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What reduces sexual minority stress? A review of the intervention "toolkit"

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Abstract

Sexual orientation health disparities are rooted in sexual minorities' exposure to stress and challenges to effective coping. This paper reviews the "toolkit" of psychosocial interventions available to reduce sexual minority stress effects. A systematic search uncovered 44 interventions that both seek to reduce sexual minority stress at its source in unjust and discriminatory social structures as well as bolster sexual minorities' stigma-coping abilities. These interventions were implemented in a variety of contexts (e.g., education, health care delivery) and utilized heterogeneous modalities to create change (e.g., policy implementation, role-playing activities). They were designed to affect change across structural, interpersonal, and individual levels. The interventions reviewed here, while in early stages of efficacy testing, possess potential for meeting the needs and resources of mental and medical health care providers, policy makers, and other stakeholders who aim to lessen the burden of sexual minority stress and the health disparities it generates.

Keywords

sexual minority; stigma; stress; coping; intervention

By many measures, the quality of life of sexual minorities (i.e., individuals who identify as lesbian, gay, or bisexual [LGB]) in the United States has improved substantially in the past half-century. Many of these improvements are a direct result of the gay rights movement that originated in the middle of the twentieth century. During this time, activist organizations increased the visibility of sexual diversity by engaging sexual minorities in the work of "coming out" (Armstrong, 2002). From new identity-affirming social spaces emerged powerful political action focused on changing policies that govern the treatment of sexual minorities. For example, the removal of homosexuality as a diagnosable mental disorder in 1973 was no doubt a boon to the perceived legitimacy of same-sex sexuality across the US (Silverstein, 2009). More recently, growing support for the Employment Non-Discrimination

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Act (113th Congress, 2014), the repeal of "Don't Ask Don't Tell," (111th Congress, 2010), and the federal recognition of same-sex marriage have increasingly improved the social, economic, psychological, and health outcomes of sexual minorities in measurable ways (e.g., Badgett & Ash, 2006; Hatzenbuehler, McLaughlin, Keyes, & Hasin, 2010; Herek, 2011).

Despite these advances, sexual minorities continue to exhibit significantly more adverse physical and mental health conditions than their heterosexual peers (for a review, see Williams & Mann, in press). These disparities necessitate the development, adaptation, and implementation of additional interventions. Although previous reviews have identified evidence-based interventions targeting general stress and coping processes (e.g., Taylor & Stanton, 2007) and general prejudice-reduction efforts (e.g., Cook, Purdie-Vaughns, Meyer, & Busch, 2014), there is a dearth of information about interventions targeting the stress and coping of sexual minority adults and youth (Mustanski, 2015). Therefore, the purpose of the present article is to identify and describe the "toolkit" of psychosocial interventions available to mitigate sexual minority stressors or bolster personal coping strategies available to LGB individuals. Because stigma-related stress originates within and can be attenuated through social structures, interpersonal relationships, and individual action, we adopt a socioecological lens in the present review (Bronfenbrenner, 1977; Cook et al., 2014). Given our multi-level focus, the current findings can be of use to researchers, practitioners, policy makers, and other stakeholders who aim to reduce sexual minority stress and improve the psychological and physical health of LGB individuals.

Sexual Minority Stress and Mechanisms of Effect

Minority stress theory (Meyer, 2003) postulates that LGB individuals experience greater social stressors because of their stigmatized, or minority, social status. In brief, stressors—or environmental demands on the self—can originate in the distal structural environment (e.g., absence of employer same-sex partner health insurance coverage; Gonzales & Blewett, 2013) and proximal social environment (e.g., interpersonal discrimination; Hebl, Foster, Mannix, & Dovidio, 2002; Mays & Cochran, 2001). Regardless of their point of origin, sexual minority stressors are capable of compromising well-being even if not subjectively appraised as stressful. By taxing the bodily stress systems (McEwen & Gianaros, 2010; Seeman, Epel, Gruenewald, Karlamangla, & McEwen, 2010), depleting cognitive and affective regulatory resources (e.g., Richman & Lattanner, 2014), and removing sexual minorities from health-promoting knowledge, resources, and power (Bränström, Pachankis, Hatzenbuehler, & Link, under revision), sexual minority stressors can directly compromise mental and physical health while also increasing health risk behaviors (e.g., substance abuse, sexual risk behavior).

In order to attenuate the demands of sexual minority stressors, sexual minorities must rely on coping resources and coping strategies available across their social ecology (Taylor & Stanton, 2007). Coping resources are a set of psychosocial resources such as interpersonal or community social support and individual self-esteem that help to diminish the demands of stressors. In brief, they provide a reserve "pool" of relatively stable resources that sexual minorities can draw on in times of stress. In addition, coping strategies—the affective,

behavioral, and cognitive efforts designed to mitigate the demands of specific stressors (e.g., emotional expression, problem-focused behavioral efforts, cognitive reframing; Taylor & Stanton, 2007)—can also be used to mitigate minority stress effects.

The efficacy of these coping efforts, however, is constrained by both the severity of the stressors encountered as well as the range of coping strategies available for use. Sexual minority stressors may be particularly challenging to cope with because they threaten individual social worth (Dickerson & Kemeny, 2004). At the same time, unlike visibly stigmatized groups (e.g., African-Americans), sexual minorities may be less likely to utilize group-based coping resources (e.g., social support) in the face of stigma-related stressors (Cook, Arrow, & Malle, 2011; Crocker & Major, 1989). Instead, sexual minorities may be more likely to isolate themselves and to utilize maladaptive coping strategies such as rumination (Hatzenbuehler, Nolen-Hoeksema, & Dovidio, 2009), alcohol or drug use (Brubaker, Garrett, & Dew, 2009), or sexual risk behavior (Newcomb & Mustanski, 2011; Pachankis, Rendina, Restar, Ventuneac, Grov, & Parsons, 2015). Thus, sexual minorities are often doubly burdened as a result of their subordinate social status: they may experience greater and more severe stressors yet might also have fewer coping strategies and resources available to mitigate these demands (Meyer, Schwartz, & Frost, 2008).

Sexual Minority Stress Intervention “Toolkit”

What, then, mitigates the deleterious effect of sexual minority stress on mental and physical health disparities? According to the Transactional Model of Stress (Lazarus & Folkman, 1984), stress effects can be alleviated either by directly mitigating stressors or by bolstering the coping strategies and resources available to mitigate stress effects. Although the number of interventions available to mitigate sexual minority stress effects has steadily grown in recent years, no known research has systematically reviewed the available interventions. Therefore, in order to address this gap, the present review aims to identify and describe the exhaustive set of individual- and interpersonal-level interventions and a representative set of structural-level interventions that have attempted to: a) reduce the frequency or severity of sexual minority stressors, or b) bolster coping resources and strategies available to successfully mitigate the effect of these stressors among lesbian, gay, and bisexual individuals. Because stressors and coping efforts originate from multiple levels of the social ecology, we sought to identify interventions that can conceivably reduce the burden of sexual minority stressors or increase coping efforts at the structural, interpersonal, or individual level.

Method

Search Strategy

In the present review, we identified interventions—replicable actions designed to modify individual affect, behavior, or cognition, interpersonal behaviors, or structural policies and practices—capable of reducing the frequency or severity of sexual minority stressors or bolstering coping resources and strategies available to sexual minorities. In order to identify relevant individual- and interpersonal-level interventions available through March 2015, we conducted a systematic literature search using *PsycINFO*. We used database restrictions to

identify keywords representing our population of interest (*sexual minority, lesbian, gay, bisexual*) combined with those representing interventions (*intervention, program, treatment, therapy, counseling, clinical, training*) in research abstracts. Because changes to social structures emerge from the evolution of co-occurring social, political, and economic landscapes (Merton, 1968), they are less likely to be described using the language of discrete "interventions." Therefore, we used personal knowledge and published reviews (Hatzenbuehler, 2014; Mustanski, Birkett, Greene, Hatzenbuehler, & Newcomb, 2014) to identify additional representative structural level interventions in the areas of societal laws/policies, religion, education, and workplace policies—structural domains where psychologists and other social scientists are most likely to conduct research. While all social structures are ultimately produced by individuals (Bourdieu, 1990; Giddens, 1984), we only describe as structural those interventions that directly affect institutions. Finally, we utilized personal referrals from colleagues who study sexual minority stress to identify additional interventions.

Inclusion Criteria

Based on the pool of results we obtained from our search, we vetted articles based on the following inclusion criteria. We retained articles that described an intervention designed to reduce sexual minority stressors (e.g., prejudice reduction, institution of gay-affirmative policies or laws, removal of discriminatory policies or laws, increasing availability of qualified mental or physical health providers) or bolster coping resources or strategies (e.g., mitigate internalized homophobia, increase social support) among sexual minority individuals. We excluded articles whose interventions target general stress and coping processes (e.g., Antoni et al., 2006; Kabat-Zinn, 2003) and articles whose interventions improve sexual minority mental or physical health directly without addressing sexual minority stress (e.g., Reisner et al., 2011).

