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The Impact of Victimization and Neuroticism on Mental Health in Young Men who have Sex with Men: Internalized Homophobia as an Underlying Mechanism

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Abstract

Sexual minorities experience greater mental health issues compared to heterosexuals due to minority stressors. This study focused on the impact of victimization and neuroticism on mental health in young men who have sex with men (YMSM), and the mediating role of internalized homophobia (IH). IH refers to when a sexual minority person internalizes social bias and develops a negative view of themselves, which is a likely process through which victimization and neuroticism impact mental health. Data were collected over three time points across 12 months, with 450 YMSM (mean age = 18.9) and an 80.7% retention rate. Two mediation analyses with bias-corrected bootstrapping using 1000 samples were conducted, controlling for age, race, and sexual orientation. Results revealed that victimization [$F(9, 440) = 4.83, p < .001, R^2 = .09$] and neuroticism [$F(9, 440) = 12.23, p < .001, R^2 = .20$] had a significant indirect effect on mental health via increased levels of IH. These findings show how external experiences of stigma and personality level characteristics may impact YMSM in terms of their sense of self. Furthermore, these results support addressing social conditions that marginalize YMSM in order to promote better mental health through decreasing IH.

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Statement of ethical approval: All procedures performed in this study involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Keywords

internalized homophobia; mental health; men who have sex with men; victimization

Lesbian, gay, and bisexual (LGB, also referred to as sexual minorities) populations are at elevated risk for mental health disparities compared to heterosexuals, with LGB individuals having higher rates of worry (Conron, Mimiaga, & Landers, 2010), anxiety, depression, and suicide attempts (King et al., 2008; Lick, Durso, & Johnson, 2013; McLaughlin, Hatzenbuehler, Xuan, & Conron, 2012). For example, in a nationally representative study, Bostwick and colleagues (2010) found that sexual minorities had a greater likelihood of lifetime and past year mood and anxiety disorders using structured clinical interviews, with sexual minority men being at particularly high risk for mental health disparities. In terms of sexual orientation identity groups among men, gay men had the highest prevalence of lifetime mood disorders (42.3%), followed by bisexuals (36.9%), and men who were unsure of their sexual orientation (36.4%); 19.8% of heterosexual men had a lifetime history of a mood disorder. Additionally, men who reported having sex with both men and women (regardless of their sexual orientation label) had the highest rates of mental health issues across several mood and anxiety disorders.

These mental health disparities have been found to be accounted for by stressors experienced by sexual minorities. In Meyer's (2003) minority stress model, these stressors included both proximal (i.e., internalized homophobia [IH], stigma consciousness, identity concealment) and distal components (i.e., experiencing heterosexism and victimization). Given the mental health disparities that exist, especially for sexual minority men (Bostwick et al., 2010), identifying the predictors and mechanisms that explain the production of these disparities can help inform future prevention and intervention efforts to improve mental health in this community.

Victimization and Mental Health

A significant percentage of LGB individuals experience some form of sexual orientation based victimization. For example, in a national probability sample, gay men were found to experience victimization disproportionately compared to sexual minority women; 63% experienced verbal abuse, 37.6% experienced a crime, and 35.4% were threatened with violence (Herek, 2009). Even higher rates have been found in community based samples, with as many as 94% of LGB and transgender (LGBT) youth having experienced some form of sexual orientation based victimization (Mustanski, Newcomb, & Garofalo, 2011). Research also has consistently shown that LGB victimization is related to increased mental health issues (Birkett, Newcomb, & Mustanski, 2015; Hatzenbuehler, Wieringa, & Keyes, 2011; Mustanski & Liu, 2013; Newcomb et al., 2012).

