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Mindfulness

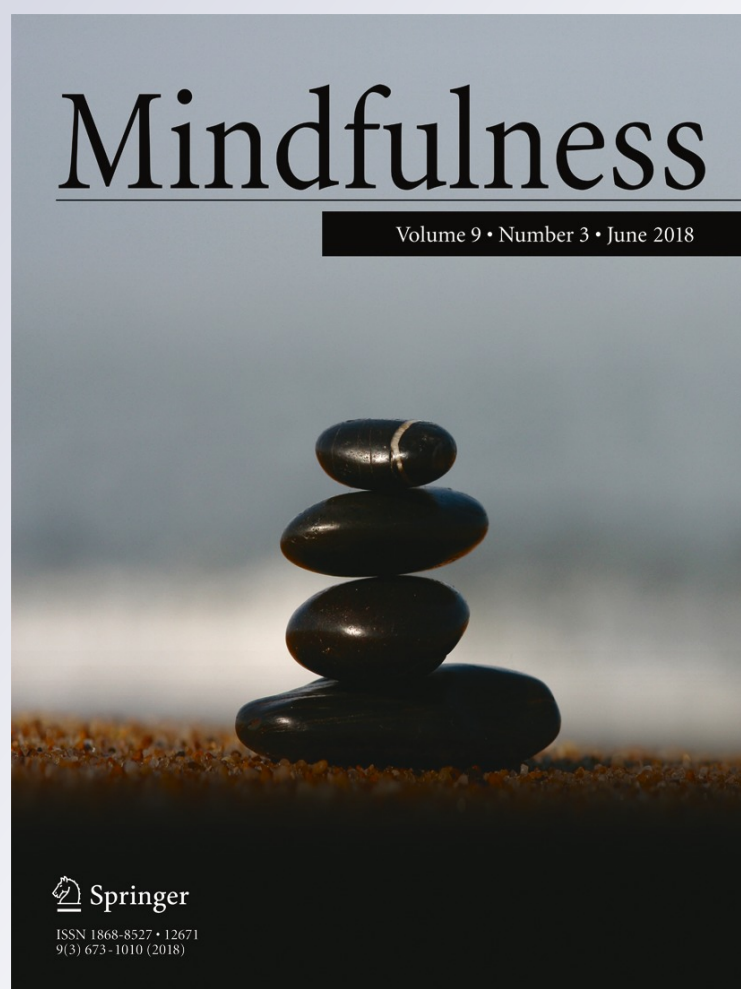
ISSN 1868-8527

Volume 9

Number 3

Mindfulness (2018) 9:914-924

DOI 10.1007/s12671-017-0831-x



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Does Self-Compassion Facilitate Resilience to Stigma? A School-Based Study of Sexual and Gender Minority Youth

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Published online: 24 October 2017
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Abstract Mental health disparities among sexual and gender minority youth likely reflect a maladaptive coping response to contexts rife with stigma messaging and discrimination. Identifying adaptive coping responses to stigma messages is thus a critical step in reducing the disparities that manifest in adolescence. Guided by the minority stress hypothesis, this secondary data analysis ($N = 1821$) examined self-compassion (SC) as a potential resilience-promoting response to stigma messages received from bias-based bullying. In addition to accounting for more variation in mental health disparities than bias-based bullying, general victimization, and adverse childhood experiences combined, inclusion of SC in the models dramatically attenuated the impact of bias-based bullying, and finally, rates of bias-based bullying moderated the SC's mediational effect on mental health symptomology. Furthermore, while the average SC scores were on par with those reported in adolescence elsewhere, examination of differences across sexuality and gender status reveals that sexual and gender minority youth report significantly lower rates of self-compassion, with a medium effect size. In sum, while deficits in SC appear to explain a greater degree of variation in mental health disparities than does exposure to adversity,

high SC appears to be protective although rates of bias-based bullying erode its protective effects.

Keywords Sexual minority youth · LGBT youth · Depression · Disparities · Minority stress · Self-compassion · Resilience

Introduction

Although suicide remains the fourth leading cause of death among all adolescents in the USA, for many adolescents who affirm or are ascribed a stigmatized status, the rates are higher (CDC 2015). For example, adolescents that fall into the category of sexual and/or gender minority (SGMi) report two to three times the odds of experiencing depression, anxiety, and suicidality relative to adolescents who enjoy sexual and gender majority (SGMa) status (King et al. 2008; Zaza et al. 2016). SGMi adolescents include those who either do not affirm an exclusively heterosexual orientation, do not affirm the gender that they were assigned at birth, or express themselves in gender-nonconforming ways, according to mainstream gender norms. While the vast majority of SGMi adolescents both navigate and emerge from adolescence with robust mental and physical health (Mustanski et al. 2011), a disproportionate number of SGMi adolescents report engaging in health-risk behaviors relative to their SGMa peers.

