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Homonegative Victimization and Perceived Stress among Adolescent Sexual Minority Males: The Attenuating Role of Peer and Family Support

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Abstract

Purpose: Research suggests social support may protect sexual minorities from the harmful effects of victimization that undermine mental and sexual health wellness; however, this relationship has been underexplored among a diverse youth population. We examined the

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The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

association between lifetime homonegative victimization, perceived stress in the last month, and resilience factors among a diverse sample of adolescent sexual minority males.

Methods: Data were collected between June 2018 and April 2020 as part of the MyPEEPS Mobile study, a multi-site randomized controlled trial evaluating the effectiveness of a mobile behavioral HIV prevention intervention for adolescents living in the U.S. We analyzed baseline survey data from 542 sexual minority males, aged 13–18 years. We used bivariate analyses to examine relationships among variables and multivariable linear regression models to determine if resilience factors attenuated the association between homonegative victimization and perceived stress.

Results: Perceived stress was positively associated with younger age, internalized homophobia, experiencing verbal victimization, threats of being outed, and threats of physical violence. Relying on online friends for support and having good family relations both attenuated the relationship between verbal victimization and perceived stress. However, neither of these resilience factors significantly weakened the associations between perceived stress, threats of physical violence, and being outed.

Conclusion: Resilience factors, including peer and family support, may play an attenuating role in the relationship between homonegative victimization and perceived stress among adolescent sexual minority males.

Keywords

Adolescence; gay; mental health; minority stress; MSM (men who have sex with men)

Introduction

Compared to heterosexual and cisgender peers, sexual and gender minority individuals disproportionately experience mental health problems in adolescence and adulthood (Dawson et al., 2017; de Vries et al., 2011; Mays & Cochran, 2001). Sexual minority youth, including gay and bisexual adolescent males, also experience greater victimization on account of their sexual identities and/or behavior than their heterosexual peers (Button et al., 2012; Johns et al., 2020). For example, 86.3% of lesbian, gay, bisexual, transgender, and queer (LGBTQ) students in the United States (U.S.) have reportedly experienced school-based harassment or assault (Kosciw et al., 2020). These rates far exceed an estimated 20.2% of U.S. adolescents of all sexual identities who report any type of bullying at school (National Center for Education Statistics, 2019). This discrepancy in victimization is generally attributed to homonegativity, described as negative attitudes toward homosexuality or discrimination against individuals with same-sex attraction (Morrison et al., 1997). The minority stress model suggests that stressors induced by a hostile, homonegative environment may result in a lifetime of victimization and contribute to health disparities among sexual minorities which may negatively affect mental health and sexual well-being (Meyer, 2003).

Clinical professionals and researchers have considered the impact of sexual stigma on mental and sexual health outcomes (Brennan et al., 2017; Hatzenbuehler & Pachankis, 2016; Stephenson et al., 2017). Among sexual minorities, homonegative victimization,

which refers to harm inflicted upon victims due to their sexual orientation, can result in stigma-related stress that increases one's risk for emotional, cognitive, and social problems as well as psychopathology (Bradbury et al., 2016; Hatzenbuehler, 2009). Studies have illustrated how sexual minority stress may contribute to coping mechanisms like substance use, social isolation, and involvement in sexual risk behaviors among young men in need of social support related to their sexual identity (Hidalgo et al., 2013; Wagner et al., 2013). Research has also highlighted a negative correlation between perceived stigma-related stress and mental health status among young adults (Bovier et al., 2004; Moeini et al., 2008; Wright, 2015). In a sample of sexual and gender minority youth, those with high levels of victimization were at increased risk for depression and posttraumatic stress disorder (Mustanski et al., 2016). Other studies have indicated that sexual minority-specific victimization significantly mediates the influence of sexual minority status on depressive symptoms and suicidality (Burton et al., 2013), and that experiences with homonegative victimization may have lasting mental health effects beyond adolescence (Surkan et al., 2020).

Family members and friends can provide emotional support to adolescents, ensure their safety, and validate their personal experiences. These qualities are all key to an adolescent's development (Bronfenbrenner, 2005) and, when present, a source of psychosocial resilience that may counteract the potentially deleterious effects of stigma-related victimization and other adverse experiences (Claes et al., 2015; Scholte et al., 2001; Shilo & Savaya, 2011). Sexual minority adolescents who perceive their parents and friends to be supportive of their sexual identities report better psychosocial health outcomes and decreased emotional symptomology than sexual minority adolescents who perceive their parents and peers as unsupportive (Chambi-Martínez et al., 2022; Ryan et al., 2010; Travers et al., 2012; Wilson et al., 2012). Social support from friendships among sexual minority youth, including those formed or maintained online (Ybarra et al., 2015), was found to be protective against the effects of peer victimization (Shilo & Savaya, 2011).

Research aims and hypotheses

In the current study we tested two hypotheses. First, given the potentially long-term effects of victimization, we hypothesized that experiences of lifetime homonegative victimization would predict greater perceived stress in the past month. We operationalized homonegative victimization as having ever experienced verbal insults, threats of being outed, or threats of physical violence due to the victim's sexual identity. We also hypothesized that resilience factors (e.g., lifelong family relations, reliance on online friends) would attenuate the association between each form of lifetime homonegative victimization and perceived stress.

