies, favorite musicians, and favorite memory that would then be shared in a chat room of a pre-existing group of seven other men (Romero-Canyas, Downey, Reddy, Rodriguez, Cavanaugh, & Pelayo, 2010). Participants also listed status-related information, including their occupation, height, and weight, to share with the group.

Upon completing their profile, participants were redirected to a chat page to observe the other seven “participants” interacting. Participants first observed the assigned group interact for 30 seconds before their own profile was published for the group’s review. Participants then observed, for another 60 seconds, the group members commenting on their profile. Unbeknownst to the participant, the other group members were simply “chatbot” confederates programmed to respond with automated text. All participants received identical chat text. The programmed confederates referenced participants’ profile names to increase realism and personal salience. Rejection text included, for example: “please don’t make me talk to this guy,” “dude, ur profile is so awkward” (see Appendix for full script).

Experimental conditions were distinguished by manipulating the sexual orientation of the chat community from which the participant was rejected. In the heterosexual rejection condition, the website and accompanying logo were clearly titled the “Men’s Networking Study.” The other condition was titled the “Gay Men’s Networking Study.” The name of the website, logo, and reference to the demographic of participants who comprised it (i.e., “men” or “gay men”) within the instructions were the only features that differed between the conditions. Following the simulated online rejection, participants completed a test of their



implicit feelings of exclusion and were then debriefed regarding the deception, including that the rejecters were not real and that their rejecting comments were arbitrary.

### Measures

**Gay community status.:** Individual differences in participants' status were calculated using the same method as Study 1, by computing the mean of *z*-scores for their income, self-reported attractiveness, and masculinity. These items were assessed prior to randomization.

**Implicit feelings of exclusion.:** Participants' implicit feelings of exclusion were assessed with a computerized implicit association test (IAT) that was adapted to specifically measure an individual's implicit sense of exclusion (Clerkin & Teachman, 2010). Based on the original IAT (Greenwald, McGhee, & Schwartz, 1998), this measure contrasts participants' reaction times for sorting positively valenced social descriptions (e.g., "Liked," "Admired," "Accepted") and negatively valenced social descriptors (e.g., "Disliked," "Unwanted," "Shunned") with self-referent (e.g., "Me," "I") and other-referent ("Them," "They") targets. Test performance was calculated by comparing response times across blocks of exclusion schemas (e.g., "Me" and "Disliked") versus blocks of belonging schemas (e.g., "Me" and "Accepted").

**Analysis Plan—**The Exclusion IAT was scored using a standard algorithm (Clerkin & Teachman, 2010; Greenwald, Nosek, & Banaji, 2003) to produce a *D* score, which was multiplied by  $-1$  to facilitate interpretability. Thus, participants who receive higher *D* scores exhibited a higher implicit sense of exclusion. We conducted a generalized linear model to regress exclusion scores on experimental condition, participant status, and their interaction, with the gay rejection condition serving as the reference group. We then probed the interaction for simple effects.

### Results and Discussion

There was a main effect of experimental condition on implicit feelings of exclusion, such that participants in the heterosexual rejection group ( $M = -0.60$ ,  $SD = 0.42$ ) evidenced higher implicit feelings of exclusion than participants in gay rejection group ( $M = -0.78$ ,  $SD = 0.36$ ;  $b = 0.21$ ,  $p = .010$ ). Participant status was inversely associated with post-rejection implicit feelings of exclusion across rejection groups ( $b = -0.17$ ,  $p = .047$ ). The interaction between status and condition was marginally significant ( $b = 0.24$ ,  $p = .055$ ), suggesting that the association of status and post-rejection feelings of exclusion may have differed between the two conditions. In fact, planned tests of simple effects indicated that status was negatively associated with implicit feelings of exclusion following rejection from gay group members ( $n = 53$ ;  $r = -0.29$ ,  $p = .036$ ), but not heterosexual group members ( $n = 50$   $r = 0.10$ ,  $p = .503$ ). Figure 3 graphically depicts these results.

Study 2 results partially support our emerging theory of intra-minority gay community stress. First, the main effect for rejecters' sexual orientation, whereby participants experienced more felt exclusion upon rejection by heterosexual, compared to other gay, men lends support to minority stress theory. The interaction between rejecters' sexual orientation and participants' status lends support to intra-minority gay community stress theory. The

interaction shows that while participants' low status was associated with exclusion upon rejection from gay men, no such association was found upon rejection from heterosexual men. This finding provides support for the possibility that status concerns, theoretically more stressful for low-status men, might underlie intra-minority stress among gay and bisexual men. This finding coheres with our extension of intrasex competition theory, sexual field theory, and precarious manhood theory in that gay and bisexual men's mental health might be particularly likely to be influenced by competitive, status-based stressors when interacting with each other, given other gay men's potential for social and sexual reward. At the same time, minority stress theory and intra-minority gay community stress theory are not mutually exclusive; independent stress processes might be associated with minority stress and intra-minority stress, perhaps explaining Study 2 results. That is, perhaps minority stress processes had a uniform impact across Study 2 participants, whereas intra-minority stress processes were activated more strongly in those who saw themselves as lower in status.

Whether a different pattern of results would have been found had this study been conducted in a more distinctly sexual field remains to be known. This study was conducted in a general social field, whereby participants were told that they were interacting in a generic social space, rather than a sexual space. Perhaps then, minority stress theory's tenets held particular sway in this particular experimental manipulation. In non-sexual interactions, heterosexual men might possess higher overall societal status in comparison to gay and bisexual men, leading rejection from heterosexual men to be more painful. Had our experimental manipulation taken place in a more distinctly sexual field, we might have potentially invoked the amplified stress of competing for social *and* sexual reward that uniquely affects gay and bisexual men. Perhaps in a more sexual context, rejection from gay men would have had a stronger impact. In the meantime, that participants' status interacted with rejecters' sexual orientation such that, for lower-status participants, rejection from gay men was more stressful than rejection from heterosexual men, lends preliminary support for the relative importance of status concerns in gay and bisexual men's interactions with each other.

In Study 2, we only measured participants' own status, yet status is relative to one's social environment. While heterosexual men's higher status than gay men's presumably drove the main effect of rejecters' sexual orientation on felt exclusion in Study 2 consistent with minority stress theory, we did not examine if gay and bisexual men are sensitive to status indicators of other gay men. In order to further examine whether competitive, status-focused pressures underlie intra-minority stress, Study 3 tested whether rejecters' status is associated with feelings of exclusion. By examining the influence of the rejecters' gay community status (i.e., attractiveness, masculinity, and income), we also rule out the possibility that the results of Study 2 are confounded by personal coping resources that accompany status (Maisel & Karney, 2012) rather than explained by status itself. That is, manipulating rejecters' gay community status allows us to further establish the role of status concerns on gay and bisexual men's experience of stress within the gay community.

### Study 3

The goal of Study 3 was to determine if status, this time operationalized as the rejecters' status, is a source of intra-minority gay community stress, while also ruling out confounds

potentially present in Study 2. Sexual field theory, in particular, highlights the clear status hierarchies that surround gay and bisexual men, at least in their sexual fields. Sexual field theory suggests that gay and bisexual men define status in terms of masculinity, wealth, and attractiveness and organize their interactions, at least their sexual interactions, by attending to this social and sexual capital of other men (Green, 2008).

To test the role of status in intra-minority gay community stress, we used the same rejection paradigm employed in Study 2, where participants were asked to create a profile of themselves in a “Social Networking Study. For this experiment, we distinguished conditions by manipulating the characteristics of the chat confederates to be either “high-status” or “low-status” gay men. We anticipated that participants rejected from high-status gay men would have higher implicit feelings of exclusion than participants rejected from low-status gay men.

## Method

**Participants**—Participants were recruited from online panels of gay and bisexual men to complete the study on the Qualtrics survey platform. Only panel members who did not participate in Study 2 were invited to participate. A total of 105 eligible participants clicked through to study completion; we omitted 22 participants who failed one or more attention checks. Our final sample consisted of 83 gay and bisexual men who completed the study, including participants who identified as gay ( $n = 72$ ), bisexual ( $n = 10$ ), and queer ( $n = 1$ ). The sample was predominantly white (78.3%) and possessed full-time employment (66.3%). The mean age was 39.3 ( $SD = 14.7$ ).

**Procedures**—Study 3 procedures were nearly identical to those described for Study 2. Upon providing informed consent, participants completed demographic information and were then directed to the social networking website where they were randomized into one of two conditions. In contrast to Study 2, participants in both conditions were informed that they were participating in the “Gay Men’s Networking Study,” where they would be asked to create a profile and view feedback from an online group of seven other gay men. The conditions differed based on the depicted status of the group members in order to elicit status comparisons among participants, such that group members were depicted as being “high status” in one condition and “low status” in the other.

We manipulated group status using the same markers of participant status used in Studies 1 and 2, namely income, attractiveness, and masculinity. Income was manipulated by having one chatbot confederate in the group reference his profession and income, such that the member in the high-status condition reported working in a lucrative industry and referenced his current financial comfort (e.g., “Move to San Fran, dude!” “I’ve thought about it since I’m in tech, but I already make really good money out here”), whereas the same member in the low-status condition reported working in a financially less-secure industry and referenced his limited financial resources (e.g., “Move to San Fran, gurl!” “I’ve thought about it since I’m in fashion, but I can’t afford to live there”) (see Appendix for full script for both conditions). Confederate attractiveness was manipulated by having one of the chatbot confederates share a photo of themselves. Photographic stimuli were selected from

the Chicago Face Database (Ma, Correll, & Wittenbrink, 2015), a collection of human face photographs normed on a variety of dimensions, including attractiveness and masculinity. We selected two photos, one rated as the combined highest score of attractiveness and masculinity ratings, one rated as the combined lowest score of attractiveness and masculinity ratings, matched for age and race. Thus, the image of the confederate in the high-status condition appeared to be a man high in attractiveness and masculinity, whereas the confederate in the low status condition appeared to be a man low in attractiveness and masculinity. Instructions for accessing these specific photos in the Chicago Face Database are available upon request from the first author. In addition to the photo, masculinity in the experiment was also manipulated by verbal expressions contained in the confederates' messages to each other. Messages in the high-status condition contained typically masculine terms to reference each other (e.g., "bro," "dude"), whereas messages in the low-status condition contained feminine terms (e.g., "gurl," "queen") (see Appendix for all messages).

As in Study 2, participants viewed their assigned group interacting for 30 seconds before witnessing group members comment on the participants' own profile for 60 seconds. Rejecting comments were near-identical to Study 2, for example: "please don't make us talk to this person" and "Wow your profile is so awkward." Participants then completed the implicit test of exclusion and were debriefed regarding the deception, including that the rejecters were not real and that their rejecting comments were arbitrary.

### Measures

**Gay community status.:** Individual differences in participants' status were calculated using the same method as in Studies 1 and 2, by computing the mean of *z*-scores for each participant's self-reported income, attractiveness, and masculinity. Status items were again assessed prior to randomization.

**Implicit feelings of exclusion.:** Participants' implicit feelings of exclusion were assessed using the same computerized version of the IAT (Clerkin & Teachman, 2010).

**Analysis Plan—**Participants' *D* scores for the Exclusion IAT were scored using the same procedure used in Study 2. We conducted a generalized linear model to regress exclusion scores on experimental condition, individual differences in participant status, and their interaction; the high-status gay rejection condition served as the reference group. We then probed the interaction for simple effects.