Because our goal is to describe the fullest range of interventions currently available, we retained all articles that offered any empirical evaluation of the intervention. Further, articles were only retained if they were published in English in a peer-reviewed journal. Of the 55 identified articles, four were excluded because they were review papers, two were excluded because they were duplicates (i.e., they describe the development of interventions evaluated in other articles), three were excluded because they involved no empirical evidence/research, and one was excluded because the intervention was not stigma-focused.

Coding Strategy

Interventions identified from our pool of articles were coded for two features. First, we coded each intervention for whether it attempted to lessen sexual minority stressors (e.g., reduce a parent's rejecting behaviors towards their sexual minority child; Huebner, Rullo, Thoma, McGarrity, & Mackenzie, 2013), attempted to bolster coping resources or strategies (e.g., LGB-adapted cognitive behavioral therapy; Ross, Doctor, Dimito, Kuehl, & Armstrong, 2008), or attempted to both lessens stressors and bolster coping resources or strategies (e.g., LGB-adapted attachment-based family therapy; Diamond et al., 2013). Second, we coded each intervention for whether it targeted change at the individual level (e.g., film to reduce individual prejudice; Ramirez-Valles, Kuhns, & Manjarrez, 2014),

interpersonal level (e.g., teach medical or mental health professionals to utilize LGB-affirmative behavioral techniques; Rutter, Estrada, Ferguson, & Diggs, 2008), structural level (e.g., organizational sexual diversity policies; Button, 2001), or multiple levels (e.g., reduce individual LGB prejudice and create LGB-affirming spaces; Finkel, Storaasli, Bandele, & Schaefer, 2003). All interventions were coded by two of the authors and discrepancies were resolved through consensus discussion.

Results

Our search identified 44 interventions capable of reducing sexual minority stress (see Table 1). On the whole, interventions were implemented in a variety of social contexts, from education to mental and medical health care delivery to parent-child relationships. They utilized a heterogeneous range of modalities to create change, from policy development and implementation to role-playing activities to didactic lectures.

Most interventions (30; 68.2%) were designed to reduce stigma as it occurs through discriminatory laws policies and prejudice. Another 12 (27.3%) were designed to bolster coping resources or coping strategies available to mitigate the effect of sexual minority stressors. Two (4.5%) interventions were designed to reduce sexual minority stressors and bolster coping resources and strategies simultaneously. The interventions were designed to affect change at various levels of the ecological social system, including several that simultaneously intervened at structural, interpersonal, and individual levels (e.g., Finkel et al., 2003; Vega et al., 2011).

Table 1 also provides descriptive information about the methodologies used to evaluate intervention efficacy. Given the interdisciplinarity of this field of research, studies utilized a wide array of methodological designs: case study, post-test only, no control group; within-subject, no control group; quasi-experimental; and randomized controlled trial. Given the relative infancy of sexual minority stress intervention research, we also found that the majority of interventions reviewed here are in the early stages of efficacy testing, with very few (n = 6; 13.6%) offering randomized controlled trial evidence.

Interventions Designed to Reduce Sexual Minority Stressors

The majority of identified interventions (n = 30) attempt to reduce sexual minority stress at its source by lessening the frequency and severity of sexual minority stressors in the sociocultural milieu.

Structural—Five (11.4%) interventions are designed to lessen the frequency and severity of stressors by changing structural features of the environment—features that either restrict the production of discriminatory behaviors or encourage the production of sexual minority-affirming practices. For example, in educational contexts, the institution of Gay-Straight Alliances—student-led organizations that create LGB safe spaces and facilitate LGB-related activism—improve sexual minority students' psychological and academic outcomes (e.g., Lee, 2002; Mayberry, 2006; Peters, 2003), even if sexual minority students are not directly involved in the organization themselves (Walls, Kane, & Wisneski, 2010).

Interpersonal—Ten (22.7%) interventions lessen the frequency and severity of sexual minority stressors by increasing intergroup contact or by teaching people how to reduce LGB-discriminatory behaviors or increase LGB-affirming behaviors. The contact effect—wherein heterosexuals come to know and empathize with sexual minorities—has received the most empirical support to date (e.g. Smith, Axelton, & Saucier, 2009). *Lead with Love* offers a film-based intervention where parents view a 35-minute online film designed to help decrease rejecting behaviors and increase positive interactions with their sexual minority child (Huebner et al., 2013). In counseling contexts, students are educated about LGB-specific mental health and social concerns and engage in role-playing activities designed to bolster their LGB-affirmative clinical skills (Foreman & Quinlan, 2008; Rutter et al., 2008).

Individual—The majority (n= 23; 52.3%) of minority stress reduction interventions intervene at the individual level, attempting to reduce individuals' stereotyping or prejudice which may, in turn, reduce the expression of discriminatory behaviors. The vast majority of these interventions have used didactic educational modules to increase awareness of anti-LGB bias, debunk negative stereotypes, and increase empathy towards sexual minorities (e.g, Dessel, 2010; Lambrese & Hunt, 2013; Porter & Krinsky, 2014; for a review, see Tucker, 2006). Interactive or theatrical methodologies have been less common, albeit more likely to have used randomized controlled trial designs. For example, in an Alien Nation Simulation, college students imagine landing on an alien planet where they are subject to societal constraints that mimic those faced by sexual minorities (e.g., restrictions on whom one can marry). Designed to increase empathy and reduce prejudice, this simulation was efficacious in creating more favorable attitudes towards sexual minorities compared to a control group (Hodson, Choma, & Costello, 2009).

Multilevel—It is worth noting that one (2.3%) intervention has targeted stressor reduction at all three levels of analysis. In Safe Space (or Safe Zone) trainings, placement of Safe Zone stickers around campus increases visibility for sexual minorities and reclaims physical spaces as "safe" for sexual minorities (Evans, 2002). Moreover, faculty, staff, and students can learn about heterosexual privilege and relevant sexual minority concepts (e.g., identity formation, coming out process), thereby increasing their ability to engage in LGBT-affirmative interpersonal behaviors (Finkel et al., 2003). Thus, the physical structure of the campus, the interpersonal relationships between faculty, staff, and students, and individual attitudes become more LGB-affirmative (for a review, see Black, Fedewa, & Gonzalez, 2012).

Interventions Designed to Bolster Coping Resources and Strategies

A total of 12 interventions attempt to bolster the coping efforts of sexual minorities at the individual level, interpersonal level, or across all three levels in order to reduce the impact of sexual minority stressors. Notably, while our search revealed numerous individual-level interventions designed to bolster coping resources, we did not find any structural-level interventions perhaps because coping, by nature, represents an individual process.

Interpersonal—One (2.3%) intervention—Effective Skills to Empower Effective Men (ESTEEM; Pachankis, 2014; Pachankis et al., 2015) has been developed to target coping

efforts in interpersonal relationships. Given that sexual minority stress can often lead to emotional avoidance within intimate relationships, ESTEEM teaches participants how to overcome these tendencies in order to establish meaningful relationships with partners. In an evaluation of intervention efficacy, participants who received ESTEEM showed significantly reduced depressive symptoms, alcohol use problems, sexual compulsivity, and condomless anal sex with casual partners compared to participants in a waitlist control condition (Pachankis et al., 2015).

Individual—We identified 10 (22.7%) interventions designed to bolster the coping resources and strategies of individuals. Evidence-based cognitive behavioral (Pachankis et al., 2015; Ross et al., 2008) and narrative (Elderton, Clarke, Jones, & Stacey, 2014) therapies have been adapted for use among sexual minority clients. For example, Rainbow SPARX is a computerized cognitive behavioral therapy intervention designed to reduce depressive symptoms among sexual minority youth (Lucassen, Merry, Hatcher, & Frampton, 2014). Here, specialized modules assist sexual minorities in identifying positive aspects of their sexual orientation while also identifying sexual minority-specific stressors, their sources, and adaptive coping responses.

Other interventions have been designed for delivery in online and educational settings. For example, online expressive writing interventions ask sexual minorities to write about their most stressful sexual minority experiences in order to bolster cognitive and emotional processing of these events (Lewis et al., 2005; Pachankis & Goldfried, 2010). In another online intervention, web-based modules help sexual minorities identify the sources of and debunk negative stereotypes about gay/bisexual men, and affirm gay/bisexual identities in order to reduce internalized heterosexism (Lin & Israel, 2012).

Multilevel—Two (4.5%) interventions have targeted coping efforts at all three level of analysis. For example, reasoning that sexual risk behaviors emanate from sexual and ethnic identities, *SOMOS* targets both individual and social identity-related factors that contribute to HIV risk among Latino gay men (Vega et al., 2011). In group sessions, participants identify and learn how to cope with stressors surrounding their sexual and ethnic identities (e.g., homophobia, racism). Afterwards, cohorts of participants are asked to generate a social marketing testimonial describing the lessons of these conversations, thereby providing a way to disseminate these conversations to other community members not already included in the intervention. Moreover, structural changes such as the creation of community gatherings, presentations, and an annual convention provide opportunities for building social support within the community.

Interventions Designed to Both Reduce Stressors and Bolster Coping

Our search identified two (4.5%) interventions that have been designed to both reduce sexual minority stressors and bolster coping resources. For example, intervening at the interpersonal level, attachment-based family therapy helps sexual minority adolescents process existing sexual minority stressors that have originated within familial relationships (Diamond et al., 2013). Further, in order to reduce the likelihood of future stressors, the therapy helps family members to rebuild safe and trusting attachments.