Methods

Participants and recruitment

Study protocols were reviewed and approved by the Institutional Review Board of Columbia University. Data from MyPEEPS Mobile study participants were collected between June 2018 and April 2020. Participants in the MyPEEPS Mobile study were recruited primarily through online advertisements and posts aimed at "guys interested in other guys" on social

media sites, including Snapchat, Facebook, Twitter, and Instagram. We recruited nationally, with regional hubs in New York City, NY, Birmingham, AL, Chicago, IL, and Seattle, WA. Flyers and palm cards were also distributed during community events targeting LGBTQ youth in these four cities.

Interested individuals were screened in-person, by phone, or online and were eligible if they were 13–18 years old, self-reported HIV-negative or unsure of their status, assigned male sex at birth, and identified as male or masculine genderqueer/genderfluid. Participants had either kissed another male in the past or planned to engage in sexual activity with another male in the next year. Those who lived too far to travel to the nearest study site were given the option to participate remotely, completing surveys online. Enrollment in this study required informed consent or assent, which was obtained in-person or through an online video call (Gordían-Arroyo et al., 2020). To prevent self-selection bias and protect participant safety related to sexual identity disclosure, we requested a parental consent waiver during IRB approval. Parental permission was waived as the study was determined by the IRB to present no more than a minimal risk to minors.

Measures

Perceived stress—To measure perceived stress, our dependent variable, we used the Perceived Stress Scale (PSS), a self-report instrument assessing the degree to which a participant finds their life to be stressful or uncontrollable (Cohen et al., 1983). Participants responded to 10 items indicating how frequently they experienced the indicated situation or emotion in the past month (0=Never, 1=Almost never, 2=Sometimes, 3=Fairly often, 4=Often), resulting in a composite score between 0 and 40 with higher scores indicating greater perceived stress. For the 10-item inventory, Cronbach's Alpha coefficient was 0.84, indicating good internal consistency for this measure in our sample.

Homonegative victimization—Homonegative victimization was a key independent variable surveying whether participants had ever been verbally insulted, threatened to be outed, or threatened with physical violence because of their sexuality. The frequency of each victimization occurrence was reported by participants and responses were dichotomized to create a binary independent variable to represent having ever experienced each victimization type (0=Never, 1=At least once).

Resilience factors—To measure resilience factors, another key independent variable, we included survey items about peer social support and family relations. To gauge participants' social support, we asked subjects to respond to the statement, "I rely on my online friends for emotional support" on a three-point scale after which responses were dichotomized to represent whether or not participants experienced this type of support in their lifetime (0=Never, 1=Sometimes or always). To measure positive family relations, we asked participants to respond to the question, "how likely is it that you will have good family relations?" on a four-point scale with responses dichotomized to represent the presence or absence of a strong positive outcome expectancy related to family support (0=Somewhat or less, 1=Very).

Demographic variables—We dichotomized age into early-middle adolescence (ages 13–16) versus late adolescence (ages 17–18), as we expected older and younger adolescents to be differentiated from one another on the outcomes of interest. Participants were asked about parents' educational attainment; responses were combined such that this variable represented the parent with the higher level of education (0=less than a bachelor's degree, 1=completed bachelor's degree or higher). To examine possible racial and ethnic differences within our variable measures, participants reported their primary race (American Indian or Alaska Native, Asian or Asian-American, Black or African-American, Native Hawaiian or other Pacific islander, White, or multiracial) and, in terms of ethnicity, whether they identified as Hispanic/Latinx. Participants indicated their sexual orientation (mostly or only gay/homosexual, bisexual, mostly or only heterosexual, or something else), whether they had ever had oral, vaginal, or anal sex (0=No, 1=Yes), and if they were currently dating someone (0=No, 1=Yes). To assess for potential differences in stressors between racial and/or ethnic groups, we measured racial discrimination by asking whether participants had “ever felt discriminated against for race/culture” (0=No, 1=Yes). Internalized homophobia was measured to assess if participants' own view of their sexuality meaningfully contributed to stress, which we gauged by asking respondents if they felt that their “sexuality is a personal shortcoming” (0=No, 1=Yes). Geographic information provided was used to indicate whether participants lived in a rural, urban, or suburban area which we then dichotomized to examine the influence of rurality on study variables (0=Non-rural, 1=Rural).

Statistical analysis

We analyzed data using SPSS (version 26). We first examined demographic and independent variables using descriptive statistics and then used independent samples *t*-tests and one-way analysis of variance (ANOVA) to test the association between these variables and perceived stress scores. We then analyzed the relationships among resilience variables and homonegative victimization using Pearson's chi-squared tests to assess whether the presence of a risk factor increases the likelihood of the presence of other risk variables. Next, we examined multiple models predicting perceived stress using multi-variable linear regression while controlling for age group, race, ethnicity, and internalized homophobia.

Results

The distribution of demographic variables are summarized in Table 1, representing data from all MyPEEPS participants who replied to perceived stress items ($N=542$). The sample mean age was 16.08 years ($SD=1.35$), with 43.2% in the 17–18 age category. This was a largely non-rural sample (85.6%). Most respondents (32.5%) identified as White, followed by Black (20.1%), with nearly half (45.8%) self-identifying as Hispanic/Latinx of any race. We grouped those who identified as American Indian or Alaska Native ($n=38$), Native Hawaiian or other Pacific islander ($n=8$) as “AI/AN/NH/OPI” to obtain enough power to represent this group. We assigned missing values to cases in which race was not reported ($n=78$).