While research has documented the pervasiveness of experiencing victimization in many LGB individuals' lives (e.g., Mustanski, Newcomb, & Garofalo, 2011), researchers have started moving beyond documenting the association with mental health to understand further the mechanisms and processes that underlie this association. Hatzenbuehler (2009) has provided one useful framework for understanding some of the potential mechanisms that

might explain the association between victimization and mental health. In his model, Hatzenbuehler included the proximal stressors from the minority stress model as mediators, including IH, expectations of rejection, and identity concealment. In addition, he included general processes that were not connected to a minority group identity as potential mediators. These included coping and emotion regulation (e.g., rumination), cognitive processes (e.g., negative self-schemas), and social and interpersonal processes (e.g., social isolation).

Research has started examining elements of Hatzenbuehler's (2009) proposed model, although mostly related to the general processes he outlined, as well as other potential mediators of the association between experiencing stigma (broadly, including discrimination and victimization) and negative health outcomes. For example, in a national online sample of LGB adults, Liao, Kashubeck-West, Weng, and Deitz (2015) found that experiencing discrimination was related to greater psychological distress through increased expectations of rejection, anger rumination, and less self-compassion. Another significant mediator of the association between experiencing heterosexist events and psychological distress has been coping using detachment (Szymanski, Dunn, & Ikizler, 2014). Additionally, increased feelings of perceived burdensomeness has been a mediator of the relation between victimization and depression and suicidal ideation (Baams, Grossman, & Russell, 2015). Research also has started examining the links with physical health outcomes, with one study showing that experiencing stigma was related to worse physical health via increased expectations of rejection and compromised emotion focused coping self-efficacy (Denton, Rostosky, & Danner, 2014). In total, the research in this area is just beginning and has highlighted some important avenues for future work. One area, however, that is in need of further examination is the role of group-specific minority stressors in Hatzenbuehler's mediation model, and victimization's influence specifically on perceptions of the self.

The Mediating Role of IH

LGB individuals who experience disproportionate rates of victimization likely develop a more negative sense of self by internalizing the heterosexist beliefs that fuel these victimization experiences. IH is one group-level process that can link those external experiences of stigma to mental health issues (Hatzenbuehler, 2009) and refers to when a sexual minority person develops a negative self-view as a product of social marginalization (Shidlo, 1994). As Russell (2007) has explained, IH is a product of living within a marginalizing society and not an inherent quality of sexual minorities. When sexual minorities encounter heterosexism or experiences of marginalization, this can potentially impact their views of the self and in turn their mental health and well-being.

IH has been consistently related to increased mental health issues for sexual minorities, including depression, anxiety (Newcomb & Mustanski, 2010), and suicidality (D'Augelli, Grossman, Hershberger, & O'Connell, 2001). While research has demonstrated that both victimization and IH increase psychological distress, minimal work has examined this longitudinally or focused on IH as a mechanism or mediator of the relation between victimization and mental health. From the available cross-sectional studies, IH has been a significant mediator of the relation between experiences of discrimination and depression

(Szymanski & Ikizler, 2013), as well as discrimination and anxiety for LGB adults (Feinstein, Goldfried, & Davila, 2012). Even so, there is a need for longitudinal research in this area to further understand the association between victimization and IH.

Neuroticism, IH, and Mental Health

Although determining external predictors of IH are important, there also are likely intrapersonal variables associated with IH, such as personality traits, that may make it more likely that sexual minorities have higher levels of IH (Allen, 2001). For example, neuroticism is a personality trait characterized by negative affect (anxiety, depression, hostility), high levels of self-consciousness, impulsiveness, and vulnerability (McCrae & Costa, 1991). Because of the way personality may influence how individuals relate to their lived experiences and their abilities to manage stressors, neuroticism may place individuals at particular risk for internalizing negative messages about their sexual orientation. This may be especially true with neuroticism, which results in higher feelings of shame, guilt, and feelings of inferiority (McCrae & Costa, 1991) that could inhibit one's ability to show resilience in the face of heterosexist experiences.