Discussion

In order to mitigate the pernicious effects of sexual minority stressors on mental and physical health, efforts must be made both to reduce the frequency and severity of social stressors faced by LGB individuals and to bolster LGB individuals' stress coping resources. The purpose of the current review was to identify and describe the interventions currently available to reduce stressors faced by LGB individuals and bolster their coping resources at structural, interpersonal, and individual levels of analysis. In total, we identified 44 such interventions available to mental and medical health care providers, policy makers, and other stakeholders who aim to lessen the burden of sexual minority stress.

Notably, the majority of interventions (e.g., Finkel et al., 2003; Iverson & Seher, 2014) were designed to directly reduce sexual minority stressors, rather than to bolster coping responses. To the extent that these stressor-reduction interventions are efficacious and implemented widely (see Hatzenbuehler, 2010), these interventions have the potential to create less stressful and more affirming social spaces for sexual minorities. Yet, because widespread and sustainable changes to social structures, relationship styles, and behavior can be relatively slow-moving processes (Pierson, 1993; Rokeach, 1979), intervention efforts to directly bolster sexual minorities' coping resources could provide reprieve in the meantime.

From a socioecological perspective, the present review did not identify any structural interventions designed to bolster coping resources. However, it is entirely plausible that many of the structural interventions designed to reduce stressors could also simultaneously improve coping resources. For example, by training heterosexual allies to reduce bullying behavior, the Rainbow Educator intervention helps to effectively reduce sexual minority stressors (Getz & Kirkley, 2006). However, through their LGB-affirmative behaviors, these allies might also bolster sexual minorities' perceptions of social support and reduce internalized homophobia. Because the human stress system evolved to be responsive to current demands (Sapolsky, 2004), coping resources may wax as environmental demands wane. Similarly, structural, interpersonal, and individual phenomena are often interactive across levels. Several of the interventions we reviewed provide evidence of this effect, wherein individual-level educational modules or interpersonal skills training also intentionally or unintentionally led to the creation and implementation of structural-level LGB-affirmative policies and practices (Foreman & Quinlan, 2008; Getz & Kirkley, 2006; Landers, Mimiaga, & Krinsky, 2010). Thus, future research that attends to ways in which perturbations at one level affect outcomes on another is needed. In fact, sociological accounts of individual autonomy and social structures recognize that all structures ultimately derive from individual action, even if that action extends beyond the intent of the individuals affected and even if that action is hidden from the stigmatized (Bourdieu, 1990; Giddens, 1984). One potentially effective approach of individual or interpersonal interventions might be to raise awareness of the ways that some social structures jeopardize the health of the stigmatized while also empowering the stigmatized themselves to challenge those structures.

We also note that the majority (38; 86.4%) of interventions reviewed here are in the early stages of efficacy testing. Without control group comparisons, most interventions cannot yet rule out maturation, selection, or testing effects as alternative explanations for positive

intervention results (Shadish, Cook, & Campbell, 2002). Future research is needed to provide randomized controlled tests of efficacy across delivery settings (e.g., clinics, schools). It is important to note, however, that structural interventions (e.g., changes in legislation) are not easily tested in randomized controlled studies. In these cases, prospective, quasi-experimental tests of structural changes will be needed in order to bolster their evidence base (e.g., Hatzenbuehler, O'Cleirigh, Mayer, Mimiaga, & Safren, 2011). Greater inclusion of sexual orientation-related measures in population-based health surveys will allow the field to prospectively assess the impact of improved laws and policies on the health of sexual minorities to effectively eliminate sexual orientation health disparities. Multi-wave population-based datasets that include biomarkers of stress and disease susceptibility also possess particular promise in allowing prospective tests of the impact of improved social structures on more objective measures of health.

Moreover, it is important to note that many potentially efficacious interventions were outside the scope of the current review. Some interventions simply have not yet been tested. For example, increased representation of gay role models in movies and television (Levina, Waldo, & Fitzgerald, 2000) appears to help create LGB-affirming spaces, though its empirical efficacy has yet to be examined. In other cases, research findings have not yet been translated into interventions. For example, supportive religious climates predict less alcohol use and sexual risk behavior among sexual minority youth (Hatzenbuehler, Pachankis, & Wolff, 2012), suggesting that homophobic religious ideologies are significant sources of sexual minority stress. However, to our knowledge, no known interventions have leveraged these findings to create discrete interventions capable of modifying religious practice on an individual, interpersonal, or structural level. Moreover, other interventions that have proven efficacious in reducing stigma-related stress among racial/ethnic minorities (for a review see, Cook et al., 2014) and those that target sexual minority mental and physical health disparities directly (for a review, see Herbst et al., 2007) could also be adapted for use in sexual minority stress reduction efforts in the future.

Intersectionality theory (Cole, 2009; Collins, 1998) and empirical research examining the prevalence and mechanisms of health disparities (Galliher, Rostosky, & Hughes, 2004; Lelutiu-Weinberger, Gamarel, Golub, & Parsons, 2014; McGarrity & Huebner, 2014) underscore the importance of examining the intersecting effects of race, class, gender, or other characteristics of social location in this field of research. Several of the interventions we reviewed did address intersecting aspects of identity among interventions designed for racial or ethnic minority sexual minority youth and adults (Craig, 2012; Craig, Austin, & McInroy, 2014; Vega et al., 2011) and elderly sexual minorities (Landers et al., 2010), but the majority of interventions did not. Rather, most interventions have been developed and implemented for use among primarily White, relatively well-educated populations residing in urbanized areas in the US. It remains uncertain, then, whether the majority of interventions identified herein are capable of reaching and addressing the needs of the most vulnerable sexual minority individuals.

Furthermore, future intervention studies would be strengthened by examining the moderating role of diverse identities on intervention efficacy, including gender, race/ethnicity, age, and sexual minority identity (e.g., gay/lesbian, bisexual). Moreover, although

several interventions included both sexual and gender minority individuals, it remains unclear whether transgender individuals experience similar salubrious effects given the historic lack of attention to transgender-specific stigma and coping in this field (for a review, see Hughto, Reisner, & Pachankis, 2015). Future research that examines which subpopulations are most likely to benefit from which interventions – an increasingly important question given limited public health resources and economic constraints – is certainly needed. For instance, emerging evidence suggests that individuals who report more minority stress are most likely to benefit from the type of interventions reviewed here (Millar, Wang, & Pachankis, 2016). Finally, it is important to note that all of the interventions identified in our search were implemented in the US It is plausible that these interventions might be appropriate for use among sexual minorities living in other individualistic cultures and Westernized nations where similar deleterious effects of sexual minority stress have been documented (e.g., Kuyper & Fokkema, 2011). However, additional translational research is needed in order to appropriately adapt and test the efficacy of these interventions in other cultural contexts. Future research might suggest that interventions delivered in the most stigmatizing environments might require specific adaptations to address structural conditions of disadvantage (Reid, Dovidio, Ballester, & Johnson, 2014).

Limitations

The current review advances sexual minority stress intervention research by identifying and describing the interventions available for implementation and continued development. While our systematic search of *PsycINFO* and complementary search approaches provide a broad cross-listing of interventions, the systematic search of other databases such as *Education Resource Information Center (ERIC)* could have yielded additional interventions. Further, our database restrictions identified search keywords in article abstracts only. While this approach likely identified a broader array of interventions than a search of article keywords or titles alone, additional interventions might be identified by searching keywords in article titles, abstracts, and keyword fields. Finally, because separate systematic searches were not conducted on each of the 44 individual interventions, our review may not have identified the exhaustive set of empirical evidence for each intervention. Thus, future reviews could expand the number of interventions identified and the articles evaluating the efficacy of each intervention.

Conclusion

Although significant progress has been made towards achieving sociopolitical equality for individuals of diverse sexual orientations in the US (Pew Research Center, 2015), many sexual minorities continue to occupy positions of inferiority and devaluation as a result of numerous forms of societal stigma, spanning structural (e.g., workplace), interpersonal (e.g., threat of violence), and individual (e.g., homophobic attitudes) domains. The interventions reviewed here represent discrete modifications that can be interjected across socioecological levels with the intended goal of reducing sexual minority stress and improving health. Although mostly formative in development and scientific scrutiny, interventions uncovered here suggest that there are numerous strategies that educators, practitioners, and legislators can employ in order to increase social and health parity.