Lifetime exposure to homonegative victimization and resilience factors are presented in Table 2. The vast majority (81.2%) of participants reported having been verbally insulted

for their sexuality. Over half (57.4%) of respondents reported being threatened to be outed and 45.2% had been threatened with physical violence because of their sexual orientation. About two-thirds (66.8%) of participants reported “sometimes” or “always” relying on online friends for emotional support. Over one-third (38.6) of study subjects indicated that it is “very likely” that they would have good family relations throughout life.

The mean PSS score of all included participants was 20.2 (SD=6.6), which contrasts with the average PSS score of 15.3 (SD=6.3) measured among a separate sample of adolescent males and females (Piccolo et al., 2018). Results of independent *t*-tests and one-way ANOVA tests between perceived stress and demographic variables are represented in Table 1. Higher perceived stress scores were more likely among younger adolescents (aged 13–16; $p=.002$) and those who expressed internalized homonegativity, as defined by those who indicated their sexuality was a personal shortcoming ($p < .001$). No significant association was found among other demographic variables and perceived stress scores.

Independent samples *t*-tests comparing the difference between perceived stress scores by key independent variables are represented in Table 2. Higher perceived stress scores were reported among respondents who indicated being verbally insulted, threatened to be outed, or threatened with physical violence ($p < .002$), and those who reported reliance on online friends for emotional support ($p < .001$). Regarding the likelihood of good lifelong family relations, perceived stress was lower among those reporting “very likely” compared to those reporting “somewhat or less” likely ($p < .001$). Table 3 presents Pearson’s chi-squared test results between key independent variables. All variables were significantly positively associated with each other ($p < .05$), except for the relationships between each homonegative victimization variable and those who indicated being very likely to have good family relations.

Table 4, Model 1 presents findings for the multivariable linear regression predicting PSS scores for participants who have experienced each type of homonegative victimization compared to reference groups of those who have not. We adjusted for race and ethnicity as these variables may influence the link between perceptions of discrimination and actual victimization among young adults (Seaton et al., 2013). We also adjusted for age and internalized homophobia due to these variables’ association with PSS scores. Higher perceived stress in the past month was likely to result from cases in which one was verbally insulted because of one’s sexuality ($\beta=0.10$, $p < .05$) or had been threatened to be outed for sexuality ($\beta=0.14$, $p < .01$). No association was found between being threatened with physical violence and perceived stress in this model ($\beta=0.04$, $p=.457$). Ethnicity and racial group were not predictive of perceived stress in any of the linear regression models.

Table 4, Model 2 presents findings for the attenuating effects of reliance on online friends on the association between lifetime homonegative victimization and perceived stress scores in the past month while factoring control variables. When reliance on online friends for emotional support is introduced into the model, the association between being verbally insulted for sexuality and perceived stress score loses statistical significance ($\beta=0.09$, $p=.073$), suggesting emotional support from online friends may play a role in attenuating the relationship between verbal homonegative victimization and perceived stress. Participants

who had been threatened to be outed were likely to exhibit higher perceived stress ($\beta=0.13$, $p < .01$), while being threatened with physical violence for sexuality was not associated with perceived stress scores ($\beta=0.03$, $p=.585$). In this model, reliance on online friends for emotional support was no longer associated with higher PSS scores ($\beta=0.09$, $p=.052$) after adjusting for age, race, ethnicity, and internalized homophobia.

Table 4, Model 3 presents findings for the attenuating effects of having a high likelihood for good family relations on the association between lifetime homonegative victimization and perceived stress scores in the past month while adjusting for control variables. When including reported likelihood of having good family relations in this model, the association between experiencing homonegative verbal insults and perceived stress scores is no longer significant ($\beta=0.09$, $p=.060$), suggesting that good family relations may play a role in attenuating the relationship between verbal homonegative victimization and perceived stress. Respondents who were threatened to be outed were associated with greater perceived stress scores ($\beta=0.13$, $p < .05$), while threats of physical violence based on sexual orientation was not associated with perceived stress ($\beta=0.03$, $p=.525$). In this model, participants who reported being “very likely” to have good family relations were associated with lower perceived stress scores ($\beta=-0.16$, $p < .001$).

Discussion

This study examined associations between lifetime exposure to various types of homonegative victimization and perceived stress in the past month among young gay and bisexual males and whether resilience factors (peer social support and family relations) attenuated these relationships. We tested two hypotheses in this analysis: that (a) forms of lifetime homonegative victimization would each predict greater PSS scores; and (b) resilience factors would attenuate the association between each form of lifetime homonegative victimization and perceived stress. While most research on adolescent victimization and stress broadly examines this relationship among teenagers and young adults, this study specifically engaged a racially, socioeconomically, and geographically diverse sample of adolescent sexual minority males in the United States, of which 82.4% were racial/ethnic minorities and 52.2% had parents who had not completed a bachelor’s degree. To better understand the relationship between victimization and perceived stress within the context of sexual prejudice, we tailored multiple victimization measures to explicitly gauge types of interpersonal victimization that were perceived as homonegative by respondents. By including analyses that examine the role resilience factors may play in attenuating relationships between victimization and stress, this study aimed to investigate how perceived family support and online peer support may uniquely buffer the effects of homonegative victimization on perceived stress among sexual minority adolescent males.