In general, neuroticism has been related to lower self-esteem (Asendorpf & Van Aken, 2003), less life satisfaction (Lyons, Huebner, Hills, & Van Horn, 2013), more internalizing/externalizing problems (Lyons et al., 2013), as well as depression, anxiety, and substance use disorders in primarily heterosexual samples (Kotov, Gamez, Schmidt, & Watson, 2010). Additionally, neuroticism is a more robust predictor of life satisfaction than the actual experience of stressful life events (McKnight, Huebner, & Suldo, 2002), which indicates the need to examine both internal and external variables to more fully understand mental health. While the link between neuroticism and negative mental health has clearly been established with heterosexual samples (Kotov et al., 2010), research with sexual minorities has been limited.

In addition, a very limited amount of research has examined how neuroticism may relate to the minority stressor of IH, although this connection is likely due to the ways neuroticism impairs one's functioning. Initial research has revealed that IH is associated with neuroticism (Mayfield, 2001), and may be one of the personality traits that places sexual minorities at risk for suicide attempts (Livingston et al., 2015). Also, neuroticism is related to less resilience, difficulties in regulating emotions (Nakaya, Oshio, & Kaneko, 2006), and problematic coping styles (e.g., less problem solving, less cognitive restructuring, more withdrawal and avoidance; Connor-Smith & Flachsbart, 2007). Given the heterosexism that often surrounds the lives of LGB individuals, neuroticism may limit one's ability to successfully utilize adaptive coping strategies to manage stigma and distance oneself from anti-LGB messages. In addition, while neuroticism is a likely correlate (Mayfield, 2001), future research also is needed for other personality traits, such as having a self-defeating tendency (see Allen, 2001 for a comparison of personality traits between individuals who have high and low levels of IH).

Current Study

Victimization can have many negative effects on mental health for sexual minorities (Mustanski & Liu, 2013), which may partially be explained by the effects on a sexual minority person's sense of self and feelings of shame and IH. We sought to examine sexual orientation based victimization's impact on mental health and the mediating role of IH in a sample of young men who have sex with men (YMSM) with data collected longitudinally. In addition, we examined neuroticism as a personality level predictor of IH, as well as the mediational effects of IH on the association between neuroticism and mental health.

Methods

Participants and Procedures

Data for this analysis came from Crew 450, a longitudinal study investigating a syndemic of psychosocial issues related to HIV in YMSM, such as substance use and minority stress (see Burns, Ryan, Garofalo, Newcomb, & Mustanski, 2015; Garofalo, Hotton, Kuhns, Gratzner, & Mustanski, 2016; Newcomb, Ryan, Greene, Garofalo, & Mustanski, 2014). This analysis included three waves of data collected across one year (baseline, 6-, and 12-month follow-up), with 450 YMSM in the baseline sample and retention rates of 85.8% (N = 386) and 80.7% (N = 363) at 6- and 12-month follow-up, respectively. For inclusion in the study, participants were: 1) between 16 and 20 years of age at baseline; 2) assigned male at birth; 3) spoke English; 4) had a previous sexual encounter with a man or identified as gay or bisexual; and 5) were available for follow-up for 2 years. At baseline, the mean age of the sample was 18.9 years (SD = 1.29), with 116 participants (25.8%) less than 18 years old. The majority of the sample was racial/ethnic minorities (82%), including 53.3% Black/African Americans, 20% Hispanic/Latinos, and 8.7% who chose "other" as their race/ethnicity. About half of the sample (50.2%) identified as only gay/homosexual, with an additional 22.9% identifying as mostly gay/homosexual, 21.3% bisexual, 2.4% mostly heterosexual, 0.7% only heterosexual, and 2.4% who chose "other" as their sexual orientation.

A modified form of respondent driven sampling (Heckathorn, 1997) was used to recruit participants. The initial convenience sample (i.e., "seeds"; N = 172; 38.2%) was recruited from the community through targeted in-person outreach at venues frequented by YMSM, as well as school and organizational outreach, flyers posted in community settings, and through geo-social network applications (i.e., Grindr, Jackd). The study was approved by the Institutional Review Boards of the primary investigators' institutions with a waiver of parental permission under 45 CFR 46.408(c) (Mustanski, 2011). Participants provided their consent/assent to participate in the study and completed the surveys using computer-assisted self-interview technology. The participants were given \$70 to complete the baseline surveys, which were spread across two visits due to the length of the surveys, and an additional \$45 at each follow-up wave of data collection.