For members of a marginalized community facing social stigma and structural discrimination, the normative developmental task of identity consolidation may trigger a cascade of stressors that contribute to the disparities in engagement of unhealthy coping mechanisms characterized as health-risk behaviors (D'Augelli 2002; Floyd et al. 1999). For example, although disproportionate exposure to adverse childhood experiences (ACEs; Austin et al. 2016), as well as to a variety of

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other risk factors, is implicated in the production of this health disparity, the minority stress (MS) hypothesis suggests that the aforementioned mental health disparities partly reflect maladaptive attempts to cope with chronic exposure to minority-specific stressors, such as stigma messages (Meyer 2003). Others have further suggested that stigma—which is composed of ideologies of deficiency, status loss, and reduced access to resources—may serve as a mechanism of population health inequalities on par with other social determinants of health (Hatzenbuehler et al. 2013). Thus, it is crucial that we identify coping strategies that reduce the negative mental health impacts of stigma messages while simultaneously improving the structural conditions that facilitate health inequities, such as access to health care and employment opportunities (Hatzenbuehler et al. 2008; Meyer 2015).

At their core, stigma messages emphasize that a specific attribute is wrong, “other,” or otherwise not “normal.” Such messages are communicated both explicitly—as in the case of religious groups declaring homosexuality “sinful” and political groups campaigning that a transgender identity is “sick”—and implicitly, via the absence of SGMi figures in school curricula and gendered aisles in toy stores.

Extant research on the process by which stigma messages become internalized and manifest themselves as mental health concerns highlights the need to identify adaptive strategies that increase self-acceptance and decrease rumination related to stigma internalization. Qualitative research conducted to identify resilience processes from the perspective of the SGMi youth suggests that reconceptualizing personal experiences of discrimination and adversity as part of a collective struggle symptomatic of the larger sociohistoric context may be a key component for adaptively managing adversity (DiFulvio 2011). Due to its focus on self-kindness and emphasis on solidarity with others who also struggle via common humanity, self-compassion may facilitate resilience to stigma messages and thus reduce health disparities.

Originally formulated in order to conceptualize the mediators of health disparity production in the SGMi community, the MS hypothesis identifies a number of minority-specific stressors both proximal and distal to the individual implicated in the production of mental health disparities. Most pertinent to the present study, the MS hypothesis asserts that being targeted for stigma-laden harassment by peers because of presumed marginalized identity likely plays a causal role in the production of health-risk disparities documented among SGMi individuals. Frequently referred to as bias-based bullying, examples of these stigma messages include verbally or physically alluding to a stigmatized status via the use of derogatory names or mocking behaviors (Meyer 2003; Poteat et al. 2011).

Previous research has found a strong relation between such stigma messages in the form of bias-based bullying from peers and elevated depressive symptomology in youth, with greater effects found among the SGMi youth (Collier et al. 2013;

Saewyc 2011). While a number of longitudinal studies provide support for a causal role of bias-based bullying in anxiety, depression, and suicidal ideation (Birkett et al. 2015; Burton et al. 2013), multivariate and propensity score analyses of cross-sectional data from population-based samples suggest that MS from bias-based bullying does not fully explain the increased risk in mental health symptomology found among the SGMi youth (Mueller et al. 2015; Robinson and Espelage 2012). For example, compared at matched levels of harassment, the SGMi youth remained 3.3 times as likely to think about suicide and three times as likely to attempt suicide as SGMa youth (Robinson and Espelage 2012).

The MS hypothesis’s (Meyer 2003) psychological mediation model (Hatzenbuehler 2009) suggests that the SGMi status is associated with mental health concerns via the internalization of stigma when exposure to stigma messages (e.g., bias-based bullying) is managed by uninterrupted ruminative thought patterns (e.g., SGMi → bias-based bullying → rumination → depression/suicidality). In support of this model, structural equation modeling of longitudinal, school-based data found that deficits in emotional regulation (rumination and poor emotional awareness) mediated the relation between same-sex attraction and internalizing symptoms (Hatzenbuehler et al. 2008). Indeed, one study found that acceptance of one’s own nonheterosexual orientation was the strongest predictor of mental health in the presence of bias-based bullying (Hershberger and D’Augelli 1995). Taken together, these findings suggest that the manner in which one encounters stigma messages, whether the shame associated with stigma is internalized or met with compassion, may factor strongly in predicting resilience to this form of adversity.

Self-compassion (SC) is described as both a trait and a psychological process that can be strengthened through intentional cultivation. According to empirical work, SC confers resilience to psychological distress by moderating the cognitive appraisal of, and physiological response to, negative events. As such, SC may be a particularly effective coping response for disrupting the internalization of stigma messages by offering warmth and acceptance of hurt rather than self-judgment of weakness and rumination. Self-compassion is composed of six interrelated facets and is the result of engaging more greatly in the three positive facets (italicized as follows) than in the three negative facets (described relative to the italicized terms) (Neff 2015, 2016). First, in order to regard the self with compassion, one must remain *mindfully* attuned to experiences of suffering as they arise and dissipate rather than judging them or identifying with them, as occurs in rumination. Second, and perhaps most pertinent to the management of stigma, SC involves appraising emotional difficulty as evidence of one’s *common humanity* rather than appraising it as evidence of personal failing which leads to self-isolation. Put another way, to be SC is to acknowledge that everyone struggles, regardless of identity, and that pain is a sign of being

alive rather than a signifier of having done something “wrong.” Lastly, invoking compassion for the self entails *offering warmth and comfort* to the suffering self rather than engaging in self-criticism.

While meta-analyses inclusive of emerging adults confirm a negative correlation between SC and anxiety and depression in both clinical and nonclinical samples, with moderate to large effect sizes (MacBeth and Gumley 2012), and a positive correlation with psychological well-being (Zessin et al. 2015), emerging experimental research suggests that “high” SC does protect adolescents from stress by moderating the cognitive appraisal of, and physiological response to, stressful events (Bluth et al. 2016a, b; Breines et al. 2014). Further, intervention studies demonstrate that increases in SC relate to reductions in perceived stress (Bluth et al. 2015), rumination, and depressive symptoms (Bluth et al. 2016; Galla 2016).