In our national sample of adolescent sexual minority males, 84.8% experienced at least one type of victimization in their lifetime based on their sexual attraction or orientation. The most commonly reported form of homonegative victimization was verbal insults (81.2%) and the least common was threats of physical violence (45.2%). While these figures are comparable to rates of school-based victimization reported in other samples of sexual minority adolescents (86.3%), (Kosciw et al., 2020) they far exceed national averages for

adolescents of any sexual identity experiencing any type of bullying (20.2%), verbal bullying (13.0%), and being threatened with harm (3.9%) (National Center for Education Statistics, 2019). This discrepancy is consistent with conceptual models of victimization among sexual minority youth, whose experiences with social stigma are believed to contribute to increased exposure to victimization and stress (Coker et al., 2010; Meyer, 2003).

Perceived stress scores in our sample averaged 20.0 (SD=6.0), a mean higher than scores reported in one study on adolescent males and females that used the same PSS-10 inventory (Mean=15.3, SD=6.3) (Piccolo et al., 2018). These findings align with studies that found perceived stress to be higher in sexual minority males compared to heterosexual males (Krueger et al., 2018; Williams, 2017). This disparity is noteworthy considering perceived stress is widely associated with physical and depressive symptomology (Chao, 2014; Cohen et al., 1983).

Perceived stress scores in our sample were not associated with any control variables except for younger age (13–16 years) and experiencing internalized homophobia (“feeling like sexuality is a personal shortcoming”). While race and ethnicity have been identified as important factors for examining mental health correlates among sexual minority populations (Balsam et al., 2010), our findings suggest that perceived stress is comparable across racial and ethnic subgroups in our sample. Increased risk of perceived stress among young adolescents could be due to increased victimization in early adolescence, an observed phenomenon characterized by a downward trend in victimization as individuals develop over adolescence (Robinson et al., 2013).

Our study findings supported the first hypothesis. When observing the effects of lifetime homonegative victimization on recent perceived stress, those who reported being verbally insulted, threatened to be outed, or threatened with physical violence for one’s sexuality were more likely to indicate higher perceived stress in the last 30 days when compared to nonvictims. While past studies have identified the association between childhood victimization and internalizing problems (Leadbeater et al., 2014; Reijntjes et al., 2010), our results contribute to the literature by revealing a similar effect when observing perceived victimization toward sexual minority males due to their sexual orientation or attraction. These findings emphasize the need for preventative interventions that specifically combat homonegative victimization among adolescents. Prominent sexual health researchers consider sexual pleasure to be a fundamental human right essential for sexual health (Coleman et al., 2021). Therefore, comprehensive sexuality education that is inclusive and emphasizes the importance of pleasure as a component of sexual health may positively impact sexual wellbeing and help prevent gender-based violence among young adults (Mark et al., 2021).

Our second hypothesis was partially supported by our findings. When analyzing whether peer and family support could attenuate the relationship between verbal victimization and perceived stress, we observed that both online peer and family support measures attenuated the relationship between verbal homonegative victimization and perceived stress. However, these resilience factors did not have the same attenuating role on the relationship between

perceived stress with threats of physical victimization and being outed. While there was no longer an association between threats of physical victimization and perceived stress in regression models, being threatened to be outed remained strongly associated with perceived stress across all models. These findings suggest that the adverse psychological outcomes of homonegative verbal insults among adolescents may be facilitated by resilience factors; in this case, having good family relations and relying on online friends for emotional support. This finding is consistent with previous studies that suggest peer victimization impacts young people differently when considering risk and protective factors like peer and family support (McDougall & Vaillancourt, 2015; Ttofi et al., 2014). However, adjusting for resilience variables in our sample did not eliminate the robust association between threats of being outed and perceived stress. This discrepancy in the attenuation effect between physical and victimization types and stress could be explained by evidence that social pain is reexperienced more easily and intensely than physical pain, which may not be as strongly related to perceived stress compared to primarily social forms of victimization (Chen et al., 2008). Considering these findings together, adolescent health providers and counselors working with verbally victimized sexual minority youth should consider discussing strategies for reinforcing peer and family support in adolescents' lives to minimize perceived stress. As resilience factors in our study did not appear to attenuate the relationship between non-verbal homonegative victimization and perceived stress, measures to combat stress related to multiple types of victimization should include strategies for avoiding exposure to homonegative victimization or eliminating it altogether.

Limitations

There were several limitations in this study. Convenience sampling was used for study recruitment, increasing the risk of sampling and selection biases. Most participants (85.6%) lived in non-rural areas, so findings may not reflect experiences of rural-dwelling youth. As data collection coincided with the COVID-19 pandemic and associated lockdowns, our sampling strategy was modified to exclusively recruit individuals who were able to participate remotely.

Self-reported perceived stress scores were an approximate measure of psychological wellbeing among adolescents as the original MyPEEPS Mobile survey study did not primarily focus on psychological health outcomes. Future studies should incorporate multiple measures of physical and psychological stress recorded alongside self-report perceived stress, including symptoms of mental illness and salivary or hair cortisol levels.