## Results and Discussion

There was a main effect of experimental condition on implicit feelings of exclusion, with participants in the high-status rejection group ( $n = 42$ ,  $M = -0.42$ ,  $SD = 0.58$ ) evidencing higher implicit feelings of exclusion than participants in the low-status rejection group ( $n = 41$ ,  $M = -0.68$ ,  $SD = 0.51$ ;  $b = -0.28$ ,  $p = .022$ ). Individual differences in participants' own status were not associated with post-rejection implicit feelings of exclusion ( $b = 0.09$ ,  $p = .507$ ). The interaction between condition and participants' status was likewise not significant ( $b = -0.08$ ,  $p = .652$ ). Planned tests of simple effects indicated that participants' status was not associated with implicit feelings of exclusion following rejection from low-

status group members ( $r = 0.01, p = .942$ ) or high-status group members ( $r = 0.10, p = .544$ ). Figure 4 graphically depicts these results.

Study 3 continues to provide partial support for the relevance of status to gay and bisexual men's experiences of intra-minority stress. Rejection from high-status gay men, as defined by their attractiveness, masculinity, and income, led to higher implicit feelings of exclusion than rejection from low-status gay men. However, unlike Study 2, individual differences in participants' own status were not relevant to their post-rejection felt exclusion. Individual differences in participants' own status also did not interact with rejecters' status to predict post-rejection felt exclusion. Because we observed an effect for the rejecters' status, but not for individual differences in participants' own status, Study 3 ruled out any potential confounding effect of personal coping resources associated with one's own status in explaining feelings of exclusion during within-group rejection.

Like Study 2, Study 3 assessed a phenomenon theorized to be particularly relevant to gay and bisexual men's sexual fields using men recruited from a non-sexually-distinct venue to interact in a non-sexually-distinct field. This perhaps muted any stronger effect of status that might exist in gay and bisexual men's sexual field. Future research should of course determine the contextual boundaries around the phenomenon of intra-minority gay community stress uncovered in Study 1 and shown to be relevant to gay and bisexual men's mental health there. Study 3 also relied on only two images to visually communicate status and only a few verbal indicators (e.g., "I'm in tech" vs. "I'm in fashion;" "dude" vs. "gurl"), introducing limitations of inadequate stimulus sampling (Wells & Windschitl, 1999). Study 3 also did not assess the extent to which participants *perceived* the rejection to be due to their status differential, and relied on implicit, rather than explicit, feelings of exclusion using a novel measure of implicit exclusion in need of further validation.

## Study 4

We conducted a preregistered experiment to further establish the role of status-based pressures in intra-minority gay community stress. Study 4 represented several improvements over the previously described experiments (see Table 5 for comparison of key design features across all experiments). First, by experimentally manipulating whether one disclosed (versus not disclosed) status-related information prior to rejection by other gay and bisexual men and whether they were rejected on that status-related information (versus being rejected on non-status-related information), we attempted to provide stronger evidence than Studies 2 and 3 regarding the role of status in gay and bisexual men's social interactions and subsequent perceived stress and feelings of exclusion. Second, by measuring perceived relative status (i.e., the difference in status that one perceives between oneself and his rejecters), Study 4 could further examine if the effect of the rejecters' status on gay and bisexual men's perceived stress and feelings of exclusion is mediated by the status differences perceived by participants. Third, by including multiple images of rejecters, we attempted to start to address limitations of inadequate stimulus sampling (Wells & Windschitl, 1999). Fourth, by utilizing self-reported outcome measures of perceived stress and feelings of exclusion, Study 4 focuses on participants' conscious experience of these outcomes more squarely than implicit measures are assumed to allow (De Houwer, 2002).

Utilizing a self-report measure of exclusion can also overcome the relatively light validity evidence of the implicit exclusion measure used in Studies 2 and 3 (e.g., Clerkin & Teachman, 2010). Fifth, by expanding rejection as emanating from not just other gay men (as in Studies 2 and 3) but from other gay and bisexual men, we expand the generalizability of these findings to rejection from bisexual men as well. Sixth, by preregistering our hypotheses, sample size, and exclusion criteria (Open Science Framework, 2018), Study 4 upholds the scientific standard necessary for transparent, replicable research. Below and in our preregistration materials, we report how we determined our sample size, all data exclusions, all manipulations, and all measures in the study.

Study 4 followed similar rejection paradigms to those employed in Studies 2 and 3. Participants created a profile in a “Gay and Bisexual Men’s Social Networking Study.” For this experiment, all confederate “chatbots” were “high-status” gay and bisexual men. We distinguished conditions by prompting participants to disclose either “status-related” or “non-status-related” information in their profile, which we guaranteed by offering only preset options that were either related to status or not. Then, participants were rejected on either this status-related or non-status-related information. Thus, Study 4 employed three experimental conditions: (1) disclosure of non-status-related information followed by rejection toward that non-status-related information; (2) disclosure of status-related information and non-status-related information followed by rejection toward only non-status-related information; and (3) disclosure of status-related information and non-status-related information followed by rejection toward only status-related information. As disclosed in our study pre-registration materials (Open Science Framework, 2018), we hypothesized that, post-rejection, perceived stress and feelings of exclusion would be lowest in the non-status-related-disclose/non-status-related-rejection condition, while perceived stress and feelings of exclusion would be highest in the status-disclosed/status-rejection condition. We further hypothesized, as an exploratory hypothesis, that higher self-reported perceived comparative status (i.e., perception that one’s own status is higher than his rejecters’ status) would protect against perceived stress and feelings of exclusion, especially for participants in the status-disclosed/status-rejection condition for whom status should be more relevant.

## Method

**Participants**—Participants were recruited using targeted advertisements on a large social networking site and on the US’s largest gay and bisexual men’s sexual networking mobile application. Only men who lived in the United States and self-identified as gay, bisexual, or queer were eligible to participate. 278 eligible participants completed the entire study; 26 participants were omitted for failing required attention checks. Thus, our final sample size consisted of 252 gay and bisexual men who identified as gay ( $n = 189$ ), bisexual ( $n = 53$ ), and queer ( $n = 10$ ). The sample predominantly identified as white (62.7%). 20.6% of the sample identified as Hispanic/Latino. About half of the sample possessed full-time employment (50.8%). The mean age was 26.79 ( $SD = 7.17$ ). Of the final sample, 6.7% ( $n = 17$ ) were recruited from the sexual networking mobile application for gay and bisexual men, 83.3% ( $n = 210$ ) from the large social networking site, and 9.9% ( $n = 25$ ) from another source and/or did not specify source.



**Procedures**—Study 4 procedures were similar to those in Studies 2 and 3. Upon providing informed consent, participants completed demographic information and were then directed to the simulated social networking website where they were randomized into one of the three conditions. Participants were invited to create a profile for a “Gay and Bisexual Men’s Social Networking Study,” where they created a profile and then viewed feedback from an online group of seven other gay and bisexual men primarily directed toward that profile information. Conditions differed based on the type of information that participants were asked to share in their profile (i.e., status-related or non-status-related) and the type of rejection from the group (i.e., rejection toward status-related or non-status-related information) (see Appendix for full script for all conditions). Other (chatbot) group members in the study were all depicted to be high status, through the same mechanisms as Study 3 (i.e., attractive photo, lucrative occupation, masculine language). To start to address issues of stimulus sampling (Wells & Windschitl, 1999), we selected three photos with the highest combined scores of attractiveness and masculinity ratings from the Chicago Face Database (Ma, Correll, & Wittenbrink, 2015) to present to participants as if from three of the other group members.

We manipulated experimental conditions through the information that a participant was asked to disclose in their profile and the information that would become the target of the chatbot confederates’ rejection. In the first condition, *non-status-related-disclosed/non-status-related-rejection*, participants were able to disclose only non-status-related information in their profile to be shared with the group (i.e., favorite pet, favorite season, favorite food). In the chat room, participants were rejected on this non-status-related information (e.g., “his favorite food is lame”). In the second condition, *status-disclosed/non-status-related-rejection*, participants shared with the group both non-status-related and status-related information including their occupation, height, and weight. But participants in this condition were rejected only on the non-status-related information. In the third condition, *status-disclosed/status-rejection*, participants also disclosed non-status-related and status-related information and were then rejected only on the status-related information (e.g., “his job is lame”). Participants then completed self-reported measures of perceived stress, feelings of exclusion, and perceived comparative status, and were debriefed regarding the deception, including that the rejecters were not real and that their rejecting comments were arbitrary.

## Measures

**Perceived stress.:** Perceived stress was measured with a scale developed to measure stress after online rejection (Williams, Cheung & Choi, 2000). Participants answered four questions on a Likert-type scale from 1 (e.g., *sad, tense*) to 9 (e.g., *happy, relaxed*) assessing “how you feel at the moment” across several stress-related constructs. The perceived stress scale was scored in two steps. First, the items were summed. Then, to aid interpretation (i.e., to present higher scores as indicating higher stress), a *z* score was calculated and the resulting *z* scores were multiplied by  $-1$ .

**Feelings of exclusion.:** Participants’ feelings of exclusion were measured with the belonging subscale from the Need Threat Scale, originally developed to measure responses

to ostracism (Jamieson, Harkins & Williams, 2010). Participants were asked to recall how they felt in the chat room using a Likert-type scale from 1 (*not at all*) to 5 (*extremely*) across five items related to belonging (e.g., “I felt like I belonged to the group”). These items were scored using the same two-step process used to score perceived stress.

**Perceived comparative status.:** Participants’ perceived comparative status was measured using a scale that was developed for this study, with three items designed to measure the status-related constructs of masculinity, attractiveness, and wealth. Participants were asked to recall “how you felt compared to the other guys in the chat room group” using a Likert-type scale regarding their perceived comparative masculinity, ranging from 1 (*much less masculine*) to 5 (*much more masculine*); attractiveness, ranging from 1 (*much less attractive*) to 5 (*much more attractive*); and wealth, ranging from 1 (*much less money*) to 5 (*much more money*). The three items were summed and transformed into *z*-scores.

**Attribution of rejection.:** As a manipulation check, we assessed the degree to which participants attributed the chatroom rejection to their status-related characteristics using a four-item scale developed for this study. Participants were asked to report the extent to which each item listed on their profile (i.e., height/weight, job, income, and masculinity) impacted the comments they received in the chat room on a scale of 1 (*not at all*) to 5 (*extremely*). These items were summed.

**Other measures.:** Participants also completed measures and tasks not necessary for addressing the primary research questions or analyses disclosed in our preregistration materials. These measures and tasks included the Implicit Feelings of Exclusion task (adapted from Clerkin & Teachman, 2010), a task of ingratiation attempts measured by willingness to provide a financial donation to the group upon rejection (Romero-Canyas et al., 2010), and the Gay Community Stress Scale.

**Analysis Plan—**We first conducted a manipulation check by performing *t*-tests between conditions for attribution of rejection. We then conducted generalized linear models in which self-reported stress and feelings of exclusion were regressed onto experimental condition, perceived comparative status, and their interaction. The status-disclose/status-rejection condition served as the reference group for contrasts comparing it to the non-status-related-disclose/non-status-related-rejection and status-disclose/non-status-related-rejection conditions, and the status-disclose/non-status-related-rejection condition served as the reference group for the contrast comparing it to the non-status-related-disclose/non-status-related-rejection condition. We then probed interactions for simple effects.

## Results and Discussion

**Manipulation check.—***T*-tests indicated that there were significant differences between each condition on status-related rejection attributions, whereby the non-status-related-disclose/non-status-related-rejection condition ( $M = 6.53$ ,  $SD = 3.8$ ) reported less status-related attributions for their rejection than the status-disclose/non-status-related-rejection condition ( $M = 7.79$ ,  $SD = 4.34$ ;  $t = -2.53$ ,  $p = .012$ ) and the status-disclose/status-rejection condition ( $M = 12.12$ ,  $SD = 4.41$ ;  $t = -11.10$ ,  $p < .001$ ). Participants in the status-disclose/

non-status-related-rejection condition also reported less status-related attributions for their rejection than the participants in the status-disclose/status-rejection condition ( $t = 8.04, p < .001$ ).