In this study, we expand the investigation of self-compassion as a resilience factor for adolescents managing a stigmatized identity. As suggested by the minority stress model, we hypothesize that high self-compassion will be associated with a reduction in health disparities across sexuality and gender status. Further, we expect that self-compassion will explain a greater amount of variance in mental health symptoms (MHS) among the SGMi youth than will our measure of stigma messages (e.g., bias-based bullying), general victimization, sex, and ACEs combined. In a test of the psychological mediation model of the minority stress hypothesis, we expect that self-compassion will mediate (partially or fully) the relationship between SGMi status and MHS via the experience of bias-based bullying, controlling for age (in the model of anxiety symptomology), biological sex, ACEs, and general peer victimization. Finally, we expect that as exposure to bias-based bullying increases, the self-compassion’s buffering effects on the relationship between SGMi status and MHS will lessen, and that an interaction effect between self-compassion and high bias-based bullying may serve to exacerbate the disparities in mental health symptomology across sexual and gender status.

Method

Participants

Participants include 1872 students from two suburban high schools in the same Midwestern county of the USA. Students completed the 2015 edition of the Dane County Youth Assessment survey (DCYA). The sample consisted of 929 males and 943 females. Sixty-nine percent identified as “white” and 31% as students of color (SoC), with 30% of the SoC students identifying as “multiracial.” Eighteen percent of the sample received free or reduced lunch. Schools returned surveys for 85–90% of their student population.

Procedure

Data were collected in collaboration between school staff, parents, and community representatives over the course of 3 days at each location. The surveys were proctored by trained personnel on-site in each school’s computer lab during the school day. While entire classroom cohorts took the survey simultaneously, students who declined to participate went to an alternative, supervised classroom. Computers were spaced several feet apart and a limited number of questions were displayed at a time, minimizing threats to confidentiality. All students in each location accessed the Web-based survey via the same IP address and at no point was any personally identifying information collected. Students were reminded that participation was voluntary and that they could decline to continue at any point. Each student was provided a directory of resources offering immediate emotional support in the event that their participation in the survey was upsetting. The entire procedure lasted approximately 40 min. Data were received de-identified, and the UW-Madison Institutional Review Board approved a secondary data analysis.

Measures

Totaling 128 items, the DCYA surveyed students on their opinions, concerns, attitudes, behaviors, and experiences.

Demographic Variables Self-reports of age, grade, race, biological sex, and free or reduced lunch status were elicited to determine demographic characteristics.

Sexuality and Gender Status Sexuality and gender status (SGMy) was determined through answers to questions about sexual identity (“Which of the following best describes you?” *Straight/heterosexual, Gay or lesbian, Bisexual, Questioning my sexual orientation, or Other*), sexual behavior (Q1: “What is your biological sex?” and Q2: “Who have you had voluntary sexual intercourse or oral sex with?” A2: *Females, Males, or Males and Females*), transgender identity (Q: “Do you identify yourself as transgender?” A: *Yes/No, or, I do not know what transgender means.*), and gender conformity (Q: “A person’s appearance, style, or dress, or the way that person walks or talks, may affect how people describe them. How do you think other people at school would describe you?” A: *(a) very feminine, (b) mostly feminine, (c) somewhat feminine, (d) equally feminine and masculine, (e) somewhat masculine, (f) mostly masculine, or (g) very masculine*). Students were coded as SGMi ($n = 394$) if they indicated (1) a nonheterosexual sexual identity, (2) nonheterosexual sexual behavior, (3) a transgender identity, or (4) a gender-nonconforming self-presentation. Everyone else was classified as SGMa.

Adverse Childhood Experiences The following items were collapsed into dichotomous variables and summed in order to assess cumulative exposure to adverse childhood experiences (Felitti et al. 1998): (1) forced sexual contact, (2) experiencing homelessness, (3) parental incarceration, (4) child abuse that leaves marks or creates injury, (5) a parent getting drunk at least once a week, (6) a parent getting high from marijuana at least once a week, (7) parents physically fighting with each other, (8) a parent with mental health issues that worry the student. Higher scores indicate greater numbers of ACEs. Although these items cover the range of adverse childhood experience that has demonstrated predictive power regarding lifetime mortality and morbidity, they have not been formally tested for external validity and internal reliability. This series of items demonstrated internal reliability with an $\alpha = 0.67$.

General Peer Victimization Four items were used from the University of Illinois Victimization Scale (Espelage and Holt 2001) to assess general peer victimization in the past 30 days: “Other students called me names,” “Other students made fun of me,” “Other students picked on me,” and “I got hit and pushed by other students.” Response options include zero (Never), one (one or two times), two (three or four times), three (five or six times), and four (seven or more times). Responses were averaged into an index of general victimization wherein higher scores indicated more self-reported victimization. Internal reliability in this sample was on par with findings from other samples ($\alpha = 0.87$; Espelage et al. 2008; Espelage and Holt 2001; Poteat et al. 2011).