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References

111 th Congress. S.4022: Don't Ask, Don't Tell Repeal Act of 2010 [legislation]. 2010. Retrieved August 15, 2014, from https://beta.congress.gov/bill/111th-congress/senate-bill/4022?q=%7B%22search%22%3A%5B%22don%27t+ask+don%27t+tell%22%5D%7D

113 th Congress. S.815: Employment Non-Discrimination Act of 2013 [legislation]. 2014. Retrieved August 15, 2014, from https://beta.congress.gov/bill/113th-congress/senate-bill/815

Antoni MH, Lechner SC, Kazi A, Wimberly SR, Sifre T, Urcuyo KR, … Carver CS. How stress management improves quality of life after treatment for breast cancer. Journal of Consulting and Clinical Psychology. 2006; 74(6):1143–1152. DOI: 10.1037/0022-006X.74.6.1143 [PubMed: 17154743]

Armstrong, EA. Forging gay identities. Chicago, IL: University of Chicago Press; 2002. Retrieved from http://www.press.uchicago.edu/ucp/books/book/chicago/F/bo3621651.html

Badgett, MVL., Ash, M. Separate and unequal: The effect of unequal access to employment-based health insurance on same-sex and unmarried different-sex couples. Rochester, NY: Social Science Research Network; 2006. (SSRN Scholarly Paper No. ID 1095935)

Bidell MP. Addressing disparities: The impact of a lesbian, gay, bisexual, and transgender graduate counselling course. Counselling and Psychotherapy Research. 2013; 13(4):300–307. DOI: 10.1080/14733145.2012.741139

Black WW, Fedewa AL, Gonzalez KA. Effects of "Safe School" programs and policies on the social climate for sexual-minority youth: A review of the literature. Journal of LGBT Youth. 2012; 9(4): 321–339. DOI: 10.1080/19361653.2012.714343

Bourdieu, P. The logic of practice. Stanford, CA: Stanford University Press; 1990.

Bränström R, Pachankis JE, Hatzenbuehler ML, Link B. Sexual orientation disparities in preventable morbidity: A fundamental cause perspective. American Journal of Public Health. (under revision).

Bronfenbrenner, U. The ecology of human development: Experiments by nature and design. Cambridge, MA: Harvard University Press; 1977.

Brubaker MD, Garrett MT, Dew BJ. Examining the relationship between internalized heterosexism and substance abuse among lesbian, gay, and bisexual individuals: A critical review. Journal of LGBT Issues in Counseling. 2009; 3(1):62–89. DOI: 10.1080/15538600902754494

Button SB. Organizational efforts to affirm sexual diversity: A cross-level examination. Journal of Applied Psychology. 2001; 86(1):17–28. DOI: 10.1037/0021-9010.86.1.17 [PubMed: 11302229]

Cole ER. Intersectionality and research in psychology. American Psychologist. 2009; 64(3):170–180. DOI: 10.1037/a0014564 [PubMed: 19348518]

Collins, PH. Toward a new vision: Race, class, and gender as categories of analysis. In: Levine, RF., editor. Social class and stratification: Classic statements and theoretical debates. Oxford, UK: Rowman & Littlefield; 1998. p. 243-258.

Cook JE, Arrow H, Malle BF. The effect of feeling stereotyped on social power and inhibition. Personality and Social Psychology Bulletin. 2011; 37(2):165–180. DOI: 10.1177/0146167210390389 [PubMed: 21239592]

Cook JE, Purdie-Vaughns V, Meyer IH, Busch JTA. Intervening within and across levels: A multilevel approach to stigma and public health. Social Science & Medicine. 2014; 103:101–109. DOI: 10.1016/j.socscimed.2013.09.023 [PubMed: 24513229]

Craig SL. Strengths first: An empowering sase management model for multiethnic sexual minority youth. Journal of Gay & Lesbian Social Services. 2012; 24(3):274–288. DOI: 10.1080/10538720.2012.697833

Craig SL, Austin A, Alessi E. Gay affirmative cognitive behavioral therapy for sexual minority youth: A clinical adaptation. Clinical Social Work Journal. 2013; 41(3):258–266. DOI: 10.1007/s10615-012-0427-9

Craig SL, Austin A, McInroy LB. School-based groups to support multiethnic sexual minority youth resiliency: Preliminary effectiveness. Child and Adolescent Social Work Journal. 2014; 31(1):87–106. DOI: 10.1007/s10560-013-0311-7

Crocker J, Major B. Social stigma and self-esteem: The self-protective properties of stigma. Psychological Review. 1989; 96(4):608–630. DOI: 10.1037/0033-295X.96.4.608

Dessel AB. Effects of intergroup dialogue: Public school teachers and sexual orientation prejudice. Small Group Research. 2010; 41(5):556–592. DOI: 10.1177/1046496410369560

Diamond GM, Diamond GS, Levy S, Closs C, Ladipo T, Siqueland L. Attachment-based family therapy for suicidal lesbian, gay, and bisexual adolescents: A treatment development study and open trial with preliminary findings. Psychology of Sexual Orientation and Gender Diversity. 2013; 1(S):91–100. DOI: 10.1037/2329-0382.1.S.91

Dickerson SS, Kemeny ME. Acute stressors and cortisol responses: a theoretical integration and synthesis of laboratory research. Psychological Bulletin. 2004; 130(3):355–391. DOI: 10.1037/0033-2909.130.3.355 [PubMed: 15122924]

Elderton A, Clarke S, Jones C, Stacey J. Telling our story: A narrative therapy approach to helping lesbian, gay, bisexual and transgender people with a learning disability identify and strengthen positive self-identity stories. British Journal of Learning Disabilities. 2014; 42(4):301–307. DOI: 10.1111/bld.12075

Evans NJ. The impact of an LGBT Safe Zone project on campus climate. Journal of College Student Development. 2002; 43(4):522–539.

Finkel MJ, Storaasli RD, Bandele A, Schaefer V. Diversity training in graduate school: An exploratory evaluation of the Safe Zone project. Professional Psychology: Research and Practice. 2003; 34(5):555–561. DOI: 10.1037/0735-7028.34.5.555

Foreman M, Quinlan M. Increasing social work students' awareness of heterosexism and homophobia—A partnership between a community gay health project and a school of social work. Social Work Education. 2008; 27(2):152–158. DOI: 10.1080/02615470701709485

Galliher RV, Rostosky SS, Hughes HK. School belonging, self-esteem, and depressive symptoms in adolescents: An examination of sex, sexual attraction status, and urbanicity. Journal of Youth and Adolescence. 2004; 33(3):235–245. DOI: 10.1023/B:JOYO.0000025322.11510.9d

Getz C, Kirkley E. Shaking up the status quo: Challenging Intolerance of the lesbian, gay and bisexual community at a private Roman Catholic University. College Student Journal. 2006; 40(4):857–869.

Giddens, A. The constitution of society: Outline of the theory of structuration. University of California Press; 1984.

Gonzales G, Blewett LA. National and state-specific health insurance disparities for adults in same-sex relationships. American Journal of Public Health. 2013; 104(2):e95–e104. DOI: 10.2105/AJPH.2013.301577 [PubMed: 24328616]

Greytak EA, Kosciw JG, Boesen MJ. Educating the educator: Creating supportive school personnel through professional development. Journal of School Violence. 2013; 12(1):80–97. DOI: 10.1080/15388220.2012.731586

Hardacker CT, Rubinstein B, Hotton A, Houlberg M. Adding silver to the rainbow: The development of the nurses' health education about LGBT elders (HEALE) cultural competency curriculum. Journal of Nursing Management. 2014; 22(2):257–266. DOI: 10.1111/jonm.12125 [PubMed: 23869475]

Hatzenbuehler ML. Social factors as determinants of mental health disparities in LGB populations: Implications for public policy. Social Issues and Policy Review. 2010; 4(1):31–62. DOI: 10.1111/j.1751-2409.2010.01017.x

Hatzenbuehler ML. Structural stigma and the health of lesbian, gay, and bisexual populations. Current Directions in Psychological Science. 2014; 23(2):127–132. DOI: 10.1177/0963721414523775

Hatzenbuehler ML, Keyes KM. Inclusive anti-bullying policies and reduced risk of suicide attempts in lesbian and gay youth. Journal of Adolescent Health. 2013; 53(1, Supplement):S21–S26. DOI: 10.1016/j.jadohealth.2012.08.010 [PubMed: 23790196]

Hatzenbuehler ML, Keyes KM, Hasin DS. State-level policies and psychiatric morbidity in lesbian, gay, and bisexual populations. American Journal of Public Health. 2009; 99(12):2275–2281. DOI: 10.2105/AJPH.2008.153510 [PubMed: 19833997]

Hatzenbuehler ML, McLaughlin KA, Keyes KM, Hasin DS. The impact of institutional discrimination on psychiatric disorders in lesbian, gay, and bisexual populations: A prospective study. American Journal of Public Health. 2010; 100(3):452–459. DOI: 10.2105/AJPH.2009.168815 [PubMed: 20075314]

Hatzenbuehler ML, Nolen-Hoeksema S, Dovidio J. How does stigma "get under the skin"? Psychological Science. 2009; 20(10):1282–1289. DOI: 10.1111/j.1467-9280.2009.02441.x [PubMed: 19765237]

Hatzenbuehler ML, O'Cleirigh C, Grasso C, Mayer K, Safren S, Bradford J. Effect of same-sex marriage laws on health care use and expenditures in sexual minority men: A quasi-natural experiment. American Journal of Public Health. 2012; 102(2):285–291. DOI: 10.2105/AJPH.2011.300382 [PubMed: 22390442]

Hatzenbuehler ML, O'Cleirigh C, Mayer KH, Mimiaga MJ, Safren SA. Prospective associations between HIV-related stigma, transmission risk behaviors, and adverse mental health outcomes in men who have sex with men. Annals of Behavioral Medicine. 2011; 42(2):227–234. DOI: 10.1007/s12160-011-9275-z [PubMed: 21533623]