Discrepancies in the temporality of lifetime victimization and perceived stress in the past month were present due to the use of multiple inventories in this survey study. Further research may be needed to highlight differences in the severity and frequency of victimization experiences on perceived stress. Many study variables were dichotomized to highlight broad relationships between perceived stress and the mere presence of victimization or resilience characteristics reported by participants. As these methods limit the external validity of our findings, future studies should include more robust measures to increase confidence in the generalizability of study findings.

Conclusion

Findings from this study help elucidate the attenuating role of resilience factors in the relationship between homonegative victimization and perceived stress among a diverse sample of adolescent sexual minority males. Perceived stress in this sample was positively associated with younger age, internalized homophobia, and experiencing all forms of homonegative victimization. While relying on online friends for support and having good family relations both attenuated the relationship between verbal victimization and perceived stress, neither of these resilience factors displayed the same attenuating effects when observing the associations between threats of physical violence, being outed, and perceived stress. These insights are needed to inform clinical mental health practices targeting young males experiencing increased victimization because of their sexual attraction and identity.

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References

- Balsam KF, Lehavot K, Beadnell B, & Circo E (2010). Childhood abuse and mental health indicators among ethnically diverse lesbian, gay, and bisexual adults. *Journal of Consulting and Clinical Psychology, 78*(4), 459–468. 10.1037/a0018661 [PubMed: 20658803]
- Bovier PA, Chamot E, & Perneger TV (2004). Perceived stress, internal resources, and social support as determinants of mental health among young adults. *Quality of Life Research, 13*(1), 161–170. 10.1023/B:QURE.0000015288.43768.e4 [PubMed: 15058797]
- Bradbury SL, Davis AK, Leith J, Hinman N, Ashrafioun L, Burmeister JM, & Dworsky D (2016). Attitudes and beliefs about the acceptability and justness of peer victimization of lesbian and gay university students. *Journal of Homosexuality, 63*(6), 808–820. [PubMed: 26512428]
- Brennan SL, Irwin J, Drincic A, Amoura NJ, Randall A, & Smith-Sallans M (2017). Relationship among gender-related stress, resilience factors, and mental health in a Midwestern U.S. transgender and gender-nonconforming population. *International Journal of Transgenderism, 18*(4), 433–445. 10.1080/15532739.2017.1365034
- Bronfenbrenner U (2005). *Making human beings human: Bioecological perspectives on human development* Sage Publications Ltd.
- Burton CM, Marshal MP, Chisolm DJ, Sucato GS, & Friedman MS (2013). Sexual minority-related victimization as a mediator of mental health disparities in sexual minority youth: A longitudinal analysis. *Journal of Youth and Adolescence, 42*(3), 394–402. 10.1007/s10964-012-9901-5 [PubMed: 23292751]
- Button DM, O'Connell DJ, & Gealt R (2012). Sexual minority youth victimization and social support: The intersection of sexuality, gender, race, and victimization. *Journal of Homosexuality, 59*(1), 18–43. 10.1080/00918369.2011.614903 [PubMed: 22269046]
- Chambi-Martínez CAA, Moraga-Escobar EI, Peralta-Jiménez GA, Vera-Calzaretta A, Barrientos J, Pihán R, Klaassen G, & Páez D (2022). Social support, stress and emotional symptoms among LGBTQ + college students in Chile. *International Journal of Sexual Health, 34*(2), 277–290. 10.1080/19317611.2021.2014014