Bias-Based Bullying Three items regarding the frequency of bias-based bullying were averaged. “In the past 12 months have you ever been bullied, threatened or harassed...” (a) “By others thinking you’re gay, lesbian or bisexual, or transgender,” (b) “Because of your race or ethnic background,” (c) “Because of how you look?” Response options included zero (Never), one (Rarely), two (Sometimes), three (Often), and four (Very Often). Higher scores indicated greater frequency of being victimized by bullying laden with stigma messages. The item regarding harassment based on perceived LGBT identity has been used in other surveys and is associated with lower perceived school safety and higher depression (O’Shaughnessy et al. 2004). Internal reliability for the composite in this sample ($\alpha = 0.64$) was comparable to assessments of reliability reported elsewhere (Robinson and Espelage 2011; $\alpha = 0.71$).

Self-Compassion Self-compassion was assessed using the empirically validated short form of the self-compassion scale (Raes et al. 2011). Developed and validated in both English and Dutch using multiple samples, the English Self-Compassion Scale—Short Form (SCS-SF) total score showed a near-perfect correlation of 0.98 with the long SCS total

score. Correlations between the long- and short-form subscales (on corresponding dimensions) were excellent: 0.89 for self-kindness, 0.90 for self-judgment, 0.91 for common humanity, 0.93 for isolation, 0.89 for mindfulness, and $r = 0.89$ for overidentification. However, internal consistencies of the subscales on the short form were relatively low and the authors advise against using the subscales on the SCS-SF (Raes et al. 2011).

Composed of 12 items assessing 3 positive and 3 negative aspects of SC, negatively worded items were reverse scored and averaged into one overall measure of SC. Sample items include the following: “When I’m feeling down I tend to obsess and fixate on everything that’s wrong,” and “When I’m going through a very hard time, I give myself the caring and tenderness I need.” Response options are presented on a Likert scale anchored at (1) almost never and (5) almost always. Higher scores indicate greater SC. In this study, the short form demonstrated acceptable reliability with an $\alpha = 0.80$, and the overall sample mean was 3.06 with a standard deviation of 0.73.

Depressive Symptomology A composite score assessing the frequency of depressive and suicidal thoughts and behaviors was created by standardizing and summing the following items: (1) “During the past 12 months, have you thought seriously about killing yourself?” (2) “During the past 12 months, how many times did you do something to hurt yourself on purpose, without wanting to die, such as cutting or burning?” and (3) “During the past 12 months, did you ever feel so sad or hopeless almost every day for at least two weeks in a row that you stopped doing some usual activities?” Higher scores indicate more depression and suicidal ideation. These items are used by the Centers for Disease Control in their national Youth Risk Behavior Surveillance Survey and have demonstrated excellent test-retest reliability (CDC 2013). Internal reliability for a composite score of depressive symptomology in this sample was acceptable ($\alpha = 0.78$).

Anxiety Symptomology Students were asked to indicate how often they experienced the following in the past 30 days: (a) “Felt nervous, anxious or on edge,” (b) “Been unable to stop or control worrying,” or (c) “Felt problems were piling up so high that you could not handle them.” Response options included (0) Not at all, (1) Always, (2) Sometimes, and (3) Often. Responses were averaged; higher scores indicated greater anxiety. The first two items came from the brief and widely used Patient Health Questionnaire (PHQ-4) (Löwe et al. 2010). Summing all three items for a composite anxiety score has demonstrated acceptable reliability elsewhere (Espelage et al. 2016) and excellent reliability in this sample ($\alpha = 0.97$).

Data Analyses

After students who failed to indicate biological sex, racial identity, and SGM_y screener items ($n = 4$) were removed, data were screened for “mischievous responders.” Following screening techniques previously utilized with earlier iterations of this data set, seven low-frequency response items (i.e., less than 3% of the total sample indicated engaging in these behaviors) theoretically unrelated to the relationships of interest were selected to serve as screeners for deliberately misleading responders (Robinson and Espelage 2012; Robinson-Cimpian 2014). In this study, students who indicated *either* an implausible weight (≤ 70 or ≥ 400 lbs) *or* height (≥ 7 ft tall) *and* two of the five low-frequency response items (e.g., drinking 4+ sodas a day) were excluded from analysis. Forty-seven students were identified as mischievous responders, for a final analytic sample of 1821.

Data were screened for regression assumptions and log transformed, as needed. Potential covariates were identified through zero-order correlations between demographic variables and mental health symptomology (MHS) and subsequently controlled. Independent t tests and chi-squared analyses of group differences in exposure to adversity and MHS were conducted to establish the existence of health disparities in this sample. Zero-order bivariate analyses (i.e., Pearson's r) were conducted to examine the relation between SC and adversity across the full sample. To test the hypothesis that SC explains more variation in MHS than do ACEs, bias-based bullying (BB), general victimization, or biological sex, separate ordinary least squares hierarchical regressions were run on anxiety and depressive symptomology with all variables but SC entered in the equation for each outcome variable at step one and SC entered in step two.

Next, to test the MS hypothesis, a serial mediator model of the indirect path from SGM_y status to each outcome variable via the mechanism of BB (M1) and its subsequent impact on rates of SC (M2) was evaluated using the PROCESS macro (Hayes 2013). The PROCESS model estimated the regression coefficients of all direct and indirect paths, including a serial path of the mediators (M1 \rightarrow M2) using ordinary least squares path analysis. Pairwise mean comparisons of each indirect path were conducted to determine whether the indirect paths specified were significantly different from one another, conducting inference testing by generating 10,000 bootstrap samples to calculate 95% bias-corrected confidence intervals (BC CI).