Hebl MR, Foster JB, Mannix LM, Dovidio JF. Formal and interpersonal discrimination: A field study of Bias Toward Homosexual Applicants. Personality and Social Psychology Bulletin. 2002; 28(6): 815–825. DOI: 10.1177/0146167202289010

Herbst JH, Beeker C, Mathew A, McNally T, Passin WF, Kay LS. … Task Force on Community Preventive Services. The effectiveness of individual-, group-, and community-level HIV behavioral risk-reduction interventions for adult men who have sex with men: A systematic review. American Journal of Preventive Medicine. 2007; 32(4 Suppl):S38–67. DOI: 10.1016/j.amepre.2006.12.006 [PubMed: 17386336]

Herek GM. Anti-equality marriage amendments and sexual stigma. Journal of Social Issues. 2011; 67(2):413–426. DOI: 10.1111/j.1540-4560.2011.01705.x

Hodson G, Choma BL, Costello K. Experiencing Alien-Nation: Effects of a simulation intervention on attitudes toward homosexuals. Journal of Experimental Social Psychology. 2009; 45(4):974–978. DOI: 10.1016/j.jesp.2009.02.010

Huebner DM, Rullo JE, Thoma BC, McGarrity LA, Mackenzie J. Piloting Lead with Love: a film-based intervention to improve parents' responses to their lesbian, gay, and bisexual children. The Journal of Primary Prevention. 2013; 34(5):359–369. DOI: 10.1007/s10935-013-0319-y [PubMed: 23943135]

Hughto JMW, Reisner SL, Pachankis JE. Transgender stigma and health: A critical review of stigma determinants, mechanisms, and interventions. Social Science & Medicine. 2015; 147:222–231. DOI: 10.1016/j.socscimed.2015.11.010 [PubMed: 26599625]

Hussey HD, Bisconti TL. Interventions to Reduce Sexual Minority Stigma in Sororities. Journal of Homosexuality. 2010; 57(4):566–587. DOI: 10.1080/00918361003609184 [PubMed: 20391011]

Iverson SV, Seher C. Using theatre to change attitudes toward lesbian, gay, and bisexual students. Journal of LGBT Youth. 2014; 11(1):40–61. DOI: 10.1080/19361653.2014.840765

Ji P, Du Bois SN, Finnessy P. An academic course that teaches heterosexual students to be allies to LGBT communities: A qualitative analysis. Journal of Gay & Lesbian Social Services. 2009; 21(4):402–429. DOI: 10.1080/10538720802690001

Kabat-Zinn J. Mindfulness-based interventions in context: Past, present, and future. Clinical Psychology: Science and Practice. 2003; 10(2):144–156. DOI: 10.1093/clipsy/bpg016

Kelley L, Chou CL, Dibble SL, Robertson PA. A xritical intervention in lesbian, gay, bisexual, and transgender health: Knowledge and attitude outcomes among second-year medical students. Teaching and Learning in Medicine. 2008; 20(3):248–253. DOI: 10.1080/10401330802199567 [PubMed: 18615300]

Kuyper L, Fokkema T. Minority stress and mental health among Dutch LGBs: Examination of differences between sex and sexual orientation. Journal of Counseling Psychology. 2011; 58(2): 222–233. DOI: 10.1037/a0022688 [PubMed: 21401219]

Lambrese JV, Hunt JI. Mental health needs of sexual minority youth: A student-developed novel curriculum for healthcare providers. Journal of Gay & Lesbian Mental Health. 2013; 17(2):221–234. DOI: 10.1080/19359705.2013.721610

Landers S, Mimiaga MJ, Krinsky L. The Open Door Project Task Force: A qualitative study on LGBT aging. Journal of Gay & Lesbian Social Services. 2010; 22(3):316–336. DOI: 10.1080/10538720903426438

Lazarus, RS., Folkman, S. Stress, appraisal, and coping. New York, NY: Springer Publishing Company; 1984.

Lee C. The impact of belonging to a high school Gay/Straight Alliance. The High School Journal. 2002; 85(3):13–26. DOI: 10.1353/hsj.2002.0005

Lelutiu-Weinberger C, Gamarel KE, Golub SA, Parsons JT. Race-based differentials in the impact of mental health and stigma on HIV risk among young men who have sex with men. Health Psychology. 2014; 34(8):847–856. DOI: 10.1037/hea0000192 [PubMed: 25545041]

Levina M, Waldo CR, Fitzgerald LF. We're here, we're queer, we're on TV: The Effects of visual media on heterosexuals' attitudes toward gay men and lesbians. Journal of Applied Social Psychology. 2000; 30(4):738–758. DOI: 10.1111/j.1559-1816.2000.tb02821.x

Lewis RJ, Derlega VJ, Clarke EG, Kuang JC, Jacobs AM, McElligott MD. An expressive writing intervention to cope with lesbian-related stress: The moderating effects of openness about sexual orientation. Psychology of Women Quarterly. 2005; 29(2):149–157. DOI: 10.1111/j.1471-6402.2005.00177.x

Leyva VL, Breshears EM, Ringstad R. Assessing the efficacy of LGBT cultural competency training for aging services providers in California's central valley. Journal of Gerontological Social Work. 2014; 57(2–4):335–348. DOI: 10.1080/01634372.2013.872215 [PubMed: 24341968]

Lin YJ, Israel T. A computer-based intervention to reduce internalized heterosexism in men. Journal of Counseling Psychology. 2012; 59(3):458–464. DOI: 10.1037/a0028282 [PubMed: 22545801]

Lucassen MFG, Merry SN, Hatcher S, Frampton CMA. Rainbow SPARX: A novel approach to addressing depression in sexual minority youth. Cognitive and Behavioral Practice. 2014; 22(2):203–216. DOI: 10.1016/j.cbpra.2013.12.008

Mayberry M. The story of a Salt Lake City Gay-Straight Alliance: Identity work and LGBT youth. Journal of Gay & Lesbian Issues in Education. 2006; 4(1):13–31. DOI: 10.1300/J367v04n01_03

Mayberry M, Chenneville T, Currie S. Challenging the sounds of silence: A Qualitative study of Gay-Straight Alliances and school reform efforts. Education and Urban Society. 2011; 45(3):307–339. DOI: 10.1177/0013124511409400

Mays VM, Cochran SD. Mental health correlates of perceived discrimination among lesbian, gay, and bisexual adults in the United States. American Journal of Public Health. 2001; 91(11):1869–1876. [PubMed: 11684618]

McEwen BS, Gianaros PJ. Central role of the brain in stress and adaptation: Links to socioeconomic status, health, and disease. Annals of the New York Academy of Sciences. 2010; 1186(1):190–222. DOI: 10.1111/j.1749-6632.2009.05331.x [PubMed: 20201874]

McGarrity LA, Huebner DM. Is being out about sexual orientation uniformly healthy? The moderating role of socioeconomic status in a prospective study of gay and bisexual men. Annals of Behavioral Medicine. 2014; 47(1):28–38. DOI: 10.1007/s12160-013-9575-6 [PubMed: 24307473]

Merton, RK. Social theory and social structure. New York, NY: Simon and Schuster; 1968.

Meyer IH. Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. Psychological Bulletin. 2003; 129(5):674–697. DOI: 10.1037/0033-2909.129.5.674 [PubMed: 12956539]

Meyer IH, Schwartz S, Frost DM. Social patterning of stress and coping: Does disadvantaged social statuses confer more stress and fewer coping resources? Social Science & Medicine. 2008; 67(3):368–379. DOI: 10.1016/j.socscimed.2008.03.012 [PubMed: 18433961]

Millar BM, Wang K, Pachankis JE. The moderating role of internalized homonegativity on the efficacy of LGB-affirmative psychotherapy: Results from a randomized controlled trial with young adult gay and bisexual men. Journal of Consulting and Clinical Psychology. 2016; 84(7):565–570. DOI: 10.1037/ccp0000113 [PubMed: 27100124]

Mustanski B. Future directions in research on sexual minority adolescent mental, behavioral, and sexual health. Journal of Clinical Child and Adolescent Psychology. 2015; 44(1):204–219. DOI: 10.1080/15374416.2014.982756 [PubMed: 25575125]

Mustanski B, Birkett M, Greene GJ, Hatzenbuehler ML, Newcomb ME. Envisioning an America without sexual orientation inequities in adolescent health. American Journal of Public Health. 2014; 104(2):218–225. DOI: 10.2105/AJPH.2013.301625 [PubMed: 24328618]

Newcomb ME, Mustanski B. Moderators of the relationship between internalized homophobia and risky sexual behavior in men who have sex with men: a meta-analysis. Archives of Sexual Behavior. 2011; 40(1):189–199. DOI: 10.1007/s10508-009-9573-8 [PubMed: 19888643]

Pachankis JE. Uncovering clinical principles and techniques to address minority stress, mental health, and related health risks among gay and bisexual men. Clinical Psychology: Science and Practice. 2014; 21(4):313–330. DOI: 10.1111/cpsp.12078 [PubMed: 25554721]