Measures

Demographics—Participants reported their age, birth sex, and race/ethnicity. Participants also self-reported their sexual orientation using the following options: only gay/homosexual, mostly gay/homosexual, bisexual, mostly heterosexual, only heterosexual, or other.

Victimization—A series of 24 questions were adapted from previous research (Kuhns, Vazquez, & Ramirez-Valles, 2008; Ramirez-Valles, Kuhns, Campbell, & Diaz, 2010) to assess participants' experiences of sexual orientation based victimization at baseline, such as rejection, unfair treatment, and victimization from friends, peers, family members, and other individuals. Participants indicated how often they had encountered each type of victimization over the previous 6 months (1 = *Never*, 2 = *Once or twice*, 3 = *A few times*, 4 = *Many times*) and the mean of their responses was computed. For example, participants indicated "In the past 6 months, how often have you been pushed around or beaten up because of your sexual orientation?" The Cronbach's alpha in the current sample was .86 at baseline.

Internalized homophobia—This measure was adapted from the Homosexual Attitudes Inventory (Nungesser, 1983), a measure frequently used to measure IH (Grey, Robinson, Coleman, & Bockting, 2013). The measure initially included 22 items, but due to poor face validity, five items were removed. We conducted a factor analysis on the remaining 17 items, and three subscales emerged (Puckett, Newcomb, Ryan, Swann, Garofalo, & Mustanski, 2016), which were supported via an exploratory factor analysis and a confirmatory factor analysis in a separate sample. For this study, the subscale measuring "desire to be heterosexual" was utilized as a measure of IH because the eight items of this subscale most closely resembled Meyer's definition of the construct in the minority stress model (Meyer, 2003). This is in contrast to the other two subscales that emerged, which measured fears of rejection and worries about other people stereotyping the participants. While the subscale used to assess IH measured personal feelings about being a sexual minority, the other two subscales were thought to potentially reflect realistic fears of rejection and being stereotyped rather than a negative view of one's self which is the core of IH. Example items included: "Sometimes I wish I were not gay" and "Sometimes I feel ashamed of my sexual orientation." Responses were measured on a 4-point Likert scale from 1 (*Strongly Disagree*) to 4 (*Strongly Agree*) and responses were averaged with higher scores indicating greater IH. Cronbach's alpha in the current sample was .90 at the second wave of data collection.

Mental health—The Achenbach System of Empirically Based Assessment– Youth Self-Report (YSR; ages 11–17) and Adult Self-Report (ASR; ages 18–59) are well-validated measures of internalizing mental health problems experienced in the prior 6 months (Achenbach, 2009). These were used at 12-month follow-up to measure such symptoms as anxiety, depression, withdrawal, and somatic complaints. Participants under age 18 completed the YSR, while participants 18 and over completed the ASR. Participants indicated how accurately each item described their behaviors (1 = *Not True*, 3 = *Very True or Often True*), with higher scores indicating greater internalizing problems. T scores were computed for the total scores on the internalizing problems scale, which allow for comparison across the youth and adult self-report scales. On the YSR, Cronbach's alpha in

the current sample was .93 at the third wave of data collection. On the ASR, Cronbach's alpha in the current sample was .94 at the third wave of data collection.

Neuroticism—The Multidimensional Personality Questionnaire (MPQ) – Stress Reactions Subscale, taken at baseline, is a validated measure of neuroticism (Patrick, Curtin, & Tellegen, 2002). This included 15 items, such as “My feelings are hurt rather easily” and “I am often troubled by guilt feelings.” Participants indicated whether the item was *true* (1) or *false* (0) and a mean was computed for all items, with higher scores indicating higher levels of neuroticism. Cronbach's alpha in the current sample was .83 at baseline.

