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Using the Minority Stress Model to Understand Depression in Lesbian, Gay, Bisexual, and Transgender Individuals in Nebraska

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Previous studies demonstrated the utility of the minority stress model in understanding health disparities for lesbian, gay, bisexual, and transgender (LGBT) populations. Since most research has considered large metropolitan areas, predominantly in coastal regions of the United States, this research focuses on a midwestern state, Nebraska. This study sought to assess the relationships between depressive symptoms experienced by participants (N = 770) and minority stress variables, including experiences with violence, perceptions of discrimination, and respondents' degree of self-acceptance of their LGBT identity. Regression analysis revealed that after controlling for demographic variables, self-acceptance, and perceived discrimination were correlated with depressive symptoms. These findings have implications for policy makers, public health planners, and health care providers.

KEYWORDS

LGBT, mental health, public health, sexual orientation, depression, minority stress model

INTRODUCTION

While some studies indicate that most lesbian, gay, bisexual, and transgender (LGBT) adults are mentally healthy (Cochran & Mays, 2006; Herek & Garnets, 2007; Clements-Noelle et al., 2001; Nuttbrock et al., 2010), much of the scientific literature suggests that mental health problems disproportionately affect LGBT communities, a trend that is a growing national concern (U.S. Department of Health and Human Services, 2000; Institute of Medicine, 2011). LGBT individuals are more likely to experience mental health issues and related problems, including substance use, suicide attempts, lower

self-esteem, suicide ideation, and psychiatric conditions (Cochran 2001; Gilman et al., 2001; Herrell et al., 1999; Bos et al., 2008; D'Augelli, 2006; Cochran & Mays, 2000a; Paul et al., 2002; Cochran & Mays, 2000b; Garofalo et al., 1999; Faulkner & Cranston, 1998). Compared with their heterosexual counterparts, gay, lesbian, and bisexual individuals experience 1.5 times higher risk for depression and anxiety disorders and are two times more likely to attempt suicide (King et al., 2008). Additionally, LGBT individuals are more likely to experience suicide ideation and psychiatric conditions (Cochran & Mays, 2000b; Gilman et al., 2001; Paul et al., 2002; Cochran et al., 2000b; Garofalo et al., 1999; Faulkner & Cranston, 1998). Robins and Regier (1991) found that compared with estimates of U.S. rates of disorders reported by the Epidemiologic Catchment Area Study, samples of gay men had a higher lifetime prevalence of affective disorders but no elevated prevalence for current major depressive disorders (Williams et al., 1991).

Risks for poor mental health outcomes have also been documented among transgender people. The available evidence points toward disparities in mental health outcomes for transgender populations compared with nontransgender populations. Male-to-Female (MtF) transgender people had significantly higher scores on the General Severity Index of the Brief Symptom Inventory relative to nontransgender men (Derogatis et al., 1981). In the same study, Female-to-Male (FtM) transgender people had significantly higher scores on the anxiety and interpersonal sensitivity scales. Clements-Noelle and colleagues (2001) found rates of depression among transgender women and transgender men of 62% and 55%, respectively (Clements-Noelle et al., 2001). A meta-analysis of 29 studies with transgender people found high rates of suicide attempts, with 54% of MtFs and 32% of FtMs reporting a suicide attempt in their lifetime (Herbst et al., 2008). Similarly, Xavier and colleagues (2005) found that 38% of participants, who were transgender people of color, reported ever having attempted suicide. Nuttbrock and colleagues' findings (2010) from a similar study showed that over half of the participants had a lifetime prevalence of suicide ideation and depression, and that nearly one-third had attempted suicide.

Important to note is that mental illnesses and emotional disturbances are not inherent to LGBT orientations and identities, but rather result from 348 M. A. McCarthy et al. the stigmatization of sexual and gender minority identities (Meyer, 1995). There is an increased risk for diverse health problems among lesbian, gay, and bisexual individuals, which has been examined in terms of the role of homophobia, discrimination, and violence (Gilman et al., 2001; Meyer, 2003; Meyer, 1995).