Pachankis JE, Goldfried MR. Expressive writing for gay-related stress: Psychosocial benefits and mechanisms underlying improvement. Journal of Consulting and Clinical Psychology. 2010; 78(1):98–110. DOI: 10.1037/a0017580 [PubMed: 20099955]

Pachankis JE, Hatzenbuehler ML, Rendina HJ, Safren SA, Parsons JT. LGB-affirmative cognitive-behavioral therapy for young adult gay and bisexual men: A randomized controlled trial of a transdiagnostic minority stress approach. Journal of Consulting and Clinical Psychology. 2015; 83(5):875–889. DOI: 10.1037/ccp0000037 [PubMed: 26147563]

Pearson QM. Breaking the silence in the counselor education classroom: A training seminar on counseling sexual minority clients. Journal of Counseling & Development. 2003; 81(3):292–300. DOI: 10.1002/j.1556-6678.2003.tb00256.x

Peters A. Isolation or inclusion: Creating safe spaces for lesbian and gay youth. Families in Society: The Journal of Contemporary Social Services. 2003; 84(3):331–337. DOI: 10.1606/1044-3894.122

Pew Research Center. Social & demographic trends project: Gay marriage and homosexuality. 2015. Retrieved from http://www.pewsocialtrends.org/topics/gay-marriage-and-homosexuality/

Pierson P. When effect becomes cause: Policy feedback and political change. World Politics. 1993; 45(04):595–628. DOI: 10.2307/2950710

Porter KE, Krinsky L. Do LGBT aging trainings effectuate positive change in mainstream elder service providers? Journal of Homosexuality. 2014; 61(1):197–216. DOI: 10.1080/00918369.2013.835618 [PubMed: 24313259]

Ramirez-Valles J, Kuhns LM, Manjarrez D. *Tal Como Somos/Just As We Are*: An educational film to reduce stigma toward gay and bisexual men, transgender individuals, and persons living with HIV/AIDS. Journal of Health Communication. 2014; 19(4):478–492. DOI: 10.1080/10810730.2013.821555 [PubMed: 24377496]

Ratts MJ, Kaloper M, McReady C, Tighe L, Butler SK, Dempsey K, McCullough J. Safe Space programs in K-12 schools: Creating a visible presence of LGBTQ allies. Journal of LGBT Issues in Counseling. 2013; 7(4):387–404. DOI: 10.1080/15538605.2013.839344

Reid AE, Dovidio JF, Ballester E, Johnson BT. HIV prevention interventions to reduce sexual risk for African Americans: The influence of community-level stigma and psychological processes. Social Science & Medicine. 2014; 103:118–125. DOI: 10.1016/j.socscimed.2013.06.028 [PubMed: 24507916]

Reisner SL, O'Cleirigh C, Hendriksen ES, McLain J, Ebin J, Lew K, … Mimiaga MJ. "40 & Forward": Preliminary evaluation of a group intervention to improve mental health outcomes and address HIV sexual risk behaviors among older gay and bisexual men. Journal of Gay & Lesbian Social Services. 2011; 23(4):523–545. DOI: 10.1080/10538720.2011.611113

Richman LS, Lattanner MR. Self-regulatory processes underlying structural stigma and health. Social Science & Medicine (1982). 2014; 103:94–100. DOI: 10.1016/j.socscimed.2013.12.029 [PubMed: 24507915]

Riggle EDB, Gonzalez KA, Rostosky SS, Black WW. Cultivating positive LGBTQA identities: An intervention study with college students. Journal of LGBT Issues in Counseling. 2014; 8(3):264–281. DOI: 10.1080/15538605.2014.933468

Riggle EDB, Rostosky SS, Horne S. Does it matter where you live? Nondiscrimination laws and the experiences of LGB residents. Sexuality Research and Social Policy. 2010; 7(3):168–175. DOI: 10.1007/s13178-010-0016-z

Rogers A, Rebbe R, Gardella C, Worlein M, Chamberlin M. Older LGBT adult training panels: An opportunity to educate about issues faced by the older LGBT community. Journal of Gerontological Social Work. 2013; 56(7):580–595. DOI: 10.1080/01634372.2013.811710 [PubMed: 23905835]

Rokeach, M. Change and stability in American value systems 1968–1971. In: Rokeach, M., editor. Understanding Human Values: Individual and Societal. New York, NY: The Free Press/Simon and Schuster; 1979. p. 129-147.

Ross LE, Doctor F, Dimito A, Kuehl D, Armstrong MS. Can talking about oppression reduce depression?: Modified CBT group treatment for LGBT people with depression. Journal of Gay & Lesbian Social Services. 2008; 19(1):1–15. DOI: 10.1300/J041v19n01_01

Rutter PA, Estrada D, Ferguson LK, Diggs GA. Sexual orientation and counselor competency: The impact of training on enhancing awareness, knowledge and skills. Journal of LGBT Issues in Counseling. 2008; 2(2):109–125. DOI: 10.1080/15538600802125472

Rye BJ, Meaney GJ. Impact of a homonegativity awareness workshop on attitudes toward homosexuality. Journal of Homosexuality. 2009; 56(1):31–55. DOI: 10.1080/00918360802551480 [PubMed: 19197642]

Sapolsky, RM. Why zebras don't get ulcers: An updated guide to stress, stress-related diseases, and coping. New York: Henry Holt and Company; 2004.

Seeman T, Epel E, Gruenewald T, Karlamangla A, McEwen BS. Socio-economic differentials in peripheral biology: Cumulative allostatic load. Annals of the New York Academy of Sciences. 2010; 1186(1):223–239. DOI: 10.1111/j.1749-6632.2009.05341.x [PubMed: 20201875]

Shadish, WR., Cook, TD., Campbell, DT. Experimental and quasi-experimental designs for generalized causal inference. Boston, MA: Houghton Mifflin; 2002. Retrieved from http://impact.cgiar.org/pdf/147.pdf

Silverstein C. The implications of removing homosexuality from the DSM as a mental disorder. Archives of Sexual Behavior. 2009; 38(2):161–163. DOI: 10.1007/s10508-008-9442-x [PubMed: 19002408]

Smith SJ, Axelton AM, Saucier DA. The effects of contact on sexual prejudice: A meta-analysis. Sex Roles. 2009; 61(3–4):178–191. DOI: 10.1007/s11199-009-9627-3

Span SA. Addressing university students' anti-gay bias: An extension of the contact hypothesis. American Journal of Sexuality Education. 2011; 6(2):192–205. DOI: 10.1080/15546128.2011.571957

Tan ESN, Yarhouse MA. Facilitating congruence between religious beliefs and sexual identity with mindfulness. Psychotherapy: Theory, Research, Practice, Training. 2010; 47(4):500–511. DOI: 10.1037/a0022081

Taylor SE, Stanton AL. Coping resources, coping processes, and mental health. Annual Review of Clinical Psychology. 2007; 3(1):377–401. DOI: 10.1146/annurev.clinpsy.3.022806.091520

Tucker EW. Changing heterosexuals' attitudes toward homosexuals: A systematic review of the empirical literature. Research on Social Work Practice. 2006; 16(2):176–190. DOI: 10.1177/1049731505281385

Turner RN, Crisp RJ, Lambert E. Imagining intergroup contact can improve intergroup attitudes. Group Processes & Intergroup Relations. 2007; 10(4):427–441. DOI: 10.1177/1368430207081533

Vega MY, Spieldenner AR, DeLeon D, Nieto BX, Stroman CA. SOMOS: Evaluation of an HIV prevention intervention for Latino gay men. Health Education Research. 2011; 26(3):407–418. DOI: 10.1093/her/cyq068 [PubMed: 21059799]

Walls NE, Kane SB, Wisneski H. Gay—Straight Alliances and school experiences of sexual minority youth. Youth & Society. 2010; 41(3):307–332. DOI: 10.1177/0044118X09334957

Wernick LJ, Dessel AB, Kulick A, Graham LF. LGBTQQ youth creating change: Developing allies against bullying through performance and dialogue. Children and Youth Services Review. 2013; 35(9):1576–1586. DOI: 10.1016/j.childyouth.2013.06.005

Williams SL, Mann AK. Sexual and gender minority health disparities as a social issue: How stigma and intergroup relations can explain and reduce health disparities. Journal of Social Issues. (in press).

Biographies

Stephenie Chaudoir is an Associate Professor in Psychology at the College of the Holy Cross. She earned her PhD (2009) in social psychology at the University of Connecticut. Her research seeks to understand the effect of stigma-related stressors on the development of psychological and physical health disparities and identify intervention strategies to mitigate these effects among people living with concealable stigmatized identities.

Katie Wang is a postdoctoral fellow in the Center for Interdisciplinary Research on AIDS at Yale University. She earned her Ph.D. (2014) in Social Psychology at Yale University. Her research seeks to understand the psychological consequences of stigma-related stress and its associated coping processes. She is also interested in how the experience varies across different socially disadvantaged groups, including LGBs as well as those with physical disabilities and mental illnesses.