Finally, in order to see if self-compassion mediational effects would be dampened by exposure to bias-based bullying, we reran the mediational models with bias-based bullying as a moderator of the indirect effect, once again using the PROCESS macro. Variables were mean centered prior to construction of products to make the resulting regression coefficients interpretable in the range of the data. In addition to

producing parameter estimates of the indirect effects at different levels of the moderator, the PROCESS macro also includes an inferential test of the significance of the difference of these effects by generating 10,000 bootstrap samples to calculate 95% BC CI. This inferential test is called the index of moderated mediation (see Hayes (2015) for detail).

Although mediation is a causal process, and we use associated language to describe coefficients produced by mediation models, we did not formally test causality, because our study is cross-sectional. All analyses were conducted using version 23 of SPSS (2016). In all analyses, SGM_i was coded as 0.5 and SGM_a as -0.5 . In multivariate analyses, age, ACEs, biological sex, and general victimization were covariates in the models of the relation between SGM_y status and anxiety symptomology and all but age were included in the models of relation between SGM_y status and depressive symptomology. Because we used dichotomous independent variables, only unstandardized regression weights are reported (Hayes 2013). Effects were characterized as small ($r = .10$), medium ($r = .30$), or large ($r = .50$) using Cohen's benchmarks. Effect sizes for group differences were calculated using G*Power 3.1 for Mac (Faul et al. 2007).

Results

On average, the SGM_i youth reported nearly twice as much exposure to adversity as did their SGM_a peers. For example, SGM_i students reported higher ACEs ($M = 0.70$ SD = 1.08) than SGM_a students ($M = 0.39$ SD = 0.82); $t(473.53) = 5.11$, $p = .000$, with a medium effect $d = 0.32$, and more frequent experiences of both general peer victimization $t(482.77) = 4.6$, $p = .000$ and of BB, $t(421.40) = 7.09$, $p = .000$. Similarly, on average, the SGM_i youth reported more than double the frequency of depressive symptomology ($M = 1.14$ SD = 3.73) reported by SGM_a students ($M = -0.38$ SD = 1.90) $t(400.23) = 7.54$, $p = .000$, $d = 0.97$, and significantly greater rates of anxiety symptoms (SGM_i $M = 4.50$ SD = 2.86; SGM_a $M = 3.11$ SD = 2.54; $t(503.64) = 8.34$, $p = .000$, $d = 0.85$). Finally, SGM_i students reported significantly lower SC ($M = 2.81$ SD = 0.71), on average, than SGM_a youth ($M = 3.14$ SD = 0.72), $t(16.09) = -7.44$, $p = .000$, with a medium effect size $d = 0.39$.

SC and Associations with Adversity and MHS

Zero-order correlations between SC and adversity were in expected directions. As hypothesized, SC held a small, negative relation with both ACEs ($r = -0.21$, $p = .000$) and BB ($r = -0.27$, $p = .000$), and large relations with both depressive ($r = -0.50$, $p = .000$) and anxiety symptomology ($r = -0.59$, $p = .000$). See Table 1 for descriptive statistics and correlations.

Table 1 Correlation matrix of self-compassion and measures of adversity and mental health symptomology

	Mean (SD)	1.	2.	3.	4.	5.	6.
1. Self-compassion	3.06 (0.73)	–	– 0.26***	– 0.28***	– 0.21***	– 0.59***	– 0.50***
2. Gen. peer vic.	0.30 (0.53)		–	– 0.25***	– 0.15***	– 0.30***	0.53***
3. Bias-based bullying	.07 (0.12)			–	0.17***	0.31***	0.36***
4. ACEs	0.45 (0.89)				–	0.30***	0.37***
5. Anxiety	3.40 (2.66)					–	0.56***
6. Depressive symp.	– 0.03 (2.44)						–

Bias-based bullying has been log transformed *Gen.* general, *Vic.* victimization, *ACEs* adverse childhood experiences, *Symp.* symptomology *** $p < .001$

Supporting our second hypothesis, SC accounted for unique variance in MHS above and beyond both BB and ACEs. The regression model for anxiety was statistically significant [$F(7, 1554) = 170.73, p < .000$] and accounted for 43% of the variance. Furthermore, the addition of SC to the model attenuated the effect of other predictors and accounted for 17% of the variance on its own [$F(1, 1554) = 457.88, p = .000$]. For example, SGMi status dropped from $B = 0.69$ to 0.42, and BB dropped from $B = 3.90$ to 2.30, and ACEs dropped from $B = 0.67$ to 0.47. Similarly, all steps in the hierarchical regression model for depressive symptomology were significant [$F(1, 1567) = 164.98, p = .000$] and accounted for 39% of the variance in depressive symptomology, with SC accounting for 10% of the variance [$F(1, 1567) = 263.55, p = .000$]. However, the degree to which the addition of SC attenuated the other predictors was not as great. For example, BB dropped from $B = 0.15$ to 0.11, SGMi status dropped from $B = 0.03$ to 0.02, and ACEs from $B = 0.03$ to 0.02. All regression weights listed previously were significant, with $p = .000$.