Transphobia, a concept similar to homophobia (Sugano et al., 2005), pertains to the stigmatization of people who adopt atypical gender categories or have some degree of incongruence between their apparent biologic sex and gender expression. As Sugano and colleagues (2005) point out, researchers have theorized that transphobia contributes to discrimination in applying for employment and housing, violence, harassment, and barriers to health care. Predicated on the idea that stigmatized

minority groups experience chronic stress related to chronic stigma and that stress leads to disparities in mental health outcomes between stigmatized and nonstigmatized populations, the minority stress model lends itself to including transgender identities in the stress discourse.

The minority stress model (Meyer, 2003, 1995) posits that the disproportionate number of adverse mental health outcomes among gay men (and presumably other sexual and gender minority populations) can be explained by the stress associated with a social environment in which homosexuality is stigmatized and in which homosexuals are often the victims of prejudice and discrimination. Meyer (1995) explains that minority stress results "from the totality of the minority person's experience in dominant society. At the center of this experience is the incongruence between the minority person's culture, needs, and experience, and societal structures" (p. 39). It has become a widely accepted framework for understanding such disparities in mental health outcomes among gay men and other sexual and gender minority populations. It is not known if the minority stress model described by Meyer (1995) is operating in the lives of LGBT people in Nebraska, an understudied geographic area. This study sought to assess the relationship between symptoms of depression and minority stress variables including experiences with violence, perceptions of discrimination, and self-acceptance in a sample of self-identifying LGBT individuals who live, work, and/or play in Nebraska.

METHODS

The study, part of a larger study describing the physical, mental, social and sexual health of LGBT Nebraskans, was conducted using a cross-sectional online survey. The survey instrument was designed using a community-based participatory research (CBPR) approach (Reece & Dodge, 2004; Israel et al., 1998). The research team worked with community partners and stakeholders throughout the state of Nebraska to develop the survey items. Minority Stressors Among LGBT Individuals in Nebraska 349 Following preliminary data analysis, the researchers discussed descriptive findings with LGBT community members and stakeholders to develop a community report which was released in July of 2011 (web link to be provided for publication). Participants Self-identifying lesbian, gay, bisexual, and transgender individuals over the age of 19 who lived, worked, or "played" in Nebraska were invited to participate in this study. In an attempt to include individuals who may live in the locations that border Nebraska, play was used to recruit individuals who may have accessed services such as health care, bar life, or other cultural events in Nebraska but resided in neighboring states.

Recruitment

LGBT people constitute a hidden population (Sullivan & Losberg, 2003); therefore, this study used a respondent-driven convenience sample. In Nebraska, there exists a state-wide network of e-mail listservs as a means of communicating about LGBT events, which was used as a primary recruitment strategy. A recruitment e-mail was sent to

LGBT leaders, organizations, and allies who then disseminated it via listservs and through their own contacts. In addition to electronic means of recruitment, palm cards and advertisements were posted and distributed in LGBT friendly establishments such as coffee houses, boutique stores, and other venues. Ads were placed in local LGBT-oriented newspapers and a press release was issued, picked up by the Associated Press wire, and re-printed in newspapers across the state. Finally, in line with respondent driven sampling methods, participants were encouraged to share the online survey link with others they knew who might qualify to participate.

Procedures

Participants were provided with an introduction to the study and invited to participate. If they agreed to do so, the respondent was asked three questions to ensure they met the study's inclusion criteria of age; self-identification as lesbian, gay, bisexual, or transgender; and living, working, and/or playing in Nebraska. If all inclusion criteria were met, the participant could proceed to take the approximately 30-minute 67-item survey. Respondents could opt in to receiving a $5 gift card for their time. About half of all respondents opted to receiving the incentive. 350 M. A. McCarthy et al. Ethical Considerations The Institutional Review Board at the University of Nebraska Medical Center approved all study instruments and procedures. Names and contact information recorded for mailing the incentives were destroyed after incentives were sent. Furthermore, a community report was written and disseminated prior to writing manuscripts for peer-review, per CBPR principles which require equity in data use and dissemination (Israel et al., 1998).