Statistical Analysis

Mediation occurs when an independent variable has an effect on a dependent variable via a third (mediating) variable (Hayes, 2009; MacKinnon, Fritz, Williams, & Lockwood, 2007). In our analyses, we evaluated the direct and mediating effects for statistical significance but did not require a direct effect to evaluate the indirect effects and utilized bootstrapping procedures in accordance with current recommendations and practices in mediation analyses (Hayes, 2009; Rucker, Preacher, Tormala, & Petty, 2011). Using model 4 in the PROCESS SPSS macro (Hayes, 2013), regressions were conducted to evaluate the mediation analysis with bias-corrected bootstrapping using 1000 samples with 95% CIs to assess the impact of victimization and neuroticism (at time 1) on internalizing mental health problems (at time 3) via IH (at time 2).

Results

Correlations and descriptive statistics are presented in Table 1. Data were screened for normality and the scale measuring experiences of victimization was transformed using a log transformation prior to further analyses due to skewness of the data. In addition, all mediation analyses controlled for participant age, race (dummy coded with the reference group being Black/African American participants), and sexual orientation (dummy coded with participants who chose “only gay/homosexual” as the reference group). Missing data analyses revealed that there were 65 participants who were missing data at Time 2 regarding IH, and 91 participants who were missing data at Time 3 regarding internalizing mental health problems. Analyses revealed that participants with missing data did not differ in terms of age, race, or victimization, neuroticism, and internalizing mental health problems at Time 1. However, participants who were missing data at Time 2 and Time 3 did have higher levels of IH than those with complete data at these time points, indicating that those with higher IH scores may have been less likely to be maintained in the study. For participants with missing values, mean substitution was utilized.

The first mediation analysis assessed the degree to which the relation between victimization (at Time 1) and internalizing mental health problems (at Time 3) was mediated by IH (at Time 2; see Figure 1). Results indicated that victimization and IH accounted for a significant amount of variance in mental health problems, $F(9, 440) = 4.83, p < .001, R^2 = .09$. In regards to the control variables, there were not any significant findings for age and sexual orientation although race emerged as significant predictor of mental health problems. Racial categories of White ($B = 4.99, p < .01$), Latino ($B = 3.89, p < .01$), and other racial

minorities ($B = 6.32, p < .01$) all had higher levels of mental health issues than Black/African American participants. When examining the direct relation between victimization at Time 1 and mental health at Time 3, victimization did not exert a significant direct effect on mental health ($B = 7.10, SE = 5.30, p = .18$), likely as a result of the amount of time that had passed since the experiences of victimization. While the direct effect was not significant, there was a significant indirect effect of victimization on mental health via increased IH (bootstrapping estimate = 3.13, $SE = 1.38$, 95% $CI = 1.02, 6.89$). Examining the individual paths revealed that victimization was related to increased IH ($B = 0.80, SE = 0.25, p < .01$) and higher IH was related to greater mental health problems ($B = 3.91, SE = 0.99, p < .001$).

The second mediation analysis assessed the degree to which the relation between neuroticism (at Time 1) and internalizing mental health problems (at Time 3) was mediated by IH (at Time 2; see Figure 2). Results indicated that neuroticism and IH accounted for a significant amount of variance in mental health problems, $F(9, 440) = 12.23, p < .001, R^2 = .20$. In regards to the control variables, race again emerged as significant predictor of mental health problems although there were not any significant findings for age and sexual orientation. Racial categories of White ($B = 3.92, p < .01$), Latino ($B = 3.50, p < .01$), and other racial minorities ($B = 5.52, p < .01$) all had higher levels of mental health issues than Black/African American participants. Results indicated that neuroticism had a direct effect on mental health ($B = 15.22, SE = 1.94, p < .001$). In addition, there was a significant indirect effect via IH (bootstrapping estimate = 0.99, $SE = 0.50$, 95% $CI = 0.22, 2.28$), with neuroticism related to increased IH ($B = 0.35, SE = 0.10, p < .01$) and higher IH related to greater mental health problems ($B = 2.80, SE = 0.93, p < .01$).