Testing Psychological Mediation for Predicting MHS All effects in the multiple mediator model (SGMy \rightarrow BB \rightarrow SC \rightarrow MHS) for estimating anxiety were statistically significant [$F(7, 1554) = 170.73, p = .000$, accounting for 43% of the variance (Fig. 1). Although indirect effects were positive and significant, with bootstrap confidence intervals above zero, pairwise comparisons of the indirect effects suggest that the path via SC (i.e., SGMy \rightarrow SC \rightarrow anxiety) is significantly different from both the path through BB alone (i.e., SGMy \rightarrow BB \rightarrow anxiety) and the serial path, with an effect size roughly three times the size of the other path effects (0.27 vs 0.09; Table 2).

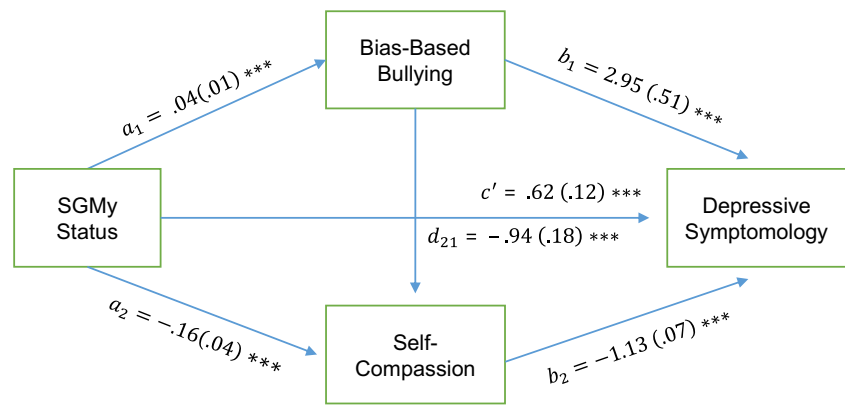
As in the anxiety model, all effects in the serial mediator model for depressive symptomology were statistically significant [$F(6, 1602) = 143.11, p = .000$, accounting for 35% of the variance (Fig. 2). However, the pairwise comparisons of the indirect effects suggest that while the single mediator indirect paths are not significantly different from each other, either

single mediator model is a better fit for the data than is the serial model (Table 2).

Is SC Mediation Effect Conditioned upon Experiences of Bias-Based Bullying? The estimated parameters and significance tests for each model of MHS mirrored each other significantly. For example, both models of MHS returned significant SGMy \times BB interaction terms ($b = 0.65\text{--}0.67, ps = .000\text{--}.04$) with confidence intervals above zero and negative indices of moderated mediation with confidence intervals fully below zero (anxiety: [a3b1 = -1.14 (SE = 0.56) BC CI $-2.26, -0.05$] vs depression: [a3b1 = -0.77 (SE = 0.39) BC CI $-1.55, -0.01$]). These findings suggest that for every one unit increase in BB, the gap in SC scores between SGMi and SGMa students widened by 0.65–0.67 points, essentially by one standard deviation (SC SD = 0.71). Further, the negative indices of moderated mediation suggest that the effect of SGMy status on mental health symptomology via SC was negatively moderated by cumulative experiences of bias-based bullying. Effectively, increases in the differences in MHS across SGMy status were the result of the interaction between high rates of bias-based bullying co-occurring with lower levels of self-compassion.

However, examination of the direct and indirect effects of each model displayed in Table 3 demonstrates that as BB increases the effect of SGMy status on mental health symptomology via self-compassion diminishes substantially, such that it is halved but still significant in the model of depression symptomology and halved and no longer significant in the model of anxiety symptomology. In other words, according to this study, the degree to which SC mediates the link between identity and disparity is conditioned upon exposure to bias-based bullying. When it comes to depressive symptomology, as rates of bias-based bullying increase, the degree to which SC mediates the link decreases; whereas in the model of anxiety symptomology, the degree to which SC mediates the identity \rightarrow disparity link attenuates as bias-based bullying increases, ultimately disappearing at extreme rates of bias-based bullying.

Fig. 1 Path coefficients of the serial mediator model of the path from SGM_y status to anxiety, controlling for age, ACEs, general victimization, and biological sex



Discussion

Health disparities, such as those found in mental health symptoms manifesting in adolescence among a disproportionate number of the SGM_i youth, systematically compound social disadvantage and are plausibly avoidable (Braveman et al. 2011). Given the hypothesis that stigma is a fundamental cause of health disparities, investigating strategies that disrupt the internalization of stigma messages is salient for marginalized populations (Gilbert and Procter 2006; Hatzenbuehler et al. 2008). With its focus on emotional awareness and countering self-criticism with acceptance, warmth, and connection, SC may be particularly potent in reducing the internalization of stigma so that it does not manifest itself in mental health concerns. Rooted in the MS hypothesis that internalized stigma contributes to existing mental health disparities in marginalized adolescents, the current study tested the hypothesis that deficits in SC may contribute to mental health disparities seen in the SGM_i youth. We highlight four key findings below.

First, although data was sampled from two Midwestern high schools, group differences found in this sample are comparable to examples in the extant literature. The SGM_i youth reported higher rates of adversity exposure and risk engagement compared to their SGM_a peers, and moreover, the bivariate effect sizes between SC and mental health variables

measured were on par with those found in a recent meta-analysis of the links between self-compassion and psychopathology (MacBeth and Gumley 2012).