**Stress.**—While the current study was adequately powered to detect, in 80% of cases, an anticipated effect size of  $d = .44$ , there were no significant differences in stress between conditions. However, there was a main effect of perceived comparative status on stress ( $b = -.52, p < .001$ ), whereby individuals with greater perceived comparative status reported less stress across conditions. There was also a significant condition  $\times$  perceived-comparative-status interaction ( $b = .32, p = .023$ ) for the contrast comparing the non-status-related-disclose/non-status-related-rejection condition and status-disclose/status-rejection condition, indicating the effect of comparative status on stress was greater in the status-disclose/status-rejection condition. The remaining condition contrasts and their respective interactions with comparative status were non-significant (Table 6). Planned tests of simple effects indicated that perceived comparative status was marginally negatively associated with perceived stress in the non-status-related-disclose/non-status-related-rejection condition ( $r = -.21, p = .053$ ; Figure 5a) and significantly negatively associated with stress in the status-disclose/non-status-related-rejection ( $r = -.40, p < .001$ ), and the status-disclose/status-rejection conditions ( $r = -.47, p < .001$ ).

**Feelings of exclusion.**—While the current study was adequately powered to detect, in 80% of cases, an anticipated effect size of  $d = .44$ , there was no significant difference in feelings of exclusion between conditions. However, there was a main effect of comparative status on feelings of exclusion ( $b = -.26, p = .017$ ), whereby individuals with greater comparative status reported lower feelings of exclusion across conditions. There was also a significant condition  $\times$  perceived-comparative-status interaction ( $b = .37, p = .016$ ) for the contrast comparing the non-status-related-disclose/non-status-related-rejection condition and status-disclose/status-rejection condition, indicating the effect of perceived comparative status on feelings of exclusion was greater in the status-disclose/status-rejection condition. The remaining condition comparisons and their respective interactions with perceived comparative status were non-significant (Table 6). Planned tests of simple effects indicated that perceived comparative status was not associated with feelings of exclusion in the non-status-related-disclose/non-status-related-rejection condition ( $r = .11, p = .298$ ; Figure 5b) or the status-disclose/non-status-related-rejection condition ( $r = -.03, p = .794$ ), but was negatively associated with feelings of exclusion in the status-disclose/status-rejection condition ( $r = -.24, p = .034$ ).

Study 4 advances the theory initially developed in Studies 1, 2, and 3 by more specifically testing the role of status pressures in gay and bisexual men's experiences of intra-minority stress (see Table 5 for comparison of findings across all experiments). We found that men who reported possessing comparatively lower status (i.e., in terms of masculinity, attractiveness, and wealth) than their rejecters reported higher stress and felt exclusion post-rejection than men who reported possessing comparatively higher status than their rejecters. Targeted status-based rejection predicted stress and felt exclusion most strongly among gay and bisexual men with comparatively lower status only when they disclosed that status. In

sum, Study 4 further locates status as a key driver of intra-minority stress among gay and bisexual men. Although this study did not confirm our primary preregistered hypothesis that self-reported stress and feelings of exclusion would differ by condition, we found support for an exploratory hypothesis drawn from this paper's previous studies that the experience of intra-minority stress within the gay community hinges upon gay and bisexual men's perception of their status compared with that of other gay and bisexual men.

Study 4 offers partial support for our theory of intra-minority gay community stress. The lack of main effect for rejection based on status rather than based on non-status characteristics in predicting stress and felt exclusion fails to support the role of status pressures in predicting intra-minority stress. However, the significant main effect of perceived comparative status and the interaction between status-based rejection and perceived comparative status extends the findings of Study 3 to support the relevance of perceived status hierarchies to gay and bisexual men's interactions with each other and associated stress and felt exclusion. Whether a stronger effect of status-based rejection would have been found in a more distinctly sexual field remains to be uncovered by future research, given that the large majority of this sample was recruited from a non-sexual field (and that Studies 2 and 3 recruited solely from a non-sexual field). That the sample size in this preregistered trial possessed enough power to detect a medium effect also suggests that any smaller main effect of the experimental manipulation would not have been detected.

Future replications or extensions of Study 4 ought to consider four potential design features that potentially influenced results. First, Study 4 participants in the status-disclose conditions might have been particularly primed for felt exclusion as we asked them to report their status twice – first in the gay community status scale administered before the manipulation and then again in disclosing status-related information on their profiles. Thus, Study 4 effects might not generalize beyond contexts in which status is made very salient. Second, participants in Studies 2, 3, and 4 were never asked to disclose their sexual orientation, which potentially introduced threats to self-coherence in which participants' presented self was not permitted to align with their actual self (Swann & Brooks, 2012). While self-coherence threats would have presumably affected participants across conditions, whether and how such threats interact with the threat of status-based rejection remains unknown. Third, while Study 4 utilized a set of stimuli, including multiple images, to evoke status concerns, we did not measure our dependent variable in response to each separate stimulus, thereby preventing us from modeling the influence of characteristics of specific stimuli (Judd, Westfall, & Kenny, 2012). By presenting each participant with a set of randomly selected stimuli drawn from a larger pool of stimulus sets, future research into this phenomenon will be better positioned to detect the relative influence of rejecters' status characteristics, including masculinity, attractiveness, and wealth. Fourth, while Study 4's chatroom label includes both gay and bisexual rejecters, whether and how rejection from gay men versus bisexual men might impact gay and bisexual men's sense of stress and felt exclusion, including as a function of one's own perceived status, awaits future research that exposes gay and bisexual men to rejection from gay or bisexual men separately. Comparisons with Studies 2 and 3 are hard to draw in this regard given that, although bisexual men were not included as part of the chatroom's title in those studies, they also were not necessarily excluded, paralleling the gay community's typical perception of

bisexual men (Steinman, 2000). That is, participants in Studies 2 and 3 may have possibly interpreted that some of the chatroom participants were in fact bisexual.

## Overall Discussion

In recent years, minority stress theory has advanced both academic scholarship regarding gay and bisexual men's mental health and the case for their civil rights by highlighting the association between stigma-related social disadvantage and gay and bisexual men's mental health (Meyer, 2003a; Perry v. Schwarzenegger, 2010). Yet despite evidence that minority stress does not fully account for sexual orientation disparities in mental health, few other explanations of this disparity have been proposed. Responding to several converging lines of evidence suggesting that many gay and bisexual men perceive significant stressors as emerging from within the gay community itself (e.g., Green, 2008; Haile et al., 2014; Halkitis, 2001; Sánchez et al., 2009; White et al., 2014), the present study develops a measure of intra-minority stress that captures stress from perceiving the gay community's focus on sex, focus on status, focus on competition, and exclusion of diversity; examines the utility of this new construct for advancing theory regarding gay and bisexual men's mental health; and experimentally tests status concerns as one potential source of this phenomenon. Overall, we find evidence that a diverse national sample of gay and bisexual men perceives numerous stressors in their social and sexual interactions with other gay men, with implications for their mental health. We also find partial evidence that this intra-minority stress might be driven by status-based competitive pressures within the gay community, possibly because gay and bisexual men's social *and* sexual relationships often occur with men, who are known to compete for social and sexual opportunities.

Study 1 results demonstrate that intra-minority stress (i.e., stress from perceiving the gay community's focus on sex, focus on status, focus on competition, and exclusion of diversity) represents a robust predictor of mental health problems even when controlling for all forms of minority stress measured here, including proximal, psychological stressors (i.e., sexual orientation concealment, rejection sensitivity, internalized homonegativity) and distal, societally based stressors (i.e., discrimination). Because we controlled for general life stress, it is unlikely that this association between intra-minority stress and mental health symptoms is attributable to the known confound between general stress and mental health (Meyer, 2003b). Rather, the robust association we found between gay community stress and mental health symptoms supports emerging research suggesting that the gay community can serve as a source of stress (e.g., Green, 2008; Haile et al., 2014; Halkitis, 2001; Sánchez et al., 2009; White et al., 2014) and may be an under-investigated source of the disproportionate mental health problems experienced by gay and bisexual, compared to heterosexual, men. We also find that not all gay and bisexual men experience gay community stress equally, as those who reported a Hispanic identity, gay or queer identity, lower income, less educational attainment, being single, and being younger reported higher gay community stress than their respective comparison groups. In some cases, these demographic differences in gay community stress were strongly explained by the most conceptually relevant aspect of gay community stress (e.g., the significant difference between single and partnered participants in the total GCSS score is mostly explained by single participants' greater stress from perceiving a gay community focus on sex).

All four studies focused on one potential source of gay community stress, namely the unique status concerns that might emerge within a community of men who rely on each other for both social and sexual opportunities. We examined status as a combined function of social and sexual resources (i.e., masculinity, attractiveness, and income) given the frequent mention of these resources in our qualitative data, their applicability to all gay and bisexual men, and their relevance to intrasex competition theory (Anderson, John, Keltner, & Kring, 2001; Singh-Manoux, Adler, & Marmot, 2003), sexual field theory (Green, 2014), and precarious manhood theory (Vandello, Bosson, Cohen, Burnaford, & Weaver, 2008) as applied to gay and bisexual men, which we use here as the theoretical basis for our exploration into the unique within-group experience of gay and bisexual men's social interactions. Specifically, we found that men with low levels of these resources were more likely to report perceiving intra-minority stress than men with higher levels of these resources. After finding that gay community stress mediated the association between lower status and mental health symptoms, we experimentally examined the role of status concerns in intra-minority stress.

Across three experiments, we found partial support for our emerging theory of intra-minority gay community stress. Supporting this theory's proposition that gay and bisexual men will face unique status-based pressures when interacting with each other, Study 2 found that gay and bisexual participants' own perceived low status uniquely predicted feelings of exclusion following rejection by gay men, but not by heterosexual men. However, in that experiment, participants overall demonstrated stronger felt exclusion upon rejection by heterosexual, as compared to gay, rejecters, supporting minority stress theory over intrasex competition theory. Specifically, minority stress theory argues that heterosexual men's higher social status overall is a fundamental driver of sexual orientation disparities in mental health. In a second experiment, Study 3, we found that gay and bisexual men's feelings of exclusion were particularly likely to follow rejection by high-status, compared to low-status, gay and bisexual men, but we did not find a main effect for individual differences in participants' own status or an interaction between participants' and rejecters' status. In a third preregistered experiment, Study 4, we found that targeted status-based rejection predicted feelings of exclusion only among gay and bisexual men who disclosed comparatively lower status than their rejecters. Inconsistent with intra-minority gay community stress theory, we did not find a main effect of status-based rejection on gay and bisexual men's stress or felt exclusion. Taken together, the findings offered here provide partial support for the possibility that a community of men that relies heavily on other men for both social and sexual connections can pose unique status-related stressors, which might comprise gay and bisexual men's experience of intra-minority stress. Overall, we found partial support for the association between individual differences in perceived status and felt exclusion. With regard to the experimentally manipulated characteristics of the rejecters, the combined weight of the evidence suggests mixed support in need of future study as described below.

Intrasex competition theory and sexual field theory heavily locate the source of gay and bisexual men's status-based stress in the sexual field (Green, 2014). Indeed, gay and bisexual men's status-based stress might be particularly amplified in the sexual, as opposed to social, field given the structures of desire that characterize modern gay male communities,



especially in today's virtual sexual marketplace (Green, 2014). In fact, Study 1's qualitative interviews suggest that gay and bisexual men's status-based stress often takes place in the sexual field, at the same time that those interviews also reveal more general, non-sexual sources of status-based stress. However, our experimental conditions were distinctly non-sexual and samples for Studies 2 and 3, and the majority of the sample for Study 4, were recruited from non-sexual venues, which might have attenuated effects of status-based pressures on participants' stress and felt exclusion, potentially explaining Study 4's lack of main effect of status-based rejection, for example. It is also possible that our results would remain unaffected regardless of recruitment source if gay and bisexual men's status-based stress also characterizes their social fields more generally, at least to the extent that those social fields can be separated from the sexual (Green, 2014). The relative impact of sexual versus non-sexual status-based stress and the extent to which our pattern of results might be influenced by the largely non-sexual nature of our experimental conditions awaits future research. Such research might recruit participants from distinctly sexual platforms, such as sexual networking applications, and expose them to sexual rejection. This experimental approach would be able to further test one of the primary theoretical tenets guiding the present set of studies, namely that because gay and bisexual men frequently rely on other men for both social *and* sexual contact in a societal context of threatened masculine status, this status-focused experience of social and sexual life might generate unique competitive stressors not experienced by heterosexual men and not experienced by women in general (Browning, 1994; Courtenay, 2000; Levine & Kimmel, 1998).