Discussion

Sexual minorities are faced with a variety of minority stressors, including sexual orientation based victimization and IH (Meyer, 2003) which have been documented to increase mental health concerns (Meyer, 2003; Newcomb & Mustanski, 2010). However, little research has examined IH as a mediator of the association between victimization and mental health. In addition, individual level personality characteristics that may predispose certain individuals to be more likely to develop IH have not been well examined. This study revealed that both contextual factors (i.e., victimization) and individual factors (i.e., neuroticism) are important to understanding IH, in addition to this being a mechanism that partially mediates the association between these factors and mental health.

Victimization, IH, and Mental Health

Previous cross-sectional research has supported the notion that IH is a mechanism that underlies the association between victimization and negative mental health outcomes in adults (Feinstein et al., 2012; Szymanski & Ikizler, 2013). However, research with younger samples is limited and longitudinal data collection provides a stronger assertion of these findings. Through the current analyses, it is evident that victimization is related to greater IH, with IH being a significant mediator of the association between victimization and mental health. In addition, the use of a younger sample may be particularly important given that IH

is more common for individuals at earlier stages of sexual minority identity development (Rowen & Malcolm, 2002).

Establishing the association between victimization and mental health was an early prerogative of research with sexual minorities, but as our understanding of the experiences of sexual minorities has grown and as research evolves, more nuanced research questions are needed. Even with the social progress that has been made for LGB communities (Andersen & Fetner, 2008; Sherkat, Powell-Williams, Maddox, & de Vries, 2011), this does not always influence the individual lives of those in the LGB community. Given that individuals may still encounter victimization, identifying the ways that these experiences relate to negative mental health outcomes provides an avenue for intervention and can help identify ways to help individuals cope with negative experiences.

In this study, victimization influenced mental health through increasing participants' feelings of shame and discomfort with themselves as sexual minorities. As Russell (2007) has stated, in the face of living within a heterosexist context, it can often be unavoidable to internalize some of this stigma. This may be particularly true for individuals who have directly been targets of social marginalization such as through familial rejection, discrimination, and victimization. The results of this study highlight the importance of social changes to improve the social contexts in which sexual minorities are living and decreasing the likelihood of individuals experiencing victimization. In addition, this study supports addressing the negative internal consequences of experiencing stigma. From a policy perspective, this points to the importance of allocating resources to fund programing and support for individuals who have encountered social stigma in order to promote healthier development and a more positive sense of self.

Neuroticism, IH, and Mental Health

At the intra-personal level, neuroticism was related to worse mental health problems for YMSM, with this relation partially mediated by IH. As previous research has demonstrated, neuroticism is a risk factor for developing mental health issues (Lyons et al., 2013). For sexual minorities, neuroticism appears to exert some impact on mental health through IH. Neuroticism is a personality structure characterized by negative affect, high levels of shame, guilt, and feelings of inferiority (McCrae & Costa, 1991). Given the manner in which neuroticism influences a person's views of themselves and how they relate to others, sexual minorities high in neuroticism may be less able to externalize blame when they have experienced stigmatization related to their sexual orientation. Thus, the individual may develop a more negative self-concept about their sexual minority identity which would result in higher levels of mental health symptomatology.