John Pachankis is an Associate Professor in the Department of Chronic Disease Epidemiology, Social and Behavioral Sciences Division, at the Yale School of Public Health. He earned his PhD (2008) in clinical psychology from the State University of New York at Stony Brook. His research seeks to 1) identify the psychological mechanisms, such as sexual orientation concealment, through which stigma compromises the health of sexual minority individuals and 2) use clinical science methods to develop therapeutic interventions for sexual minority individuals who are depressed, anxious, sexually compulsive, abuse substances, have eating disorders, or engage in other maladaptive emotion-driven behaviors as a function of early or ongoing experiences with stigma.

Table 1

Summary of Interventions Designed to Mitigate Sexual Minority Stress (N =44)

Name (Authors) and Description	Type of Efficacy Evidence Summary of Results	Level
Interventions that Reduce Frequency or Severity of Stressors		
Alien Nation Simulation (Hodson et al., 2009): A perspective-taking simulation (i.e., imagine life on an alien planet where simulated situational constraints mimic those faced by sexual minorities) designed to increase empathy and reduce prejudice.	Randomized controlled trial College students (N = 164) in the Alien-Nation simulation demonstrated more positive attitudes towards LGBs than students in the control lecture, in part because they had greater intergroup perspective-taking, inclusive intergroup representations, and empathy.	Individual
Anti-bullying School District Policies (Hatzenbuehler & Keyes, 2013): Public school district policies prohibiting LGBT bullying.	Quasi-experimental Sexual minority high school students (N = 1,413) living in counties (k = 34) with greater proportions of school districts with anti-bullying policies are less likely to have attempted suicide in the past year.	Structural
Contact Effect (e.g., Turner, Crisp, & Lambert, 2007): Interpersonal contact between sexual majority and sexual minority individuals.	Randomized controlled trial Male heterosexual college students (N = 27) who imagined have a conversation with a gay man reported less intergroup anxiety, more positive outgroup evaluations of gay men, and perceived greater variability in the outgroup compared to students who imagined being on a hike. These effects have also been corroborated by meta-analytic evidence (Smith et al., 2009).	Interpersonal
Counselor Training Seminar (Pearson, 2003): A 150-minute seminar designed to increase awareness of sexual identity development, negative stereotypes, and LGB-appropriate counseling interventions.	Within-subject, no control group Community counseling Master's level graduate students (N = 10) reported greater knowledge, interest, and positive attitudes towards LGB individuals.	Individual
Gay and Grey Program (Rogers, Rebbe, Gardella, Worlein, & Chamberlin, 2013): A panel training designed to educate participants about issues faced by older LGBT adults (e.g., social isolation, marginalization by service organizations).	Post-test only, no control group The majority of college students and community professionals (N = 605) who completed the training evaluated it positively.	Individual
Gay Straight Alliances (GSA; (Mayberry, Chenneville, & Currie, 2011).	Quasi-experimental LGBT students at schools with GSAs feel less isolated, have greater academic motivation, and are more involved in their campus communities than students at schools without GSAs. Schools with GSAs are more likely to have LGB activist projects and LGB curricular offerings on their campuses than schools without GSAs.	Structural
Health Education about LGBT Elders (HEALE; Hardacker et al., 2014): A six-hour LGBT competency curriculum designed to increase knowledge of unique health care needs of elder LGBT patients.	Within-subject, no control group Nurses and health care staff (N = 848) reported more knowledge of topics such as sexual orientation terminology, health benefits of sexual activity, barriers to health care, legal concerns, and HIV transmission after completing the curriculum.	Individual
Homonegativity Awareness Workshop (Rye & Meaney, 2009): A workshop led by LGB facilitators designed to increase awareness of heterosexism.	Quasi-experimental College students (N = 370) reported stronger decreases in homophobia after completing the workshop relative to a non-randomized control group.	Individual
Intergroup Dialogue (Dessel, 2010): Three three-hour group dialogue sessions with LGB community members over two weeks designed to improve attitudes, feelings, and behaviors toward LGB students and parents.	Randomized controlled trial Public school teachers (N = 36) in the dialogue condition reported significant increases in positive attitudes, feelings, and anticipated affirming behaviors towards lesbian and gay students (but not bisexual students) in their schools relative to a control group.	Individual
Just As We Are (Ramirez-Valles et al., 2014): An educational film and group discussions designed to reduce negative attitudes toward gay and bisexual men, transgender women.	Within-subject, no control group Latino high school students (N = 44) reported lower negative attitudes towards gay and bisexual men and transgender women after watching the film and engaging in discussions.	Individual

Name (Authors) and Description	Type of Efficacy Evidence Summary of Results	Level
Lead with Love (Huebner et al., 2013): A 35-minute online film, *Lead with Love*, designed to bolster self-efficacy for decreasing rejecting behaviors and increasing positive family interactions.	Within-subject, no control group Parents of an LGB child (N = 1,865) reported significant increases in self-efficacy for parenting an LGB child after viewing the film.	Interpersonal
LGB Competency Training Program – Graduate Student Counselors (Rutter et al., 2008): A lecture and role-play activities designed to increase knowledge of LGB-specific mental health and social concerns, reduce LGB prejudice, and bolster LGB-affirmative clinical skills among counseling graduate students.	Quasi-experimental Counselor education graduate students (N = 38) enrolled in an advanced counseling course reported greater LGB-affirming clinical skills, but not LGB prejudice or knowledge of LGB-specific mental health and social concerns, after completing the training relative to an introductory counseling class who did not receive the training.	Individual Interpersonal
LGB Psychiatric Illness Module (Lambrese & Hunt, 2013): A 30–90 minute educational workshop for clinicians designed to improve knowledge, comfort, and competency in working with sexual minority adolescents who may experience psychiatric disorders.	Within-subject, no control group Clinicians (N = 125) reported improved knowledge of the needs and resources of sexual minority teens after completing the workshop.	Individual
LGB Speaker Panel (Span, 2011): A LGB speaker panel designed to reduce anti-gay bias.	Quasi-experimental Undergraduate students (N = 104) who attended the panel showed no greater reductions in anti-gay bias or homophobia compared to students in the control group.	Individual
LGB Stigma Reduction in Sororities (Hussey & Bisconti, 2010): An informational film and discussion or a four-person panel discussion about sexual minority topics and concerns designed to decrease bias towards sexual minorities.	Within-subject, no control group Collegiate sorority students (N = 166) reported lower anti-homosexual affect, homophobic behavioral intentions, and LGB prejudice after completing the informational film and discussion or the panel discussion.	Individual
LGBT Aging Training (Porter & Krinsky, 2014): A five-hour workshop designed to educate service providers about the unique concerns of elder LGBT patients and how prejudice and related policies can affect quality of care.	Within-subject, no control group Service providers (N = 76) reported greater knowledge about LGBT community resources and greater knowledge about some federal policies and disparities, but not greater LGB-affirming behaviors after completing the workshop.	Individual
LGBT Ally Course (Ji, Du Bois, & Finnessy, 2009): A 16-week honors course designed to train heterosexual undergraduate students to be LGBT allies.	Post-test only, no control group College students (N = 11) reported greater self-efficacy for supporting and advocating for LGBT persons.	Individual Interpersonal
LGBT Counseling Course (Bidell, 2013): A semester-long master's level counseling course designed to increase knowledge of LGBT psychosocial issues and self-efficacy for implementing LGBT-affirmative counseling.	Quasi-experimental Master's level graduate students (N = 46) who completed the course reported greater LGB-affirmative counseling competency and self-efficacy relative to students in the control group.	Individual
LGBT Cultural Competency Training (Leyva, Breshears, & Ringstad, 2014): A one-day training designed to improve knowledge, skills, and attitudes towards LGBT older adults.	Within-subject, no control group Service providers (N = 123) reported greater knowledge about LGBT older adults, greater LGBT-affirming skills, and more positive attitudes towards LGBT older adults after completing the training.	Individual
LGBT Health Curriculum (Kelley, Chou, Dibble, & Robertson, 2008): A two-hour training workshop designed to raise awareness about LGBT bias, health disparities, and the role of medical providers in optimizing LGBT health.	Within-subject, no control group Second-year medical students (N = 143) reported greater knowledge LGBT social and medical concerns, increased willingness to treat transgender patients, and greater awareness of LGBT-specific medical concerns after completing the workshop.	Individual
LGBT Professional Development Training (Greytak, Kosciw, & Boesen, 2013): A two-hour workshop on bullying and harassment of LGBT youth designed to increase awareness of how bullying and harassment affect school climate and LGBT students' and staff's lives and to promote behavioral skills required to address anti-LGBT behaviors.	Within-subject, no control group High school educators, staff, and administrators (N = 1,647) reported greater awareness of and self-efficacy for interrupting anti-LGBT behaviors after completing the workshop.	Individual Interpersonal
LGBT Training Module (Foreman & Quinlan, 2008): An educational module designed to teach undergraduate and graduate social work students about LGBT bias, increase self-efficacy for implementing LGBT-affirmative	Post-test only, no control group Students reported increased knowledge about LGBT issues and increased self-efficacy for addressing LGBT concerns with clients.	Individual Interpersonal