In the meantime, given the perceived prevalence and mental health cost of intra-minority stress found in Study 1 and partial support found in Studies 2, 3, and 4 for the role of status-based pressures in this stress, existing institutions serving the gay community, especially those outside of the sexual field, such as community centers and support groups, might consider encouraging volunteerism to strengthen social ties and community trust as well as mentorship to encourage the intergenerational transmission of the gay community's legacy of community cohesion. In fact, the gay community has historically been known for its strong social ties that have served to both support its diverse members as well as affect change in unjust laws, policies, and attitudes (Sullivan, 1998). Further, mental health interventions that target minority stress coping might be enhanced to address the additional stress that emerges from the gay community (e.g., Pachankis, Hatzenbuehler, Rendina, Safren, & Parsons, 2015). Because such interventions have been hypothesized to be effective through their focus on basic psychological processes linking stress to poor mental health (e.g., rejection-related cognitive biases, poor emotion regulation, social isolation), such interventions might be as effective at promoting coping with intra-minority stress as they are at promoting coping with traditional sources of minority stress.

We are careful to note that our findings do not contradict or supplant minority stress models of gay and bisexual men's mental health. In fact, in the multivariable model, discrimination continued to demonstrate a significant association with mental health symptoms even in the context of gay community stress and, in Study 2, rejection from heterosexual men yielded more negative consequences than rejection from gay men. Minority stress and intra-minority stress exist at once but might operate through distinct stress pathways (e.g., threat versus challenge) to affect gay and bisexual men's mental health (e.g., Mendes, Blascovich, Lickel,

& Hunter, 2002). We are also careful to note that our results do not contradict accounts of the remarkable resilience displayed by gay and bisexual communities throughout modern history. Substantial evidence suggests that the gay community is a model of social creativity, including serving as a form of chosen family for gay and bisexual men who may not have the support of their biological families or who may simply benefit from the support of similar others in navigating uncharted life paths that do not conform to standard, typically heterosexual, templates (Herrick et al., 2011; Oswald, 2002). Compelling arguments have also been made regarding the importance of friendship and community cohesion among gay and bisexual men for advancing community health and civil rights (e.g., Sullivan, 1998; Yoshino, 2007). In fact, the least frequently endorsed item on our scale concerned mistrust among friends. Future research might explore how social features such as strong friendships and supportive sub-cultures that challenge the values of the hegemonic sexual field surrounding the gay community (Manley, Levitt, & Mosher, 2007; Peters, 2010) can buffer against both minority stress and within-group stress.

While our study finds evidence that intra-minority stress might stem from status concerns related to the male-focused nature of the gay community, these status concerns might, at least in part, ultimately derive from stigma. For example, evidence suggests that gay and bisexual men's masculine displays of status might serve as a form of overcompensation for societal stereotypes of gay and bisexual men as weak and effeminate, with negative implications for mental health (Halkitis, 2001; Taywaditep, 2002). Evidence also suggests that stigma exposure predicts gay and bisexual men's status-contingent self-worth, which might manifest as competition among members of the gay community (Pachankis & Hatzenbuehler, 2013). Further understanding the role of traditional minority stressors in generating the type of intra-minority stressors examined here would unite these two important lines of research.

The present study employed a comprehensive approach, including (1) developing a psychometrically sound scale through 49 qualitative interviews with diverse gay and bisexual men, independent coding of responses, confirmation of the scale's one-year temporal stability, and confirmation of the scale's structural stability in two independent samples, including a large sample drawn from a distinct international context; (2) comprehensively surveying gay and bisexual men across diverse regions of the US to determine the role of intra-minority stress in gay and bisexual men's mental health; and (3) experimentally examining status concerns as one potential source of gay and bisexual men's intra-minority stress. However, limitations regarding participant recruitment and study design constrain the scope of the conclusions that can be drawn. While we used numerous recruitment platforms (e.g., in-person, online) to recruit men for the qualitative interviews and while our first scale validation sample was drawn from LGBT-focused student groups, we recruited our national survey sample from a large gay and bisexual men's sexual networking application. While evidence suggests that as many as three-quarters of gay and bisexual men use sexual networking applications (Groves, Breslow, Newcomb, Rosenberger, & Bauermeister, 2013), these applications might be particularly likely to attract men looking for connections with the gay community that are otherwise missing from their lives. This recruitment strategy might therefore bias results toward higher endorsement of intra-minority stress if virtual connections come at the expense of more fulfilling in-person

contact (Gudelunas, 2012; Ross, Rosser, McCurdy, & Feldman, 2007). This recruitment source could also bias our participants toward perceiving stressors that exist in distinctly sexual fields, as opposed to the more general sociological fields that might organize gay and bisexual men's collective lives. At the same time, given the prominence of sexual networking applications among gay and bisexual men and the online nature of the communication used in our rejection paradigms, results might have particular relevance to understanding rejection and its consequences on the experience of the virtual sexual marketplace so prevalent in modern gay and bisexual men's lives. Whereas the first three studies demonstrated relatively high attrition, additional mechanisms to ensure task engagement in Study 4 reduced participant attrition to less than 10%.

Future studies using other recruitment methods might allow researchers to experimentally compare the effects of different types of rejection, including from heterosexual women and potential romantic partners, and in one-on-one settings, to further determine the generalizability and boundary conditions (e.g., sexual versus social field, as discussed above) of the effects of rejection found here. This research could also examine similarities and differences in the components of gay community stress (e.g., perceived community focus on sex, status, competition, and exclusion) and their associations with mental health in samples recruited across distinct venues. Future studies might also wish to examine whether intersectional status characteristics (e.g., race/ethnicity, age, HIV status, bisexual identity) might moderate any of the effects found here, especially given the known stress of exclusion that members of these intersectional communities report experiencing within the gay community (Green, 2008; Haile, Rowell-Cunsolo, Parker, Padilla, & Hansen, 2014; McLean, 2008; White, Reisner, Dunham, & Mimiaga, 2014), as further supported by the present study.

To facilitate replication of our findings, we outline here potential constraints on generality imposed by our specific samples, materials, procedures, and historical location that might have influenced our results (Simons, Shoda, & Lindsay, 2017). Other than these constraints outlined below, we have no reason to believe that the presents results depend on other characteristics of the participants, materials, or context. This set of studies employs seven distinct samples of gay and bisexual male adults recruited from relatively diverse recruitment venues in the US and Sweden. Results cannot be generalized beyond these distinct national contexts, as gay community stress might be composed of different stressors depending on global region. Importantly, the initial items of the Gay Community Stress Scale were derived from a small sample of gay and bisexual men living in the Northeast US. Although this might constrain the generality of our results, the inclusion of two additional items suggested by our national sample and the parallel scale structure found in three distinct samples of US college students, US adults, and Swedish adults strengthens confidence in the generality of the scale. Given the nature of our experimental samples and stimuli, we expect our experimental results to generalize to other samples of gay and bisexual male adults living in the US when exposed to online social rejection from anonymous groups of men when those rejecters are presented as still photographs. We cannot generalize these results to conditions of sexual rejection. We also cannot generalize beyond status that is operationalized as one's self-report of their own masculinity, attractiveness, and wealth or rejecters' presentation as conventionally masculine, attractive,

and wealthy. In future studies utilizing the experimental stimuli used here, we would expect our results to generalize to gay and bisexual men recruited from any online venue in the US. Another study by our laboratory provides preliminary evidence that results might extend to other dependent variables. Specifically, in that study, the Gay Community Stress Scale predicts HIV-risk behavior among gay and bisexual men in the US. In that study, we also found that rejection, versus acceptance, from other gay and bisexual men in a simulated online chatroom similar to the one utilized here predicted greater risk-taking among gay and bisexual male participants (Burton, Clark, & Pachankis, 2019). Whether and how other dependent variables are affected by the manipulations used in the present set of experiments awaits future research. Finally, our findings are limited to the distinct historical context from which they were drawn. Just as the gay community has changed as a function of broader societal changes affecting sexual minorities in the past century (Chauncey, 1994), so too will it likely continue to change in ways that affect the nature of gay community stress and gay and bisexual men's interactions with each other.

The substantial sexual orientation disparities in men's mental health represent a pressing public health problem necessitating innovative examinations of novel constructs drawn from gay and bisexual men's daily lives. While the preponderance of existing research into the mental health of gay and bisexual men is motivated by minority stress theory, the present results suggest that the unique nature of gay and bisexual men's social and sexual interactions *with each other* can also pose challenges to personal and community wellbeing. These results suggest that intra-minority stress might be an identifiable and important source of mental health problems. As this study draws upon the unique interplay of gender, sexuality, and culture that shapes contemporary gay community health, future research and theory might, in turn, draw upon these findings to further advance theory and interventions that can ensure the continued thriving of this creative and courageous segment of the population.

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Study 4 was pre-registered and study data, study materials and protocols, and analysis code for all studies contained in this manuscript are located at: at <https://osf.io/m8bkt/>

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## Appendix 1:: Experimental Manipulation Text

### Study 2:

#### “Networking Study” Homepage text:

Gay Condition: “Welcome to the Gay Men’s Networking Study! This online community hosts an array of studies for gay men. Individuals have different roles in the community based on the study (or studies) they are in, and our members are always welcome to stay involved. If you’re reading this page, this means you’re new and will be filling the role of a **contributor**. Click on the button below to get started!”

Non-specified condition: “Welcome to the Men’s Networking Study! This online community hosts an array of studies for men. Individuals have different roles in the community based on the study (or studies) they are in, and our members are always welcome to stay involved. If you’re reading this page, this means you’re new and will be filling the role of a **contributor**. Click on the button below to get started!”

#### Chatroom Text:

(1sec) Benjammin: that’s why we have to use snow tires in Minnesota

(8sec) evan4you: damn, that’s nuts. I thought new jersey was bad...

(11sec) chuckyb17: Move to San Fran, dude!

(18sec) Benjammin: I’ve thought about it since I’m in tech, but that rent is cray

(26sec) wazzzuupp4: sure it is, but think of the money you’ll save on heat and snow tires

(29sec) chuckyb17:lol

(30sec) PROFILENAME\* has joined the chat!

(41sec) robb2: Some people don’t deserve keyboards on this site [COUGHCOUGH]

(42sec) evan4you: hey, welcome PROFILENAME\* [if possible, drop second letter from participants profile name in this dialogue]

(45sec) roystaf: please don’t make me talk to this guy

(51sec) wazzzuupp4: dude, ur profile is so awkward

(53sec) chuckyb17: where do they even find these people?

(55sec) Benjammin: I’m outta here

(61sec) robb2: the clearance aisle?

(64sec) Benjammin has left the chat!

(73sec) cowboy285: PROFILENAME\* made Benjammin leave.

(81sec) roystaf: ZZZZZzzzzzzZZZZzzzzzz

(88sec) chuckyb17: Speaking of lame diversions, I got dragged to this awful movie yesterday

(90sec) That's all for our chat today!

Asterisks (\*) next to capitalized text indicates auto-populated text derived from the participants' created profile.

### Study 3:

#### "Networking Study" Homepage text:

"Welcome to the Gay Men's Networking Study! This online community hosts an array of studies for gay and bisexual men. Individuals have different roles in the community based on the study (or studies) they are in, and our members are always welcome to stay involved. If you're reading this page, this means you're new and will be filling the role of a **contributor**. Click on the button below to get started!"