- Chao S (2014). Functional disability and depressive symptoms: Longitudinal effects of activity restriction, perceived stress, and social support. *Aging & Mental Health*, 18(6), 767–776. 10.1080/13607863.2013.878308 [PubMed: 24479794]
- Chen Z, Williams KD, Fitness J, & Newton NC (2008). When hurt will not heal: Exploring the capacity to relive social and physical pain. *Psychological Science*, 19(8), 789–795. 10.1111/j.1467-9280.2008.02158.x [PubMed: 18816286]
- Claes L, Luyckx K, Baetens I, Van de Ven M, & Witteman C (2015). Bullying and victimization, depressive mood, and non-suicidal self-injury in adolescents: The moderating role of parental support. *Journal of Child and Family Studies*, 24(11), 3363–3371. 10.1007/s10826-015-0138-2
- Cohen S, Kamarck T, & Mermelstein R (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24(4), 385–396. 10.2307/2136404 [PubMed: 6668417]
- Coker TR, Austin SB, & Schuster MA (2010). The health and health care of lesbian, gay, and bisexual adolescents. *Annual Review of Public Health*, 31, 457–477. 10.1146/annurev.publhealth.012809.103636
- Coleman E, Corona-Vargas E, & Ford JV (2021). Advancing sexual pleasure as a fundamental human right and essential for sexual health, overall health and well-being: An introduction to the special issue on sexual pleasure. *International Journal of Sexual Health*, 33(4), 473–477. 10.1080/19317611.2021.2015507
- Dawson AE, Wymbs BT, Gidycz CA, Pride M, & Figueroa W (2017). Exploring rates of transgender individuals and mental health concerns in an online sample. *International Journal of Transgenderism*, 18(3), 295–304. 10.1080/15532739.2017.1314797
- de Vries AL, Doreleijers TA, Steensma TD, & Cohen-Kettenis PT (2011). Psychiatric comorbidity in gender dysphoric adolescents. *Journal of Child Psychology and Psychiatry*, 52(11), 1195–1202. 10.1111/j.1469-7610.2011.02426.x [PubMed: 21671938]
- Gordían-Arroyo A, Garofalo R, Kuhns LM, Pearson C, Bruce J, Batey DS, Radix A, Belkind U, Hidalgo MA, Hirshfield S, Schrimshaw EW, & Schnall R (2020). Awareness, willingness, and perceived efficacy of pre-exposure prophylaxis among adolescent sexual minority males. *Journal of Urban Health*, 97(5), 749–757. 10.1007/s11524-020-00447-5 [PubMed: 32789625]
- Hatzenbuehler ML (2009). How does sexual minority stigma “get under the skin”? A psychological mediation framework. *Psychological Bulletin*, 135(5), 707–730. 10.1037/a0016441 [PubMed: 19702379]
- Hatzenbuehler ML, & Pachankis JE (2016). Stigma and minority stress as social determinants of health among lesbian, gay, bisexual, and transgender youth: Research evidence and clinical implications. *Pediatric Clinics of North America*, 63(6), 985–997. 10.1016/j.pcl.2016.07.003 [PubMed: 27865340]
- Hidalgo MA, Cotten C, Johnson AK, Kuhns LM, & Garofalo R (2013). ‘Yes, I Am More Than Just That’: Gay/Bisexual young men residing in the united states discuss the influence of minority stress on their sexual risk behavior prior to HIV infection. *International Journal of Sexual Health*, 25(4), 291–304. 10.1080/19317611.2013.818086 [PubMed: 34987694]
- Johns MM, Lowry R, Haderxhanaj LT, Raspberry CN, Robin L, Scales L, Stone D, & Suarez NA (2020). Trends in violence victimization and suicide risk by sexual identity among high school students – Youth Risk Behavior Survey, United States, 2015–2019. *MMWR Supplements*, 69(1), 19–27. 10.15585/mmwr.su6901a3 [PubMed: 32817596]
- Kosciw JG, Clark CM, Truong NL, & Zongrone AD (2020). The 2019 National School Climate Survey: The experiences of lesbian, gay, bisexual, transgender, and queer youth in our nation’s schools
- Krueger EA, Meyer IH, & Upchurch DM (2018). Sexual orientation group differences in perceived stress and depressive symptoms among young adults in the United States. *LGBT Health*, 5(4), 242–249. 10.1089/lgbt.2017.0228 [PubMed: 29741980]
- Leadbeater BJ, Thompson K, & Sukhawathanakul P (2014). It gets better or does it? Peer victimization and internalizing problems in the transition to young adulthood. *Development and Psychopathology*, 26(3), 675–688. 10.1017/S0954579414000315 [PubMed: 25047291]

- Mark K, Corona-Vargas E, & Cruz M (2021). Integrating sexual pleasure for quality & inclusive comprehensive sexuality education. *International Journal of Sexual Health*, 33(4), 555–564. 10.1080/19317611.2021.1921894
- Mays VM, & Cochran SD (2001). Mental health correlates of perceived discrimination among lesbian, gay, and bisexual adults in the United States. *American Journal of Public Health*, 91(11), 1869–1876. 10.2105/ajph.91.11.1869 [PubMed: 11684618]
- McDougall P, & Vaillancourt T (2015). Long-term adult outcomes of peer victimization in childhood and adolescence: Pathways to adjustment and maladjustment. *The American Psychologist*, 70(4), 300–310. 10.1037/a0039174 [PubMed: 25961311]
- Meyer IH (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychological Bulletin*, 129(5), 674–697. 10.1037/0033-2909.129.5.674 [PubMed: 12956539]
- Moeini B, Shafii F, Hidarnia A, Babaii GR, Birashk B, & Allahverdipour H (2008). Perceived stress, self-efficacy and its relations to psychological well-being status in Iranian male high school students. *Social Behavior and Personality*, 36(2), 257–266. 10.2224/sbp.2008.36.2.257
- Morrison TG, McLeod LD, Morrison MA, Anderson D, & O'Connor WE (1997). Gender stereotyping, homonegativity, and misconceptions about sexually coercive behavior among adolescents. *Youth & Society*, 28(3), 351–382. 10.1177/0044118X97028003004
- Mustanski B, Andrews R, & Puckett JA (2016). The effects of cumulative victimization on mental health among lesbian, gay, bisexual, and transgender adolescents and young adults. *American Journal of Public Health*, 106(3), 527–533. 10.2105/AJPH.2015.302976 [PubMed: 26794175]
- National Center for Education Statistics. (2019). Student Reports of Bullying: Results From the 2017 School Crime Supplement to the National Crime Victimization Survey Web Tables, Issue. <https://nces.ed.gov/pubs2019/2019054.pdf>
- Piccolo LR, & Noble KG, Pediatric Imaging Neurocognition and Genetics Study. (2018). Perceived stress is associated with smaller hippocampal volume in adolescence. *Psychophysiology*, 55(5), e13025. 10.1111/psyp.13025 [PubMed: 29053191]
- Reijntjes A, Kamphuis JH, Prinzie P, & Telch MJ (2010). Peer victimization and internalizing problems in children: A meta-analysis of longitudinal studies. *Child Abuse & Neglect*, 34(4), 244–252. 10.1016/j.chiabu.2009.07.009 [PubMed: 20304490]
- Robinson JP, Espelage DL, & Rivers I (2013). Developmental trends in peer victimization and emotional distress in LGB and heterosexual youth. *Pediatrics*, 131(3), 423–430. 10.1542/peds.2012-2595 [PubMed: 23382442]
- Ryan C, Russell ST, Huebner D, Diaz RM, & Sanchez J (2010). Family acceptance in adolescence and the health of LGBT young adults. *Journal of Child and Adolescent Psychiatric Nursing*, 23(4), 205–213. 10.1111/j.1744-6171.2010.00246.x [PubMed: 21073595]
- Scholte RH, van Lieshout CF, & van Aken MA (2001). Perceived relational support in adolescence: Dimensions, configurations, and adolescent adjustment. *Journal of Research on Adolescence*, 11(1), 71–94. 10.1111/1532-7795.00004
- Seaton EK, Neblett EW Jr, Cole, D. J., & Prinstein, M. J. (2013). Perceived discrimination and peer victimization among African American and Latino youth. *Journal of Youth and Adolescence*, 42(3), 342–350. 10.1007/s10964-012-9848-6 [PubMed: 23124713]
- Shilo G, & Savaya R (2011). Effects of family and friend support on LGB youths' mental health and sexual orientation milestones. *Family Relations*, 60(3), 318–330. 10.1111/j.1741-3729.2011.00648.x
- Stephenson R, Metheny N, Sharma A, Sullivan S, & Riley E (2017). Providing home-based HIV testing and counseling for transgender youth (Project Moxie): Protocol for a pilot randomized controlled trial. *JMIR Research Protocols*, 6(11), e237. 10.2196/resprot.8562 [PubMed: 29183868]
- Surkan PJ, Wang R, Huang Y, Stall R, Plankey M, Teplin LA, Wight RG, Jacobson LP, & Abraham AG (2020). Victimization in early adolescence, stress, and depressive symptoms among aging sexual minority men: Findings from the multicenter AIDS Cohort Study. *LGBT Health*, 7(3), 155–165. 10.1089/lgbt.2019.0036 [PubMed: 32186958]
- Travers R, Bauer G, Pyne J, Bradley K, Gale L, & Papadimitriou M (2012). Impacts of parental support for trans youth: A report prepared for Children's Aid Society of Toronto