Name (Authors) and Description	Type of Efficacy Evidence Summary of Results	Level
practices with clients, and encourage development and implementation of LGB-affirmative policies and practices.		
Open Door Project (Landers et al., 2010): Training activities designed to educate task force members about unique needs of older LGBT adults, provide culturally competent services to older LGBT adult clients, develop and institute trainings for colleagues about these issues, and implement LGBT-inclusive mission statements in their organizations.	Post-test only, no control group LGBT Aging Project task force members (N = 34) and their agencies implemented new LGBT-inclusive mission statements and demonstrated greater knowledge of LGBT issues after completing the training.	Individual Interpersonal
Rainbow Educator (Getz & Kirkley, 2006): Presentations and workshops designed to raise awareness of heterosexual privilege, increase confidence to act as an LGB ally, and promote an LGB-affirmative climate.	Post-test only, no control group University campus members (e.g., faculty, administrators, students; N = 20) reported greater awareness of sexual identities and improved confidence to serve as LGB allies.	Individual Interpersonal
Riot Youth Performance (Wernick, Dessel, Kulick, & Graham, 2013): A theater performance and post-performance discussion presented by Riot Youth, a LGBTQQA youth group.	Within-subject, no control group Middle- and high-school students (N = 537) reported greater likelihood and self-efficacy to interrupt bullying of sexual minorities after attending the performance and discussion.	Individual
Safe Space/Zone (Finkel et al., 2003): Two two-hour training sessions regarding heterosexual privilege, relevant sexual minority concepts (e.g., identity formation, coming out process), setting LGBT-affirmative behavioral intentions, and role-playing.	Post-test only, no control group Graduate students and administrative staff (N = 68) reported less homophobia after completing the training sessions.	Individual Interpersonal Structural
Safe Space/Zone Train-the-Trainer Program (Ratts et al., 2013): A program to train higher education professionals how to implement Safe Space training.	Case Study Graduate students at one university were able to train local K-12 educators to implement Safe Space Programs in their schools after completing this program.	Individual Interpersonal
State-Level Same-Sex Marriage Laws (Hatzenbuehler et al., 2012): Enactment of same-sex marriage laws.	Within-subject, no control group Sexual minority male patients (N = 1,211) in a community-based health center in Massachusetts showed a statistically significant decrease in medical and mental health care visits and in mental health care expenditures in the 12 months after the legalization of same-sex marriage relative to the 12 months before the legalization.	Structural
True Lives (Iverson & Seher, 2014): A theatrical performance of *True Lives*, a play that dramatized real stories of LGBT discrimination.	Within-subject, no control group College students (N = 482) reported more positive LGBT attitudes, knowledge, and intentions to reduce LGBT harassment on their campus after viewing the play.	Individual
Workplace Sexual Diversity Policies (Button, 2001): Policies intended to recognize and affirm sexual diversity	Quasi-experimental Sexual minorities (N = 537) employed at workplaces (k = 38) with sexual diversity policies were less likely to report discrimination and more likely to report workplace satisfaction and commitment.	Structural
Interventions that Bolster Coping Resources		
Affirmative Supportive Safe and Empowering Talk (ASSET) (Craig et al., 2014): Weekly 45-minute school-based group counseling sessions.	Within-subject, no control group Multiethnic SMY (N = 263) reported greater self-esteem and proactive coping, but not social connectedness, after completing the sessions.	Individual
Cognitive Behavioral Therapy (CBT) – Group (Ross et al., 2008): Weekly two-hour group CBT sessions and a two-month follow-up booster sessions.	Within-subject, no control group Depressed LGBT adults (N = 23) reported lower depressive symptoms and higher self-esteem after completing the sessions.	Individual
Effective Skills to Empower Effective Men (ESTEEM) (Pachankis, 2014; Pachankis et al., 2015): A10-session intervention designed to help participants identify the minority stressors in their lives; understand how these stressors can lead to depression, anxiety, substance abuse, and sexual risk behaviors;	Randomized controlled trial Gay and bisexual young men (N = 63) in the ESTEEM condition reported significantly lower depressive symptoms, alcohol use problems, sexual compulsivity, rates of past-90-day condomless sex with casual partners, and improved condom use self-efficacy relative to men in the control group.	Individual Interpersonal

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and learn how to lessen maladaptive cognitive, emotional, and behavioral reactions to stigma.		
Expressive Writing (Lewis et al., 2005; Pachankis & Goldfried, 2010): Participants write about the most stressful or traumatic gay-related event in their lives for 20 minutes three times per week for two weeks (Lewis et al., 2005) or for 20 minutes a day for 3 consecutive days (Pachankis & Goldfried, 2010).	Randomized controlled trial Adult lesbians (N = 76) in the expressive writing condition who were less open about their sexual orientation reported reduced cognitive confusion and perceived stress after 2 months relative to lesbians in the control writing condition. However, there were no effects of writing condition on feelings of tension, depression, or vigor, nor on upper respiratory symptoms (Lewis et al., 2005). Gay male college students (N = 77) in the expressive writing condition reported significantly greater increases in openness about their sexual orientation after 3 months relative to students in the control writing condition. Expressive writing also lowered depressive symptoms relative to a control, but only for students with low social support. However, there were no effects of writing condition on depressive symptoms, general clinical distress, gay-related self-esteem, or physical illness symptoms (Pachankis & Goldfried, 2010).	Individual
Internalized Heterosexism Reduction (Lin & Israel, 2012): Adult gay men (N = 290) completed three interactive web-based modules designed to identify the sources of and debunk negative stereotypes about gay/bisexual men, and affirm gay/bisexual identity in order to reduce internalized heterosexism.	Randomized controlled trial Adult gay men in the intervention condition reported lower internalized homonegativity relative to those in the control condition. These effects were not moderated by age, self-esteem, intervention involvement, or outness.	Individual
LGB-Affirmative Cognitive Behavioral Therapy (CBT) (Craig, Austin, & Alessi, 2013): Four CBT sessions that validate LGB individuals and their relationships.	Case study A 16-year-old Hispanic female who self-identifies as “bisexual” was better able to identify sources of potential social support and develop cognitive and behavioral strategies to minimize negative mental health effects of bullying after completing CBT sessions.	Individual
Mindfulness-Based Sexual Identity Therapy (Tan & Yarhouse, 2010): Mindfulness exercises within sexual identity therapy.	Case study In four case studies of sexual minority adults, patients Demonstrated greater acceptance of their sexual intimacy and reduced compulsive behavior, religious identity conflicts, and emotional reactivity after completing mindfulness exercises in the context of sexual identity therapy.	Individual
Narrative Therapy Workshops (Elderton et al., 2014): Four narrative therapy-based workshops in a support group.	Post-test only, no control group LGBT adults with learning disabilities (N = 11) developed more positive self-narratives after completing the workshops and viewed the experience as positive and supportive.	Individual
Positive LGBTQQA Identities (Riggle, Gonzalez, Rostosky, & Black, 2014): A group presentation on positive LGBTQQA identities and a personal narrative writing exercise.	Within-subject, no control group LGBTQA college students (N = 52) reported greater positive LGBTQA identity, collective self-esteem, and individual self-esteem after listening to the presentation and writing a personal narrative.	Individual
Rainbow SPARX (Lucassen et al., 2014): A seven-module computerized cognitive behavioral therapy.	Within-subject, no control group Sexual minority youth with depressive symptoms (N = 21) reported significantly lower depressive symptoms three months after completing the therapy modules.	Individual
SOMOS (Vega et al., 2011): Five group sessions designed to identify sexual and ethnic identity-related stressors, create a social marketing testimonial, and connect to local Latino LGBT organizations. Community gatherings, presentations, and an annual convention provided greater opportunities for social support-building activities.	Within-subject, no control group Latino adult gay men (N = 113) reported a decrease in sexual risk behaviors and number of sexual partners and an increase in self-esteem, coping skills, and social support at three and six months after completing the intervention.	Individual Interpersonal Structural
Strengths First (Craig, 2012): Sexual minority youth received a strengths-based assessment and four to six case management sessions. Case managers were trained to provide strengths-based case management. Schools and community agencies were educated regarding the importance of inclusive and targeted services for SMY.	Within-subject, no control group Multiethnic SMY (N = 162) reported significant increases in self-esteem and self-efficacy after completing the program.	Individual Interpersonal Structural

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Interventions that Both Reduce Stressor and Bolster Coping Resources		
Attachment-Based Family Therapy for Suicidal Lesbian, Gay, and Bisexual Adolescents (ABFT-LGB; Diamond et al., 2013). An adapted family therapy intervention with five exercises designed to rebuild safe and trusting attachments between suicidal LGB youth and their parents.	Within-subject, no control group Suicidal LGB youth (N = 10) reported significant decreases in suicidal ideation, depressive symptoms, and maternal attachment–related anxiety and avoidance after completing the program.	Interpersonal
City- or State-Level Nondiscrimination Policies (Hatzenbuehler, Keyes, & Hasin, 2009; Riggle, Rostosky, & Horne, 2010): Policies that prohibit LGBT discrimination.	Quasi-experimental Sexual minority residents (Ns = 34,653, 2,511 respectively) of states and cities with LGB nondiscrimination policies experienced less minority stress, more social support and disclosure of sexual orientation, and less internalized homophobia. They also experience lower prevalence of psychiatric disorders.	Structural

Notes. SMY = Sexual Minority Youth. LGBTQQA = Lesbian, Gay, Bisexual, Transgender, Queer, or Questioning young adults and their young adult Allies.