#### Chatroom Text (high status condition):

(1sec) Benjammin: that's why we have to use snow tires in Minnesota

(8sec) evan4you: wow, that's nuts. I thought new jersey was bad...

(11sec) chuckyb17: Move to San Fran, dude!

(18sec) Benjammin: I've thought about it since I'm in tech, but I already make really good money out here

(26sec) wazzzuupp4: yeah dude, but think of the money you'll save on heat and snow tires

(30sec) robb2: Haha, seriously

(36sec) robb2: dudes, check out my passport photo I just waited 45 minutes to get:

(43sec) robb2: [HIGH STATUS IMAGE]

(48sec) cowboy285: dealing with passports is the worst

(53sec) cowboy285: this photo's good, though!

(56sec) roystaff: nice, robb

(60sec) PROFILENAME\* has joined the chat!

(72sec) roystaff: another boring, basic profile

(75sec) robb2: please don't make us talk to this person

(81sec) wazzzuupp4: wow your profile is so awkward



(83sec) chuckyb17: where do they even find these people?

(85sec) Benjammin: I'm outta here

(90sec) robb2: the clearance aisle?

(94sec) Benjammin has left the chat!

(103sec) cowboy285: PROFILENAME\* made Benjammin leave. [SECOND LETTER DROPPED FROM PARTICIPANT'S PROFILE NAME IN THIS EXCHANGE TO APPEAR AS TYPO]

(111sec) roystaf: ZZZZZzzzzzzZZZZzzzzzz

(118sec) chuckyb17: broooo, that profile was a conversation killer

(120sec) That's all for our chat today!

**Chatroom Text (low status condition):**

(1sec) Benjammin: that's why we have to use snow tires in Minnesota

(8sec) evan4you: wow, that's nuts. I thought new jersey was bad...

(11sec) chuckyb17: Move to San Fran, gurl!

(18sec) Benjammin: I've thought about it since I'm in fashion, but I can't afford to live there

(26sec) wazzzuupp4: yass queen, but think of the money you'll save on heat and snow tires

(30sec) robb2: Haha, seriously

(36sec) robb2: gurls, check out my passport photo I just waited 45 minutes to get:

(43sec) robb2: [LOW STATUS IMAGE]

(48sec) cowboy285: dealing with passports is the worst

(53sec) cowboy285: this photo's good, though!

(56sec) roystaf: nice, robb

(30sec) PROFILENAME\* has joined the chat!

(72sec) roystaf: another boring, basic profile

(75sec) robb2: please don't make us talk to this person

(81sec) wazzzuupp4: wow, your profile is so awkward

(83sec) chuckyb17: where do they even find these people?

(85sec) Benjammin: I'm outta here

(90sec) robb2: the clearance aisle?

(94sec) Benjammin has left the chat!

(103sec) cowboy285: PROFILENAME\* made Benjammin leave. [SECOND LETTER DROPPED FROM PARTICIPANT'S PROFILE NAME IN THIS EXCHANGE TO APPEAR AS TYPO]

(111sec) roystaf: ZZZZZzzzzzzZZZZZZZZ

(118sec) chuckyb17: guuuurl, that profile was a conversation killer

(120sec) That's all for our chat today!

## Study 4

"Welcome to the Gay and Bisexual Men's Networking Study! This online community hosts an array of studies for gay and bisexual men. Individuals have different roles in the community based on the study (or studies) they are in, and our members are always welcome to stay involved. If you're reading this page, this means you're new and will be filling the role of a **contributor**. Click on the button below to get started!"

### Condition 1 Chatroom Text (no status disclosure, neutral rejection condition):

(1sec) Benjammin: that's why we have to use snow tires in Minnesota

(8sec) evan4you: wow, that's nuts. I thought new jersey was bad...

(11sec) chuckyb17: Move to San Fran, dude!

(18sec) Benjammin: Fve thought about it since I'm in tech, but I already make really good money out here

(26sec) wazzzuupp4: yeah dude, but think of the money you'll save on heat and snow tires

(30sec) robb2: Haha, seriously

(36sec) robb2: guys, they take the photo thing so seriously in this study, it's like all cropped and stuff

(43sec) robb2: [Face Image 1]

(48sec) cowboy285: lol yupp

(53sec) cowboy285: [Face Image 2]

(56sec) roystaf: looking good, guys ;)

(58sec) roystaf: [Face Image 3]

(62sec) PROFILENAME\* has joined the chat!

(72sec) roystaff: another basic profile

(75sec) robb2: ughhh another SEASON\* person

(81sec) wazzzuupp4: \*eyeroll\* cool pet, dude... :/

(83sec) chuckyb17: where do they even find these people?

(85sec) Benjammin: I'm outta here

(90sec) robb2: idk, boringville?

(94sec) Benjammin has left the chat!

(103sec) cowboy285: PROFILENAME\* made Benjammin leave. [SECOND LETTER DROPPED FROM PARTICIPANT'S PROFILE NAME IN THIS EXCHANGE TO APPEAR AS TYPO]

(111sec) roystaf: and his fav food is lame

(118sec) chuckyb17: broooo, that profile was a conversation killer

(120sec) That's all for our chat today!

**Condition 2: Chatroom Text (status disclosure, neutral rejection condition):**

(1sec) Benjammin: that's why we have to use snow tires in Minnesota

(8sec) evan4you: wow, that's nuts. I thought new jersey was bad...

(11sec) chuckyb17: Move to San Fran, dude!

(18sec) Benjammin: I've thought about it since I'm in tech, but I already make really good money out here

(26sec) wazzzuupp4: yeah dude, but think of the money you'll save on heat and snow tires

(30sec) robb2: Haha, seriously

(36sec) robb2: guys, they take the photo thing so seriously in this study, it's like all cropped and stuff

(43sec) robb2: [Face Image 1]

(48sec) cowboy285: lol yupp

(53sec) cowboy285: [Face Image 2]

(56sec) roystaff: looking good, guys ;)

(58 sec) roystaff: [Face Image 3]

(62sec) PROFILENAME\* has joined the chat!

(72sec) roystaff: another basic profile

(75sec) robb2: ughhh another SEASON\* person

(81sec) wazzzuupp4: \*eyeroll\* cool pet, dude... :/

(83sec) chuckyb17: where do they even find these people?

(85sec) Benjammin: I'm outta here

(90sec) robb2: idk, boringville?

(94sec) Benjammin has left the chat!

(103sec) cowboy285: PROFILENAME\* made Benjammin leave. [SECOND LETTER DROPPED FROM PARTICIPANT'S PROFILE NAME IN THIS EXCHANGE TO APPEAR AS TYPO]

(111sec) roystaf: and his fav food is lame

(118sec) chuckyb17: broooo, that profile was a conversation killer

(120sec) That's all for our chat today!

**Condition 3: Chatroom Text (status disclosure, reject on status condition):**

(1sec) Benjammin: that's why we have to use snow tires in Minnesota

(8sec) evan4you: wow, that's nuts. I thought new jersey was bad...

(11sec) chuckyb17: Move to San Fran, dude!

(18sec) Benjammin: I've thought about it since I'm in tech, but I already make really good money out here

(26sec) wazzzuupp4: yeah dude, but think of the money you'll save on heat and snow tires

(30sec) robb2: Haha, seriously

(36sec) robb2: guys, they take the photo thing so seriously in this study, it's like all cropped and stuff

(43sec) robb2: [Face Image 1]

(48sec) cowboy285: lol yupp

(53sec) cowboy285: [Face Image 2]

- (56sec) roystaff: looking good, guys ;)
- (58sec) roystaff: [Face Image 3]
- (62sec) PROFILENAME\* has joined the chat!
- (72sec) roystaff: great, another basic profile
- (75sec) robb2: ughhh and she sounds so femme
- (81sec) wazzzuupp4: \*eyeroll\* at [HEIGHT]\* and [WEIGHT]\*... :/
- (83sec) chuckyb17: where do they even find these people?
- (85sec) Benjammin: I'm outta here
- (90sec) robb2: the clearance aisle?
- (94sec) Benjammin has left the chat!
- (103sec) cowboy285: PROFILENAME\* made Benjammin leave. [SECOND LETTER DROPPED FROM PARTICIPANT'S PROFILE NAME IN THIS EXCHANGE TO APPEAR AS TYPO]
- (111sec) roystaf: and his job is lame
- (118sec) chuckyb17: broooo, that profile was a conversation killer
- (120sec) That's all for our chat today!
- Asterisks (\*) next to capitalized text indicates auto-populated text derived from the participants' created profile.