Second, SGM_i students reported significantly lower SC on average than did SGM_a youth with a moderate effect size, although the full sample mean was on par with average SC scores for adolescents reported from samples that did not differentiate SGM_y status (Bluth et al. 2017; Marshall et al. 2015; Neff and McGehee 2010). This finding illuminates an association between a stigmatized identity and a lowered inclination to treat the suffering self with kindness and care.

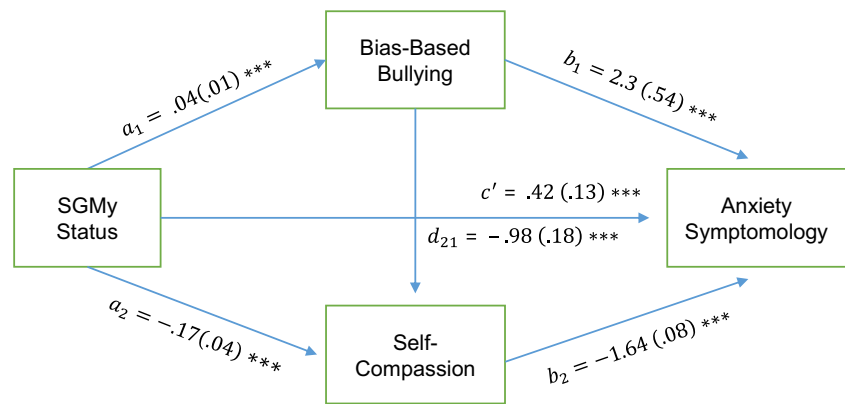
Third, consistent with our hypothesis, self-compassion partially explained the relation between minority identity and MHS. Of note, the inclusion of self-compassion in the hierarchical regression models significantly increased the amount of unique variation explained in each outcome and dramatically attenuated the influence of BB on anxiety. Further, the finding that variation in SC accounted for more of the variation in MHS than did BB suggests that how one copes with adversity may be more influential on mental health than the amount of adversity experienced. Taken together, these findings provide initial support for the hypothesis that higher rates of SC may disrupt the SGM_i status to MHS link and thus may indeed offer a powerful intervention point for addressing health disparities.

Table 2 Indirect effects and pairwise comparisons of serial mediation of mental health symptomology

	Anxiety			Depressive symptomology		
	Effect (SE)	BC CI		Effect (SE)	BC CI	
Indirect paths						
(1) SGM _y → BB → MHS	0.09 (0.03)	0.04	0.17	0.11 (0.04)	0.06	0.20
(2) SGM _y → BB → SC → MHS	0.06 (0.02)	0.04	0.11	0.04 (0.01)	0.02	0.07
(3) SGM _y → SC → MHS	0.27 (0.07)	0.13	0.41	0.18 (0.05)	0.09	0.29
Pairwise comparisons	Effect (SE)	BC CI		Effect (SE)	BC CI	
Ind1-Ind2	0.03 (0.03)	- 0.02	0.09	0.07 (0.03)	0.02	0.15
Ind1-Ind3	- 0.18 (0.08)	- 0.33	- 0.02	- 0.07 (0.06)	- 0.19	0.06
Ind2-Ind3	- 0.21 (0.07)	- 0.35	- 0.06	- 0.14 (0.05)	- 0.25	- 0.05

SGM_y gender and sexuality status, MHS mental health symptomology, SC self-compassion, BB bias-based bullying, Ind indirect path, BC CI bootstrap confidence interval

Fig. 2 Path coefficients of the serial mediator model of the path from the SGMy status to depressive symptomology, controlling for ACEs, general victimization, and biological sex



Fourth, contrary to the serial mediation model suggested by the MS hypothesis, wherein the link between identity and mental health disparities is explained by stigma messages (measured here in the form of bias-based bullying), which in turn explain variation in self-compassion (i.e., SGMy → BB → SC → MHS), our results suggest that rather than causing variation in self-compassion, bias-based bullying interacts with trait SC to predict variation in mental health symptomology. Specifically, it appears that exposure to higher rates of bias-based bullying among those with less self-compassion is the condition that most strongly predicts disparities in MHS across SGMy status.

However, these findings may be an artifact of the cross-sectional design of the study. Future researchers may wish to collect panel data on BB, SC, stigma internalization, and MHS across time so that the causal process by which MS “gets under the skin” via the internalization of stigma may be examined. Such longitudinal work is needed to support the hypothesis that the link between SGMi status and mental

health concerns is explained by lower self-compassion, which is in turn caused by minority stress. Additionally, such work is needed to rule out the possibility that having lower rates of self-compassion actually attracts bullying behaviors from one’s peers. Alternatively, it is entirely possible that peer victimization does not impact one’s self-compassion, but rather, having lower self-compassion may exacerbate the mental health impacts of being bullied. Understanding the causal relationship between self-compassion, peer victimization, and mental health is necessary for effective intervention development.