Measures

INTERNALIZED HOMOPHOBIA/SELF-ACCEPTANCE

An assets-based conceptualization of internalized homophobia was used in this study. Self-acceptance, the inverse of internalized homophobia, was measured using a scale by Wright and colleagues (1999). As an alternative to measuring internalized homophobia, or the degree to which participants internalized negative attitudes about gender/sexual minority identities, self-acceptance, or the degree to which study participants rejected negative attitudes about sexual/gender minority identities, was assessed. The instrument prompted participants to indicate their level of agreement with 11 statements on a five-point scale ranging from strongly agree to strongly disagree. The scale was coded such that higher scores indicated a greater degree of self-acceptance of one's identity. The scale included items such as "I am positive about being LGBT" and "I feel that being LGBT is a gift." The scale demonstrated adequate reliability with the current sample ($\alpha = .805$). To reduce response bias, the instrument contained some positively-worded items and some negatively worded items. Negatively worded items were reverse coded for analysis.

PERCEIVED DISCRIMINATION

This study assessed respondents' perceptions of discrimination resulting from their LGBT identity. Perceived discrimination was measured using a scale that consisted of 15 statements (Wright et al., 1999). Examples of items include "someone verbally insulted you or abused you" and "you were treated unfairly by employers, bosses, or supervisors." Respondents indicated how often such occurrences took place on a four-point scale (never, once, twice, or three or more times). The scale demonstrated a high degree of reliability with the current sample (α = .904).

VIOLENCE

The Violent Experiences Scale (Wright et al., 1999) was used to assess how frequently participants were victimized on the basis of their LGBT identities. Minority Stressors Among LGBT Individuals in Nebraska 351 Forms of violence included completed and attempted physical assault, completed and attempted sexual assault, being robbed, and seeing a friend or relative deliberately killed or murdered, among others. The scale consisted of nine items and had an adequate degree of internal consistency (α = .819).

DEPRESSIVE SYMPTOMS

Depressive symptoms were assessed using the Center for Epidemiologic Studies Depression (CES-D) Scale (Radloff, 1977), a 20-item self-report scale designed for use in a general population. It prompts participants to indicate on a four-point scale ranging from rarely or none of the time to most of the time how frequently during the last week they experienced symptoms normally associated with depression, such as irritability, changes in appetite, feeling depressed, having crying spells, and feeling lonely. The instrument had a high degree of reliability in this sample (α = .929). To reduce response bias, the scale contained positively and negatively worded items. Negatively worded items were reverse coded for analysis.

Analysis

SPSS 20.0 was used for all analyses. Descriptive statistics were run for all variables. A hierarchal linear regression analysis was executed to determine if depressive symptoms reported by participants during the last seven days were predicted by minority stress variables including experiencing violence, perceiving discrimination, and degree of self-acceptance. In Model 1, the predictor variables were demographic characteristics including age, geographic location, sexual orientation, transgender/gender nonconforming identity, gender, race, Hispanic/Latino identity, and relationship status. In Models 2, 3, and 4, minority stress variables including experiences with violence, perceptions of discrimination, and self-acceptance were added to the regression.

RESULTS

Participant Demographics

Table 1 provides detailed demographics of participants (N = 770). The mean age of participants was 39 years. Most identified as male (n = 457, 59.7%), white (n = 693, 91.3%), and identified as homosexual/gay/lesbian (n = 578, 75.3%). Transgender and gender nonconforming participants represented 11.9% (n = 91) of the respondents. Of the transgender or gender nonconforming participants, nearly half identified as MtF/transwomen, nearly one-quarter as FtM/transmen, and nearly one-quarter as genderqueer or gen der nonconforming. About 85% of the sample (n = 649) reported living in Omaha or Lincoln, Nebraska's largest cities. A large number of participants were in a primary relationship (legally married or an exclusive partnership; n = 424, 55.1%).