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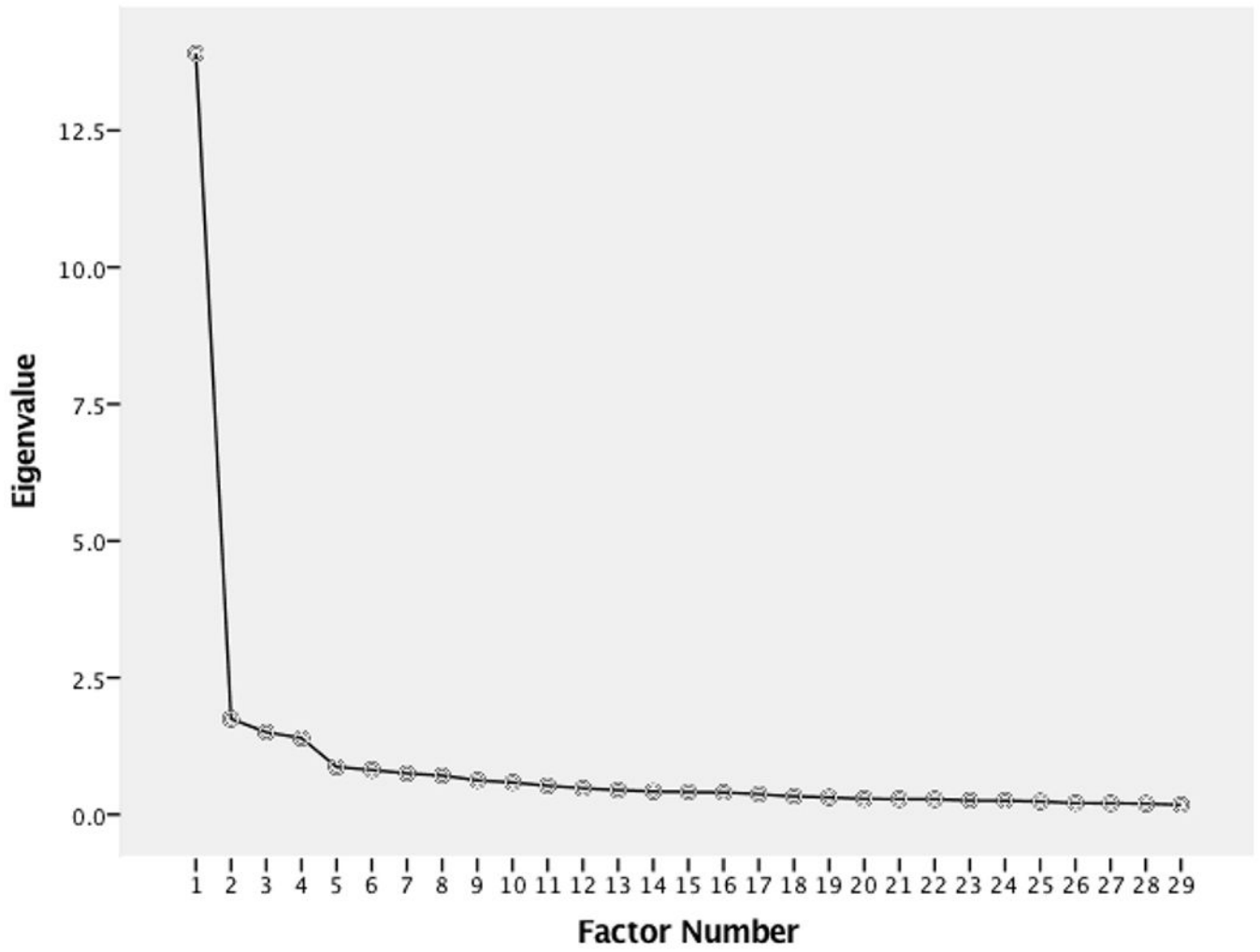
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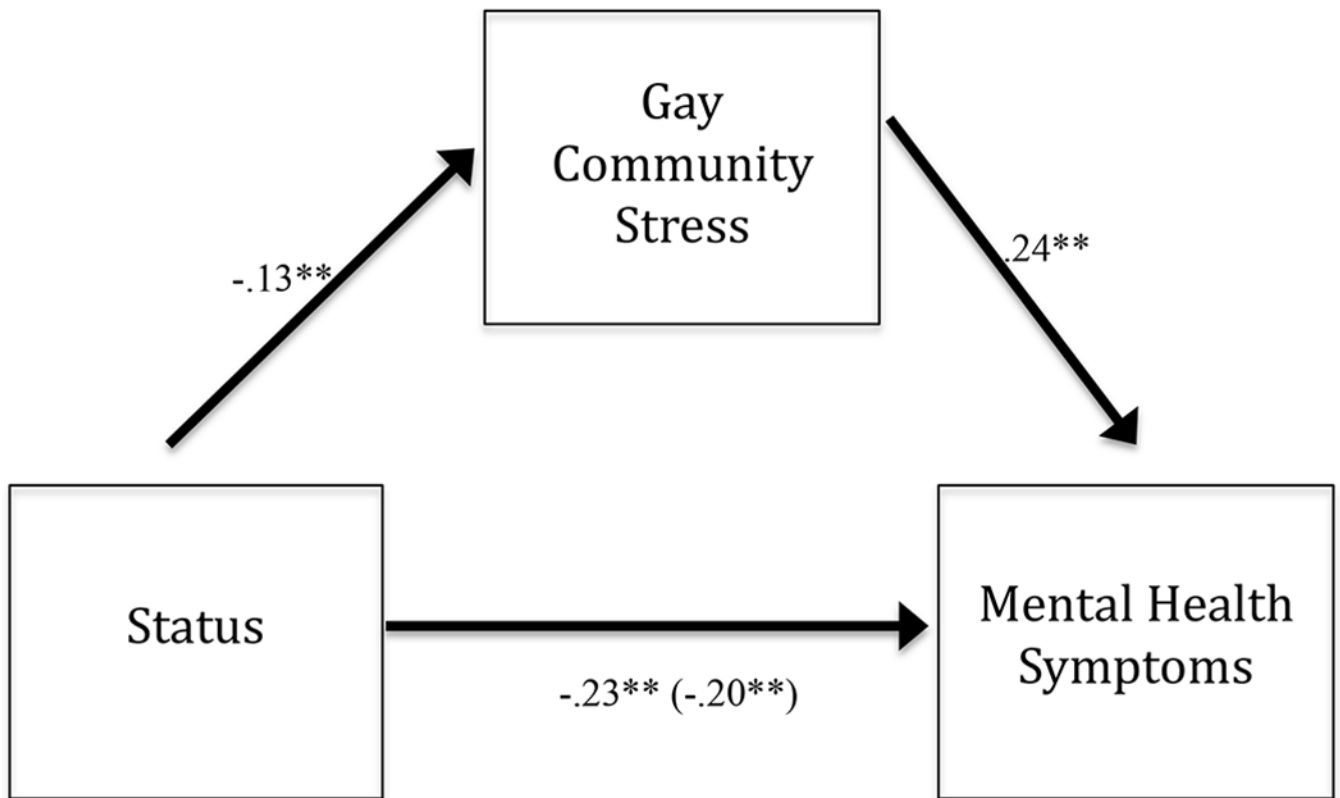
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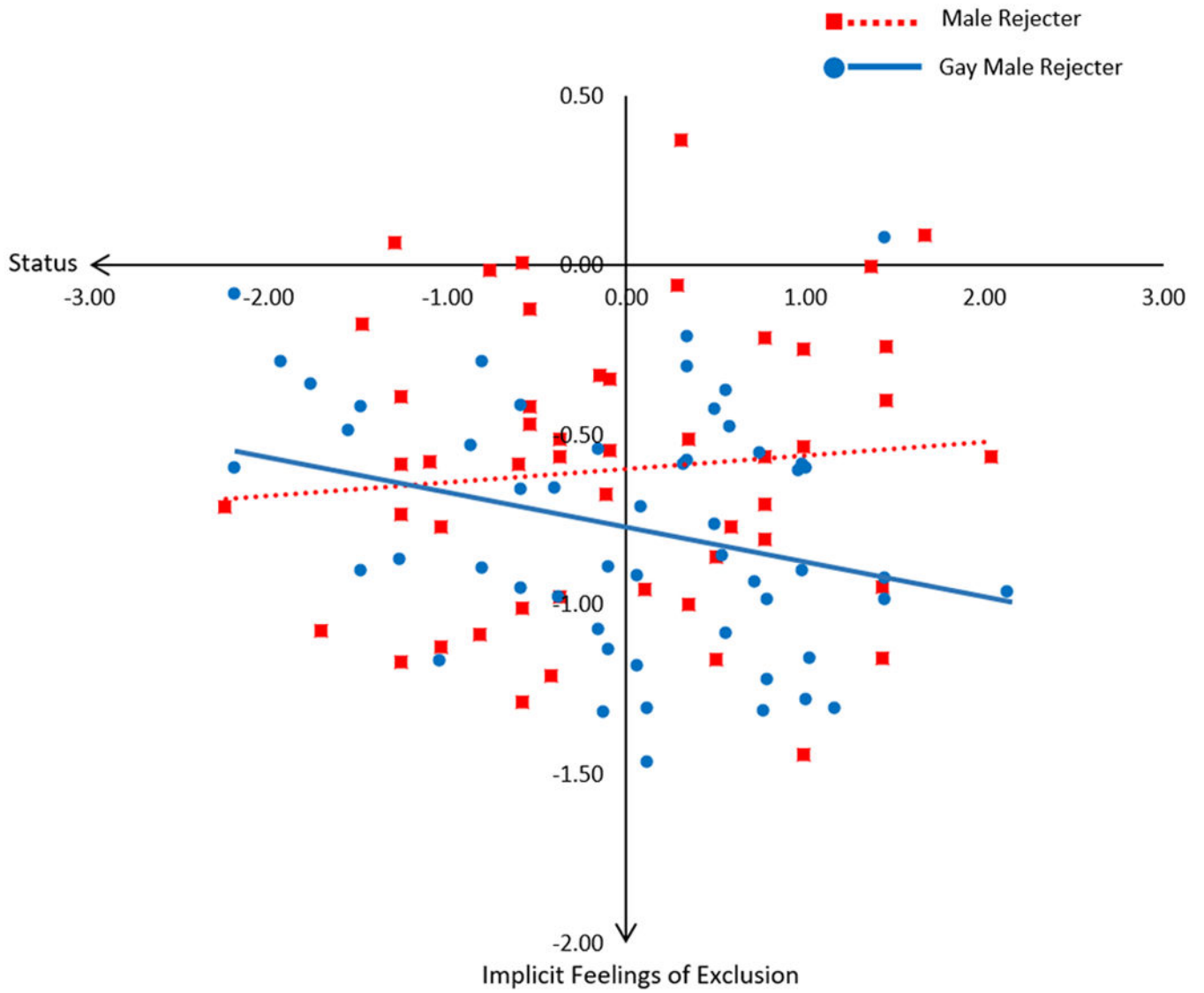
**Figure 1.** Scree Plot Used to Determine the Number of Factors to Retain in the Factor Analysis of the 29 Items of the Gay Community Stress Scale (Study 1)



**Figure 2.**

Associations Among Status, Gay Community Stress, and Mental Health (Study 1)

Note. \*  $p < .05$ , \*\*  $p < .01$ ; indirect effect:  $B = -0.03$ , 95% CI =  $-0.06, -0.01$ ,  $p < .01$ ; the parenthetical number includes the direct effect of status on mental health symptoms



**Figure 3.** Implicit Feelings of Exclusion as a Function of Rejecter Sexual Orientation and Participant Social and Sexual Status (Study 2)

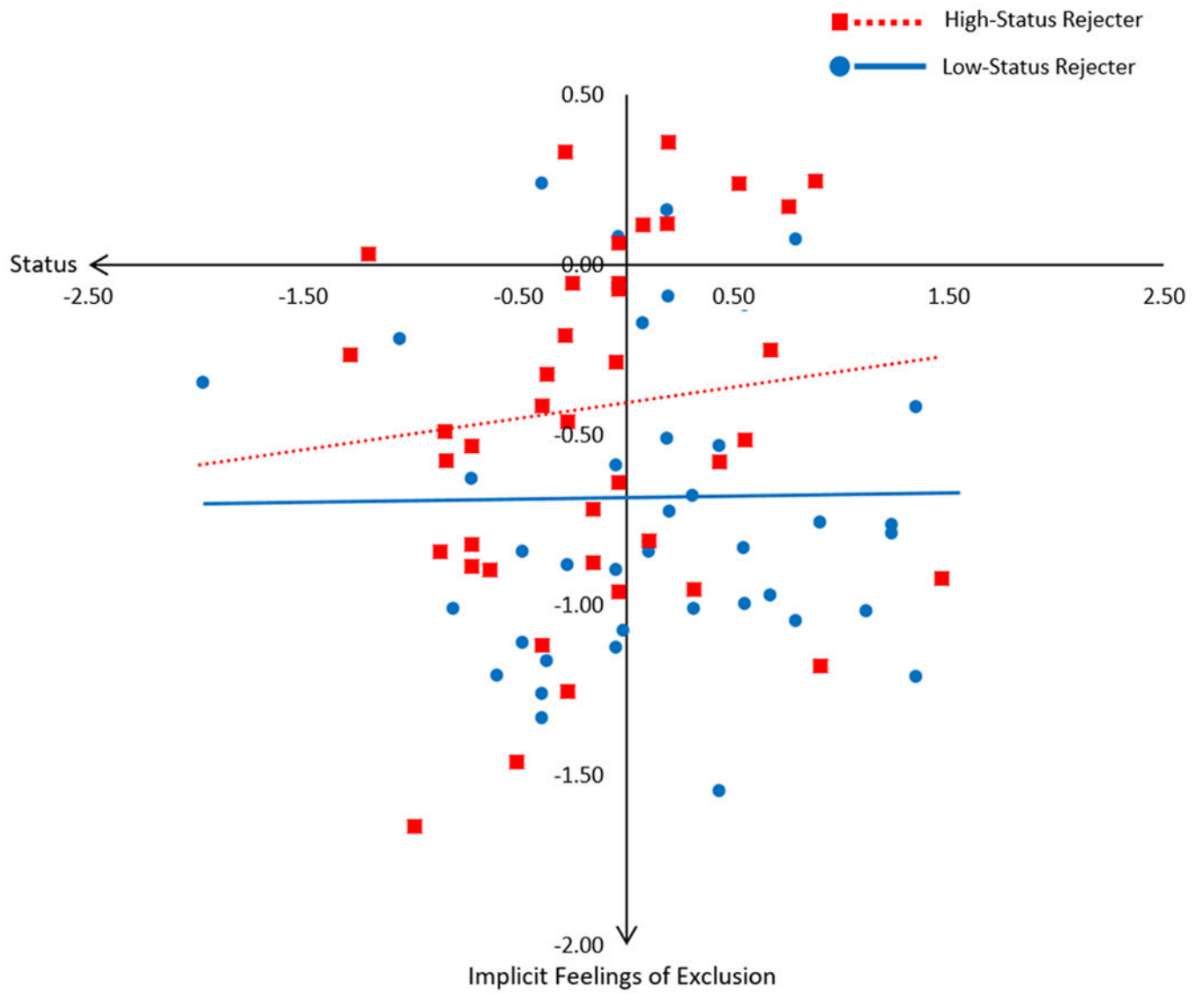
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**Figure 4.** Implicit Feelings of Exclusion as a Function of Rejecter and Participant Social and Sexual Status (Study 3)