and Delisle Youth Services <http://transpulseproject.ca/wp-content/uploads/2012/10/Impacts-of-Strong-Parental-Support-for-Trans-Youth-vFINAL.pdf>

- Ttofi MM, Bowes L, Farrington DP, & Lösel F (2014). Protective factors interrupting the continuity from school bullying to later internalizing and externalizing problems: A systematic review of prospective longitudinal studies. *Journal of School Violence*, 13(1), 5–38. 10.1080/15388220.2013.857345
- Wagner GJ, Aunon FM, Kaplan RL, Karam R, Khouri D, Tohme J, & Mokhbat J (2013). Sexual stigma, psychological well-being and social engagement among men who have sex with men in Beirut, Lebanon. *Culture, Health & Sexuality*, 15(5), 570–582. 10.1080/13691058.2013.775345
- Williams SG (2017). Mental health issues related to sexual orientation in a high school setting. *The Journal of School Nursing*, 33(5), 383–392. 10.1177/1059840516686841 [PubMed: 28049365]
- Wilson EC, Iverson E, Garofalo R, & Belzer M (2012). Parental support and condom use among transgender female youth. *The Journal of the Association of Nurses in AIDS Care*, 23(4), 306–317. 10.1016/j.jana.2011.09.001 [PubMed: 22079675]
- Wright MF (2015). Cyber victimization and perceived stress: Linkages to late adolescents' cyber aggression and psychological functioning. *Youth & Society*, 47(6), 789–810. 10.1177/0044118X14537088
- Ybarra ML, Mitchell KJ, Palmer NA, & Reisner SL (2015). Online social support as a buffer against online and offline peer and sexual victimization among US LGBT and non-LGBT youth. *Child Abuse & Neglect*, 39, 123–136. 10.1016/j.chiabu.2014.08.006 [PubMed: 25192961]

Table 1. Independent *t*-Test and One-Way ANOVA Results Comparing Perceived Stress Scores by Demographic Variables.

	Total		Perceived stress		<i>p</i>
	<i>n</i>	(%)	Mean	SD	
Total	542	(100.0)	20.2	(6.6)	
Demographic variables					.002
Age group					
13–16	308	(56.8)	20.9	(6.8)	
17–18	234	(43.2)	19.2	(6.3)	
Race					.404
White	176	(32.5)	20.8	(6.7)	
Black	109	(20.1)	19.5	(6.2)	
Multiracial	81	(14.9)	19.7	(7.1)	
Asian	52	(9.6)	20.4	(6.4)	
AI/AN/NH/OPI	46	(8.5)	21.2	(7.1)	
Ethnicity					.816
Non-Hispanic	294	(54.2)	20.2	(6.5)	
Hispanic/Latinx	248	(45.8)	20.1	(6.8)	
Sexual Orientation					.872
Only or mostly gay/homosexual	411	(75.8)	20.2	(6.9)	
Bisexual	111	(20.5)	19.9	(5.7)	
Only or mostly heterosexual	5	(0.9)	21.2	(6.1)	
Something else	15	(2.8)	21.1	(6.6)	
Parental education					.543
Less than bachelor's degree	283	(52.2)	20.3	(6.4)	
Completed bachelor's degree or higher	222	(41.0)	20.0	(6.8)	
Relationship status					.855
Single	401	(74.0)	20.2	(6.4)	
In a relationship	140	(25.8)	20.3	(7.1)	
Sexual activity					.844
Has had oral, anal, or vaginal sex	388	(71.6)	20.1	(6.6)	