Finally, the findings of the degree to which SC explains the identity → MHS link is conditioned upon exposure to bias-based bullying suggest two compelling conclusions and suggestions for future research. One, given that the identity → MHS link disappeared for anxiety symptomology when bias-bullying rates were “extreme,” it is reasonable to conclude that internalization is a prominent coping response to relentless peer victimization, regardless of actual or

Table 3 Table of direct and indirect effects of moderated mediation models

Models	Direct effects	SE	<i>t</i>	LLCI	ULCI
SGMy → anxiety	0.50	0.13	3.87***	0.25	0.76
SGMy → depression	0.72	0.12	5.88***	0.48	0.96
	Indirect effects	BootSE		BootLLCI	BootULCI
SGMy → SC → anxiety					
BB = 0.00	0.39*	0.09	–	0.22	0.56
BB = 0.07	0.31*	0.07	–	0.17	0.46
BB = 0.18	0.18	0.09	–	0.00	0.36
SGMy → SC → Depr.					
BB = 0.00	0.26*	0.06	–	0.15	0.40
BB = 0.07	0.21*	0.05	–	0.12	0.32
BB = 0.18	0.12*	0.06	–	0.01	0.26

ACEs, biological sex, and general victimization included as covariates of the models of depressive symptomology (*n* = 1574); ACEs, biological sex, general victimization, and age included as covariates of the models of anxiety symptomology (*n* = 1562). *T* tests used only to test the statistical significance of direct effects, thus are not reported for indirect effects *Depr.* depressive symptomology, *SGMy* gender and sexuality status, *MHS* mental health symptomology, *SC* self-compassion, *BB* bias-based bullying ****p* < .001

ascribed identity. Put another way, the health disparity across SGMi status disappears at extreme rates of bullying because all adolescents are suffering at indistinguishable levels from the anxiety that such victimization often provokes. Second, since the degree to which SC continues to buffer the relation between identity and depression attenuates as bias-based bullying increases, it is possible and probable that as experiences of adversity increase, intrapersonal coping processes alone are insufficient to explain the variation in mental health symptomology. Future work exploring the conditions under which self-compassion does, and does not, confer resilience to stigma messages is merited.

In sum, the pattern of findings from this study suggests that, although self-compassion covaries with minority stress, as measured by rates of bias-based bullying, and is potentially negatively impacted by it, self-compassion explains a greater amount of the variation in mental health symptomology than does bias-based bullying regardless of SGMi status. In addition to suggesting that SC serves as a resilience factor among the SGMi youth, this study supports the hypothesis that self-compassion serves as an “emotional approach” coping strategy and thus an adaptive emotional regulation strategy for all adolescents, regardless of exposure to adversity (Neff 2003; Neff et al. 2007).

Limitations and Future Directions

Findings from the present study must be interpreted in view of its limitations. First, given that sexual attraction typically precedes both sexual identity and sexual behavior (Rosario et al. 2006), a number of adolescents coping with the stigma associated with their attractions were likely erroneously coded as SGMa. Second, in addition to the risk of artificially inflated effect sizes by reliance upon self-report measures for all variables (Podsakoff et al. 2003), the items used to assess sexuality and gender status, minority stress (e.g., bias-based bullying), adverse child experiences, and mental health symptomology did not undergo psychometric validation. Although the scales used demonstrated acceptable reliability in this study, future work would benefit from the use of independently validated measures.

Third, due to the length of the school-based survey, the SC scale short form was utilized, precluding the ability to test our hypothesis that the subcomponents of SC of common humanity are particularly pertinent for the management of stigma. Fourth, the cross-sectional design of the study limits interpretation of the results of mediation models and prevents proper testing of the MS hypothesis. Finally, sampling from school-based data from a Midwestern suburb resulted in a lack of power for investigating patterns by racial or SGMi subgroups, and thus, results overrepresent the experiences of white, bisexual, gender-conforming, and cisgender youth. Future work would benefit from larger sample sizes that would allow the

more granular comparisons needed to inform effective interventions. For example, although sexual minority and gender minority youth were examined as one subgroup based on the theory that stigma messages are organized by similar principles (i.e., gender essentialism and heteronormativity), it is not known whether the quantity or quality of bias-based bullying is experienced as distinct between these subgroups or, furthermore, whether interventions would benefit from more nuance when these subgroups of the SGMi population are targeted (Button et al. 2012; Collier et al. 2013).

Despite these limitations, this study provides a significant contribution to the literatures on resilience and on the mechanisms of mental health disparities seen in sexual and gender minority adolescents, a public health priority (Medicine 2011). In addition to lending additional evidence that self-compassionate coping is a protective factor in all youth, this study provides preliminary evidence that SC offers a promising intraindividual leverage point for reducing health disparities in at-risk youth. For example, recent studies suggest that SC can be increased through self-compassion interventions (Bluth and Eisenlohr-Moul 2017; Bluth et al. 2016; Neff and Germer 2013) and work with healthy but stressed adolescents of unknown SGMi status suggest that emotional well-being is predicted by within-person changes in SC (Galla 2016).

The findings reported here suggest the merit of evaluating these brief contemplative practice interventions among at-risk populations, such as the SGMi youth. Furthermore, given the demonstrated power of school-level policies in impacting the mental health of the SGMi youth (Hatzenbuehler and Keyes 2013), the results of this study suggest that adoption of universal practices that build emotional awareness and the use of adaptive coping strategies (such as SC) into curriculum offers another avenue for creating social ecologies that support individual resilience regardless of sexuality or gender status.

Author Contributions AV: conducted data analyses and wrote the paper.

JPT: consulted and advised regarding data analysis, interpretation, and editing of this paper.

BK: designed and implemented the Dane County Youth Assessment data collection. He also brokered relationship between the AV and the school district in order to pursue secondary data collection.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflicts of interest.

Ethical Approval As a secondary data analysis, this article does not contain any studies with human participants or animals performed by any of the authors.

Informed Consent As this article is a secondary data analysis, informed consent was not required.

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