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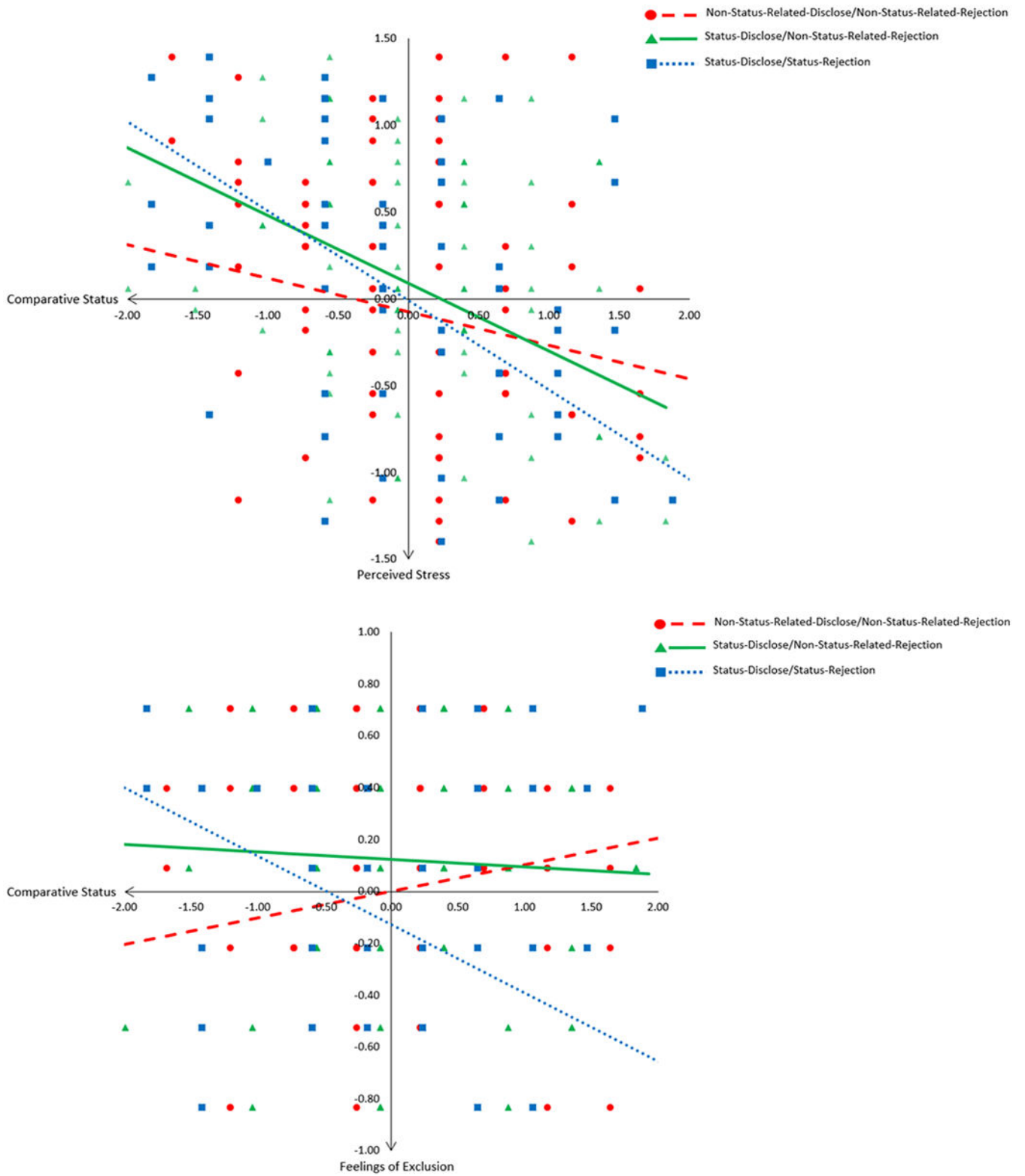


Figure 5.

- a. *Self-Reported Stress as a Function of Perceived Comparative Status and Rejection Type (Study 4)*
- b. *Self-Reported Feelings of Exclusion as a Function of Perceived Comparative Status and Rejection Type (Study 4)*

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**Table 1.** Sample Demographic Characteristics and Gay Community Stress Scale (GCSS) Distribution (N = 937) (Study 1)

Demographic Characteristics	Group Differences in Gay Community Stress <sup>a</sup>																	
	N	%	Sex M	Sex SD	F	Status M	Status SD	F	Competition M	Competition SD	F	Exclusion M	Exclusion SD	F	Total Scale M	Total Scale SD	F	
Race					0.47			0.19			0.05						12.00**	0.97
Black	100	10.7	2.50	1.16		2.02	.97		2.14	.99		2.81	1.30		2.32	.91		
White	636	67.9	2.49	1.08		1.97	.98		2.16	1.00		2.29	1.15		2.24	.89		
Asian / Native Hawaiian / Pacific Islander	97	10.4	2.63	.89		2.03	.90		2.19	.85		2.81	1.00		2.36	.75		
Other / Multiracial	104	11.1	2.53	1.15		1.99	1.05		2.17	1.11		2.45	1.28		2.34	.98		
Ethnicity					8.24**			5.89*			4.29*						13.15**	9.75**
Hispanic	235	25.1	2.68	1.11		2.11	1.04		2.28	1.08		2.69	1.26		2.43	.93		
Non- Hispanic	702	74.9	2.45	1.06		1.93	.95		2.12	.97		2.37	1.15		2.22	.87		
Sexual Orientation					1.73			2.03			2.10						9.34**	2.71*
Gay	688	73.4	2.56	1.08		2.02	.99		2.19	1.01		2.48	1.17		2.31	.89		
Bisexual	222	23.7	2.37	1.05		1.84	.94		2.01	.97		2.22	1.16		2.12	.86		
Queer	21	2.2	2.29	1.01		2.24	1.04		2.51	1.09		3.78	1.12		2.58	.84		
Heterosexual	1	.1	3.33	--		1.50	--		3.00	--		3.33	--		2.85	--		
Uncertain	5	.5	2.43	.85		2.40	1.01		1.94	.67		2.07	1.09		2.20	.74		
HIV Status					3.63*			2.63			1.25						.01	1.51
Positive	81	8.6	2.21	1.10		2.00	1.10		2.09	1.12		2.44	1.06		2.16	1.00		
Negative	808	86.2	2.53	1.07		1.96	.96		2.15	.98		2.45	1.20		2.27	.87		
Unsure	48	5.1	2.63	1.11		2.29	1.05		2.37	1.05		2.43	1.13		2.44	.92		
Income					3.74			10.11**			2.36						1.09	4.91*

Demographic Characteristics		Group Differences in Gay Community Stress <sup>a</sup>																
		N	%	Sex M	Sex SD	F	Status M	Status SD	F	Competition M	Competition SD	F	Exclusion M	Exclusion SD	F	Total Scale M	Total Scale SD	F
< \$30,000	473	50.5	2.58	1.10	1.03	2.08	1.03		2.21	1.06		2.49	1.24		2.33	.92		
\$30,000	464	49.5	2.44	1.05	.91	1.88	.91		2.10	.94		2.41	1.14		2.21	.85		
Employment Status								1.03			.09						1.43	0.28
Full-time	539	57.5	2.50	1.07	.97	1.97	.97		2.18	.99		2.44	1.17		2.27	.88		
Part-time	125	13.3	2.45	1.15	1.09	1.99	1.09		2.17	1.11		2.43	1.22		2.25	1.00		
On disability	20	2.1	2.39	1.11	.95	2.10	.95		2.36	1.12		2.28	.94		2.31	.92		
Student	188	20.1	2.64	1.08	.94	1.98	.94		2.10	.97		2.58	1.26		2.31	.86		
Unemployed	65	6.9	2.40	.94	.96	2.00	.96		2.09	.94		2.19	1.11		2.27	.89		
Highest Educational Activity								1.03			.09						2.14	2.57*
Some high school	16	1.7	3.07	1.28	1.40	2.56	1.40		2.80	1.26		2.83	1.35		2.84	1.23		
High school diploma or GED	83	8.9	2.28	1.10	1.02	1.94	1.02		2.07	1.13		2.12	1.05		2.12	.95		
Some college or Associate's degree	371	39.6	2.57	1.13	1.01	2.00	1.01		2.19	1.04		2.47	1.25		2.31	.94		
Bachelor's or other 4-year degree	288	30.7	2.53	1.02	.91	1.92	.91		2.13	.91		2.49	1.13		2.26	.80		
Graduate degree	179	13.3	2.40	.99	.94	1.98	.94		2.12	.95		2.46	1.17		2.23	.84		
Relationship Status								10.6**			1.97						.46	4.62*
Single	637	68.0	2.59	1.10	1.02	2.01	1.02		2.19	1.03		2.46	1.20		2.31	.91		
Partnered	300	32.0	2.34	1.01	.88	1.92	.88		2.09	.93		2.41	1.17		2.18	.84		
Population Density of								.29			.35						1.20	0.28

Demographic Characteristics		Group Differences in Gay Community Stress <sup>a</sup>																
		N	%	Sex M	Sex SD	F	Status M	Status SD	F	Competition M	Competition SD	F	Exclusion M	Exclusion SD	F	Total Scale M	Total Scale SD	F
Current Residence																		
< 50,000	184	19.6	2.49	1.07		1.93	.97		2.12	.99		2.38	1.18		2.23	.89		
50,000 - 250,000	226	24.1	2.56	1.09		2.01	.99		2.21	1.02		2.37	1.21		2.30	.89		
> 250,000	527	56.6	2.50	1.08		1.99	.98		2.15	.99		2.50	1.19		2.27	.89		
	<i>M</i>	<i>SD</i>			<i>r</i>		<i>r</i>		<i>r</i>		<i>r</i>		<i>r</i>		<i>r</i>			
Age (Range: 18 - 68; Median = 28)	30.78	9.8				-0.16**			-0.08*			-0.04			-0.15***			-0.12**

<sup>a</sup> Scores could range from 1 to 5.