A limited amount of research has revealed that IH may be associated with neuroticism (Mayfield, 2001) and that neuroticism may be a personality trait that plays a role in suicide risk for sexual minorities (Livingston et al., 2015). In addition, previous research has revealed that IH may be related to several processes that are likely associated with a neurotic personality style. For example, IH has been associated with lower levels of emotional stability (Rowen & Malcolm, 2002) and rejection sensitivity (Feinstein et al., 2012) which could be reflections of neuroticism. IH also has been related to impairments in emotion

regulation (Hatzenbuehler, Dovidio, Nolen-Hoeksema, & Phills, 2009) and a tendency to engage in the defense mechanism of turning against the self (Kotov, Gamez, Schmidt, & Watson, 2010). These difficulties in managing emotional experiences and sensitivity to experiences of rejection likely reflect, at least in part, an underlying personality dynamic that could be characterized by neuroticism, which may predispose certain individuals to develop more negative self-concepts in response to experiences of marginalization.

Future Research

Future research is needed to further understand additional mediators of the association between victimization and mental health. As outlined by Hatzenbuehler (2009), these may be group specific process or general processes. One group specific mechanism that has received attention is expectations of rejection (Denton, Rostosky, & Danner, 2014; Liao, Kashubeck-West, Weng, & Deitz, 2015). However, identity concealment has not been established as a mediator of the link between victimization and psychological distress. Additionally, more research is needed in regards to the general processes, such as coping, social, and cognitive mechanisms. Also, while uncovering the processes that underlie the association between victimization and mental health is essential to understanding how stigma leads to negative outcomes, research also is needed to establish the moderators of this association and what helps sexual minorities to be resilient in the face of this marginalization. And, lastly, research into additional intra-personal antecedents of IH, such as other personality traits or characteristics, would provide a deeper understanding into what may predispose certain individuals to internalize stigma faced within their social and interpersonal experiences.

Limitations and Strengths

While this study adds a novel contribution to the literature, there were limitations. This study included a convenience sample from an urban area, which consisted of primarily racial minorities. While the diversity of the sample is a strength, this sample is not generalizable to all YMSM in the population. In addition, our sample only included participants who identified as male and were assigned male at birth and did not include cisgender females, transgender women, or transgender men. Future work with sexual minority women (including cisgender and transgender women) and transgender men who identify as sexual minorities is needed to understand whether IH would operate in a similar fashion. In addition, we were not able to control for socioeconomic status in this study, which is needed in future work in this area. Lastly, although we collected data at three time points, future work that measures changes in the experience of victimization, neuroticism, IH, and mental health longitudinally would allow for further causal interpretations of how these variables relate to one another.

Despite these limitations, there were several strengths, including our diverse sample and longitudinal data collection, as well as the young age of our sample. In addition, the majority of research on IH has simply examined correlates whereas our study examined variables that theoretically may influence the development of IH, as well as the mediating role of IH. In sum, this study highlights the importance of examining IH from a more nuanced perspective

in order to more fully understand how it manifests in the lives of YMSM, which is imperative to decreased mental health issues in this population.

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Figure 1.

Longitudinal Effect of Victimization on Mental Health via Internalized Homophobia

Note. T1 = Time 1, T2 = Time 2, T3 = Time 3. Value in parentheses represents the parameter estimate for the direct effect. Analysis controlled for age, race, and sexual orientation. * $p < .001$

Figure 2.

Longitudinal Effect of Neuroticism on Mental Health via Internalized Homophobia

Note. T1 = Time 1, T2 = Time 2, T3 = Time 3. Value in parentheses represents the parameter estimate for the direct effect. Analysis controlled for age, race, and sexual orientation. * $p < .01$, ** $p < .001$

Table 1

Correlations, Means, and Standard Deviations

Variable	<i>M</i>	<i>SD</i>	1	2	3	4
1. Victimization (T1)	1.59 ^a	0.42 ^a	--			
2. IH (T2)	1.75	0.64	.17*	--		
3. Internalizing Problems (T3)	51.66	12.99	.06	.20*	--	
4. Neuroticism (T1)	0.49	0.26	.18*	.15*	.38*	--

Note. IH = Internalized Homophobia, T1 = Time 1, T2 = Time 2, T3 = Time 3. Means and standard deviations are provided for variables prior to addressing missing data via mean substitution.

^a = values prior to log transformation.

* $p < .01$.