	Total		Perceived stress		<i>p</i>
	<i>n</i>	(%)	<i>Mean</i>	<i>SD</i>	
Has not had any sex before	154	(28.4)	20.3	(6.8)	.395
Ever felt discriminated against for race/culture					
Yes	287	(53.0)	20.4	(6.5)	<.001
No	254	(46.9)	19.9	(6.7)	
Feel like sexuality is a personal shortcoming					
Agree or strongly agree	104	(19.2)	23.2	(6.2)	.458
Disagree or strongly disagree	434	(80.1)	19.5	(6.5)	
Rurality					
Rural	78	(14.4)	20.7	(6.3)	
Non-rural	464	(85.6)	20.1	(6.7)	

Bold values denote statistical significance at the $p < .05$ level.

Table 2.
Independent *t*-Test Results Comparing Perceived Stress by Victimization and Resilience Factors.

	Total		Perceived stress		p
	n	(%)	Mean	SD	
Total	542	(100.0)	20.2	(6.6)	
Homonegative victimization					
Verbally insulted for sexuality					<.001
At least once	440	(81.2)	20.8	(6.6)	
Never	101	(18.6)	17.7	(6.3)	
Threatened to be outed for sexuality					<.001
At least once	311	(57.4)	21.4	(6.2)	
Never	230	(42.4)	18.5	(6.8)	
Threatened w/ physical violence for sexuality					.002
At least once	245	(45.2)	21.2	(6.8)	
Never	296	(54.6)	19.4	(6.3)	
Resilience factors					
Reliance on online friends for emotional support					<.001
Sometimes or always	362	(66.8)	20.9	(6.5)	
Never	179	(33.0)	18.6	(6.6)	
Likelihood of having good family relations					<.001
Very	209	(38.6)	18.5	(6.6)	
Somewhat or less	332	(61.3)	21.2	(6.4)	

Bold values denote statistical significance at the $p < .05$ level.

Table 3.

Pearson's Chi-Square Test Results between Key Independent Variables.

Variable	(1)	(2)	(3)	(4)	(5)
(1) Verbally insulted for sexuality	–				
(2) Threatened to be outed for sexuality	$\chi^2(1) = 54.45$ $p < .001$	–			
(3) Threatened w/ physical violence for sexuality	$\chi^2(1) = 81.54$ $p < .001$	$\chi^2(1) = 7.80$ $p < .001$	–		
(4) Reliance on online friends for emotional support	$\chi^2(1) = 13.60$ $p < .001$	$\chi^2(1) = 7.23$ $p = .007$	$\chi^2(1) = 13.20$ $p < .001$	–	
(5) Likelihood of having good family relations	$\chi^2(1) = 2.50$ $p = .114$	$\chi^2(1) = 2.67$ $p = .102$	$\chi^2(1) = 1.84$ $p = .175$	$\chi^2(1) = 4.36$ $p = .037$	–

Bold values denote statistical significance at the $p < .05$ level.

Multivariable Regression Predicting Perceived Stress, Observing Attenuation of Reliance on Online Friends for Emotional Support and Likelihood of Good Family Relations.

Table 4.

	Model 1		Model 2 (Attenuation)		Model 3 (Attenuation)	
	$\beta \pm SE$	p	$\beta \pm SE$	p	$\beta \pm SE$	p
Verbally insulted for sexuality	0.10 ± 0.87	.046	0.09 ± 0.88	.073 ^a	0.09 ± 0.86	.060 ^a
Threatened to be outed for sexuality	0.14 ± 0.67	.006	0.13 ± 0.67	.007	0.13 ± 0.66	.010
Threatened w/physical violence for sexuality	0.04 ± 0.67	.457	0.03 ± 0.67	.585	0.03 ± 0.66	.525
Reliance on online friends for emotional support	–	–	0.09 ± 0.65	.052	–	–
Likelihood of having good family relations	–	–	–	–	–0.16 ± 0.61	<.001
Older age (17–18 years)	–0.10 ± 0.61	.023	–0.10 ± 0.61	.027	–0.10 ± 0.60	.031
Race (reference = White)						
Black	–0.07 ± 0.79	.174	–0.06 ± 0.79	.239	–0.06 ± 0.78	.199
Multiracial	–0.04 ± 0.87	.388	–0.04 ± 0.87	.408	–0.05 ± 0.86	.287
Asian	–0.02 ± 1.04	.748	–0.01 ± 1.03	.796	–0.03 ± 1.03	.559
AI/AN/NH/OPI	0.01 ± 1.06	.868	0.01 ± 1.05	.858	0.01 ± 1.04	.822
Hispanic/Latinx ethnicity	–0.01 ± 0.64	.839	–0.01 ± 0.63	.832	–0.01 ± 0.63	.943
Internalized homonegativity	0.21 ± 0.68	<.001	0.19 ± 0.76	<.001	0.18 ± 0.75	<.001

Bold values denote statistical significance at the $p < .05$ level.

All models adjusted for age group, race, ethnicity, and internalized homophobia

^aFull mediation.