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$



**Table 2.**

Items and Factor Loadings of the Gay Community Stress Scale (Study 1)

Item	Original Scale Structure				Modified Scale Structure Removing Cross-Loading and Weakly Loading Items				Confirmatory Factor Analysis in US Student Sample				Confirmatory Factor Analysis in Swedish Adult Sample			
	Sex	Status	Competition	Exclusion	Sex	Status	Competition	Exclusion	Sex	Status	Competition	Exclusion	Sex	Status	Competition	Exclusion
1. The mainstream gay community values sex over meaningful relationships.	.90	.00	-.01	-.05	.93	--	--	--	.90	--	--	--	.84	--	--	--
2. It is difficult to maintain a romantic relationship in the mainstream gay community.	.82	.00	.03	-.05	.83	--	--	--	.83	--	--	--	.78	--	--	--
3. The mainstream gay community is overly focused on sex.	.76	.10	-.02	.01	.78	--	--	--	.77	--	--	--	.78	--	--	--
4. In the mainstream gay community, everyone has sex with each other.	.66	-.04	.18	.00	.67	--	--	--	.75	--	--	--	.75	--	--	--
5. The mainstream gay community is overly preoccupied with hookup/dating apps.	.65	.13	.06	.02	.64	--	--	--	.62	--	--	--	.75	--	--	--
6. In the mainstream	.47	-.14	.11	.33	.49	--	--	--	.67	--	--	--	.60	--	--	--

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Item	Original Scale Structure				Modified Scale Structure Removing Cross-Loading and Weakly Loading Items				Confirmatory Factor Analysis in US Student Sample				Confirmatory Factor Analysis in Swedish Adult Sample			
	Sex	Status	Competition	Exclusion	Sex	Status	Competition	Exclusion	Sex	Status	Competition	Exclusion	Sex	Status	Competition	Exclusion
gay community, there is a lot of risky sex.																
7. The mainstream gay community overly values having a high-status job.	.03	.81	.03	.06	--	.88	--	--	--	.82	--	--	--	.78	--	--
8. The mainstream gay community overly values men who are wealthy.	-.02	.81	.10	.03	--	.84	--	--	--	.88	--	--	--	.76	--	--
9. The mainstream gay community overly values men who are powerful and high status.	.05	.67	.20	.04		.69				.80				.78		
10. The mainstream gay community overly values stylish clothes and up-to-date fashion.	.06	.64	.17	-.07	--	.60	--	--	--	.66	--	--	--	.66	--	--
11. In the mainstream gay community, there is a lot of fighting, bickering, and cattiness.	-.07	.06	.88	.01	--	--	.91	--	--	.83	--	--	--	--	.82	--

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Item	Original Scale Structure			Modified Scale Structure Removing Cross-Loading and Weakly Loading Items			Confirmatory Factor Analysis in US Student Sample			Confirmatory Factor Analysis in Swedish Adult Sample		
	Sex	Status	Competition	Exclusion	Sex	Status	Competition	Exclusion	Sex	Status	Competition	Exclusion
12. The mainstream gay community is overly gossipy.	.03	.02	.75	.01	--	--	.81	--	--	--	.77	--
13. The mainstream gay community has a culture of competition and jealousy.	.03	.15	.75	-.02	--	--	.79	--	--	--	.83	--
14. The mainstream gay community is overly cliquey.	.02	.11	.64	.06	--	--	.69	--	--	--	.78	--
15. In the mainstream gay community, there is a lot of mistrust among friends.	.14	.02	.66	.03	--	--	.64	--	--	--	.74	--
16. The mainstream gay community is overly judgmental.	.26	.01	.48	.17	--	--	.53	--	--	--	.75	--
17. The mainstream gay community is overly materialistic.	-.01	.38	.52	.06	--	--	.52	--	--	--	.77	--
18. The mainstream gay community is racist.	-.01	-.08	.03	.84	--	--	.97	--	--	--	--	.78

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Item	Original Scale Structure			Modified Scale Structure Removing Cross-Loading and Weakly Loading Items			Confirmatory Factor Analysis in US Student Sample			Confirmatory Factor Analysis in Swedish Adult Sample		
	Sex	Status	Competition	Exclusion	Sex	Status	Competition	Exclusion	Sex	Status	Competition	Exclusion
19. The mainstream gay community sexually objectifies men of color.	-.06	.18	-.01	.70	--	--	--	.64	--	--	--	.72
20. The mainstream gay community discriminates against its members who have HIV/AIDS.	.02	.02	.18	.60	--	--	.49	--	--	--	--	.72
21. The mainstream gay community overly values physically fit bodies.	.35	.31	.09	.15	--	--	--	--	--	--	--	--
22. The mainstream gay community overly values penis size.	.15	.38	.07	.11	--	--	--	--	--	--	--	--
23. The mainstream gay community overly values being masculine.	.15	.37	-.06	.39	--	--	--	--	--	--	--	--
24. The mainstream gay community sees older men as less desirable.	.03	.25	.21	.23	--	--	--	--	--	--	--	--
25. Within the mainstream	.38	.01	.40	.00	--	--	--	--	--	--	--	--

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Item	Original Scale Structure			Modified Scale Structure Removing Cross-Loading and Weakly Loading Items			Confirmatory Factor Analysis in US Student Sample			Confirmatory Factor Analysis in Swedish Adult Sample		
	Sex	Status	Competition	Exclusion	Sex	Status	Competition	Exclusion	Sex	Status	Competition	Exclusion
gay community, strong, meaningful friendships are rare.	.21	.26	.32	.03	--	--	--	--	--	--	--	--
26. The mainstream gay community is overly preoccupied with social media.					--	--	--	--	--	--	--	--
27. In the mainstream gay community, there is a lot of drug use.	.12	-.11	.39	.28	--	--	--	--	--	--	--	--
28. The mainstream gay community places too much emphasis on fitting into a specific category or group (e.g., twink, bear, jock).	.32	.22	.04	.30	--	--	--	--	--	--	--	--
29. The mainstream gay community is overly focused on sexual position (i.e., top, bottom, versatile).	.27	.31	.03	.21	--	--	--	--	--	--	--	--

**Table 3.** Correlations Between Gay Community Stress and Other Study Variables (N = 937) (Study 1)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	
1. GCSS: Perceived Community Focus on Sex	--	.57**	.69**	.52**	.87**	.01	.19**	.21**	.18**	.17**	-.08*	.26**	
2. GCSS: Perceived Community Focus on Status		--	.71**	.51**	.81**	-.01	.09**	.22**	.28**	.23**	-.16**	.30**	
3. GCSS: Perceived Community Competitiveness			--	.57**	.92**	.01	.14**	.23**	.28**	.20**	-.08*	.28**	
4. GCSS: Perceived Community Exclusion				--	.73**	-.09**	.03	.19**	.24**	.11**	-.14**	.21**	
5. GCSS: Total					--	-.01	.15**	.25**	.29**	.21**	-.13**	.31**	
6. Sexual orientation concealment						--	.42**	.06	.01	.13**	.02	-.06	
7. Internalized homonegativity							--	.28**	.31**	.24**	-.08*	.23**	
8. Rejection sensitivity								--	.41**	.22**	-.10**	.23**	
9. Discrimination									--	.31**	-.17**	.34**	
10. General life stress										--	-.19**	.54**	
11. Status											--	-.25**	
12. Mental health symptoms												--	
	<i>Mean</i>	2.51	1.98	2.15	2.44	2.27	3.10	1.67	11.88	16.22	25.76	.00	.70
	<i>SD</i>	1.08	.98	1.00	1.19	.89	.85	.74	7.82	5.96	7.92	.63	.73

\* *p* .05

\*\* *p* .01



**Table 4.**

Predicting Mental Health Symptoms from Minority Stress, General Life Stress, and Gay Community Stress (N = 937) (Study 1)<sup>a</sup>

	Model 1			Model 2			Model 3		
	B (SE)	$\beta$	p	B (SE)	$\beta$	p	B (SE)	$\beta$	p
<b>Step 1: Minority Stressors</b>									
Sexual orientation concealment	.00 (.03)	.00	.91	-.02 (.03)	-.03	.37	-.01 (.03)	-.01	.63
Internalized homonegativity	.10 (.04)	.10	.01	.06 (.03)	.06	.06	.05 (.03)	.05	.10
Rejection sensitivity	.01 (.00)	.08	.01	.00 (.00)	.04	.19	.00 (.00)	.01	.64
Discrimination	.03 (.00)	.26	<.01	.02 (.00)	.17	<.01	.02 (.00)	.14	<.01
<b>Step 2: General Life Stress</b>									
General life stress				.04 (.00)	.45	<.01	.04 (.00)	.43	<.01
<b>Step 3: Gay Community Stress</b>									
Gay community stress							.14 (.02)	.17	<.01
<i>R</i> <sup>2</sup>	.18			.34			.37		
<i>R</i> <sup>2</sup> change				.17			.03		
significance (p) of <i>R</i> <sup>2</sup> change				<.01			<.01		

<sup>a</sup> All models adjust for age, race, income, educational attainment, and relationship status

**Table 5.** Comparison of Three Experimental Studies of Intra-Minority Gay Community Stress (Studies 2–4)

	Study 2	Study 3	Study 4
Research question	Do status concerns underlie gay and bisexual men's experience of stress when interacting with other gay, compared to heterosexual, men?	Is other gay men's status a source of stress when interacting with them (i.e., intra-minority stress)?	Do status concerns underlie gay and bisexual men's experience of stress when interacting with gay and bisexual men (i.e., intra-minority stress)?
Conditions	Condition 1: Rejection from gay men in online chat Condition 2: Rejection from presumably heterosexual men in online chat	Condition 1: Rejection from high-status gay men in online chat Condition 2: Rejection from low-status gay men in online chat	In all conditions, rejecters were presented as gay and bisexual. Condition 1: Disclose non-status-related information + Get rejected on non-status-related information (non-status-related-disclose/non-status-related-rejection) Condition 2: Disclose status-related information + Get rejected on non-status-related information (status-disclose/non-status-related-rejection) Condition 3: Disclose status-related information + Get rejected on status-related information (status-disclose/status-rejection)
Sample	103 gay and bisexual men from existing online study panels (masked to study inclusion criteria)	83 gay and bisexual men from existing online study panels	252 gay and bisexual men recruited mostly from a general large social networking site (and 6.7% from a large sexual networking application for gay and bisexual men)
Dependent variable	Implicit feelings of exclusion	Implicit feelings of exclusion	Perceived stress Explicit feelings of exclusion
Findings	Condition effect: Rejection from presumably heterosexual men yielded higher felt exclusion than rejection from gay men Status effect: Participant's status was inversely associated with felt exclusion Condition x status interaction: Marginally significant interaction; status was negatively associated with felt exclusion following rejection from gay men, but not heterosexual men	Condition effect: Rejection from high-status gay men yielded higher felt exclusion than rejection from low-status gay men Status effect: Participant's status was not associated with felt exclusion Condition x status interaction: No significant interaction	Condition effect: No effect Perceived comparative status effect: Participants with higher perceived comparative status reported less stress and less felt exclusion Effects of perceived comparative status with stress as DV: Condition 1: negative ( $p = .053$ ) Condition 2: negative ( $p < .001$ ) Condition 3: negative ( $p < .001$ ) Effects of perceived comparative status with felt exclusion as DV: Condition 1: positive ( $p = .298$ ) Condition 2: negative ( $p = .794$ ) Condition 3: negative ( $p < .05$ )

**Table 6.** Predicting Self-Reported Stress and Feelings of Exclusion from Perceived Comparative Status and Experimental Condition (Study 4)

	Stress			Feelings of Exclusion		
	<i>b</i>	<i>SE(b)</i>	<i>p</i>	<i>b</i>	<i>SE(b)</i>	<i>p</i>
Perceived Comparative Status	-.52	.10	<.001	-.26	.11	.017
Non-Status-Disclose/Non-Status-Rejection ( <i>Contrast reference group is the Status-Disclose/Status-Rejection condition</i> )	-.07	.14	.648	.13	.15	.387
Status-Disclose/Non-Status-Rejection ( <i>Contrast reference group is the Status-Disclose/Status-Rejection condition</i> )	.10	.14	.488	.25	.15	.100
Non-Status-Disclose/Non-Status-Rejection ( <i>Contrast reference group is the Status-Disclose/Non-Status-Rejection condition</i> )	-.17	.14	.241	-.12	.15	.412
Perceived Comparative Status x Non-Status-Disclose/Non-Status-Rejection ( <i>Contrast reference group is the Status-Disclose/Status-Rejection condition</i> )	.32	.14	.023	.37	.15	.016
Perceived Comparative Status x Status-Disclose/Non-Status-Rejection ( <i>Contrast reference group is the Status-Disclose/Status-Rejection condition</i> )	.13	.15	.410	.24	.15	.128
Perceived Comparative Status x Non-Status-Disclose/Rejection-Rejection ( <i>Contrast reference group is the Status-Disclose/Non-Status-Rejection condition</i> )	.20	.14	.161	.13	.15	.386