Variables of Interest

This study examined the relationship between depressive symptoms reported in the previous week and minority stress variables including experiences with violence, perceived discrimination, and self-acceptance of minority identities. Table 2 contains descriptive statistics for these measures, and Table 3 contains correlations of the predictor variables with CES-D scores. Experiencing violence and perceiving discrimination was associated with higher CES-D scale scores ($r = .139$, $p < .001$; $r = .212$, $p < .001$); having a higher degree of self-acceptance was associated with a lower CES-D score ($r = -.323$, $p < .001$).

Minority Stress Variables as Predictors of CES-D Scores

Model 1 explained 7.4% of the variance observed in CES-D scores ($p< .001$), self-identifying as transgender or gender non-conforming ($\beta = .125$, $p < .01$), and being older ($\beta = -.097$, $p < .05$). Living outside of the Lincoln- and Omaha-metro areas was a variable trending toward significance ($\beta = .069$, $p < .10$).

In the second regression model, perceived violence was added as a predictor variable to the demographic variables included in the first model. In this model, the most important predictor variables included being married or partnered ($\beta = -.174$, $p < .001$), reporting experiencing violence as a result of their LGBT identity ($\beta = .122$, $p < .01$), being older ($\beta = -.103$, $p < .01$), and self-identifying as transgender or gender non-conforming ($\beta = .108$, $p < .05$). As with Model 1, being from a rural area of the state was a variable which trended towards significance ($\beta = .066$, $p < .10$). Relative to Model 1, Model 2 explained an additional 1.4% of the variance in CES-D scale scores ($p < .01$).

Perceived discrimination was added as a predictor variable for Model 3. The most significant predictor variables in Model 3 included perceived discrimination ($\beta = .298$, $p < .001$), being married or partnered ($\beta = -.184$, $p < .001$), and being older ($\beta = -.106$, $p < .001$). Being from a rural area of Nebraska trended toward significance in Model 3 ($\beta = .064$, $p < .10$). Being transgender or gender nonconforming was not a significant predictor of CES-D scores in Model 3. Experiencing violence as a result of an individual's LGBT identity was no longer significant in this model, likely because relatively few people reported experiencing violent events beyond being called a name.

TABLE 1 Demographic Characteristics of Participants (N = 770)

Characteristic	*n*	%/range	*M*	*SD*
Age	756	19 to 70	35.99	12.99
Gender				
Female	283	37.0		
Male	457	59.7		
Intersex	3	.4		
Other	22	2.9		
Sexual Orientation				
Homosexual/Gay/Lesbian	578	75.3		
Bisexual	122	15.9		
Heterosexual/Straight	22	2.9		
Unsure/Questioning	6	.8		
Other	40	5.2		
Transgender/Gender non-conforming	91	11.9		
MtF/Transwoman	42	46.7		
FtM/Transman	21	23.3		
Genderqueer or gender non-conforming	22	24.4		
Other	5	5.6		
Geographic Location				
Omaha Metro	500	68.2		
Lincoln Metro	149	20.3		
Rural NE	75	10.2		
Race				
White	693	91.3		
Black/African American	17	2.2		
Asian	5	0.7		
American Indian or Alaska Native	3	0.4		
Other	41	5.4		
Hispanic/Latino identity				
Hispanic	37	4.9		
Non-Hispanic	721	94.6		
Relationship Status				
Legally married to same-sex partner	55	7.2		
Legally married to opposite-sex partner	41	5.3		
Partnered to/dating exclusively someone of the same sex	296	38.4		
Partnered to/dating exclusively someone of the opposite sex	32	4.2		
Divorced, not partnered	29	3.8		
Widowed, not partnered	2	0.3		
Single, dating more than one person	43	5.6		
Single, not dating	235	30.5		
Other	34	4.4		

Model 3 accounted for 13.1% of the variance observed in CES-D scale scores ($p < .001$).

TABLE 2 Descriptive Statistics for Predictor and Criterion Variables

	n	Minimum	Maximum	Mean	Standard Deviation
Violent Experiences	766	9	36	10.32	2.88
Perceived Discrimination	764	15	60	24.01	9.14
Self-Acceptance	766	13	55	43.21	6.66
CES-D	763	0	56	14.18	11.82

In Model 4, self-acceptance was added as a predictor variable. In this model, the most important predictors of CES-D scores included self-acceptance scores ($\beta = -.298$, $p < .001$), perceived discrimination ($\beta = .289$, $p < .001$), being married or partnered ($\beta = -.196$, $p < .001$), being older ($\beta = -.084$, $p < .05$), and being female ($\beta = .078$, $p < .05$) (Table 4). In Model 4, violent experiences did not constitute a significant predictor Minority Stressors Among LGBT Individuals in Nebraska 355 variable and geographic location did not trend toward significance. Model 4 explained 21.3% of the variance in CES-D scores ($p < .001$).

TABLE 3 Correlations of Minority Stress Variables with CES-D Scores

Minority Stress Variables	*r*
Violent Experiences	.139***
Perceived Discrimination	.212***
Self-Acceptance	−.323***

***p<.001

TABLE 4 Predictors of CES-D Scores

Predictors	Model 1	Model 2	Model 3	Model 4
Demographics				
Age	−.097*	−.103**	−.106**	−.084*
Rural	.069†	.066†	.064†	.034
Straight orientation	−.028	−.027	−.020	−.008
Bisexual orientation	.035	.030	.060	.044
Homosexual/gay/lesbian sexual orientation	−.041	−.055	−.065	−.028
Female	.023	.031	.026	.078*
Minority race	−.009	−.025	−.018	−.046
Hispanic/Latino identity	.017	.020	.037	.046
Married/partnered	−.170***	−.174***	−.184***	−.169***
Transgender identity	.125**	.108*	.069	.052
Minority Stress Variables				
Violent experiences		.122**	−.080	−.067
Perceived discrimination			.298***	.289***
Self-acceptance				−.298***
Overall R^2	0.074	0.088	0.131	0.213
Change R^2		0.014	0.043	0.081

†p < .10; *p < .05; **p < .01; ***p < .001

DISCUSSION

The purpose of this study was to use the Minority Stress Model as a framework for understanding how minority stress variables including self-acceptance, perceived discrimination, and experiences with violence may impact the mental health of LGBT people who live, work, and/or play in the state of Nebraska. Specifically, the hypotheses were that experiencing violence and discrimination would be positively associated with depressive symptoms and that self-acceptance and depressive symptoms would be negatively associated.

Several important findings emerged from this study. In this sample of 770 lesbian, gay, bisexual, and transgender individuals, a majority of participants reported experiencing at least some degree of discrimination because someone perceived them to be LGBT. Consistent with findings from other studies which demonstrate the relationships between poor mental health outcomes and discrimination (Nemoto et al., 2004; Diaz et al., 2001; Mays & Cochran, 2001), perceived discrimination scale scores were predictive of depressive symptoms experienced by participants during the last week ($\beta = -.298$, $p < .001$).

Second, this study found the degree to which individuals can resist internalizing the stigmatization of and negative stereotypes about sexual and gender minority people is important with respect to their mental health, which is consistent with the Minority Stress Model framework (Meyer, 2003). In this sample, accepting one's sexual/gender minority identity was related to experiencing fewer depressive symptoms during the last week. This relationship remained significant after controlling for demographic and minority stress variables including experiencing violence and discrimination. Altogether, these variables accounted for 21.1% of the variance in depressive symptoms reported by participants.

Contrary to the findings of other studies, completed and attempted acts of violence were not associated with depressive symptoms in this sample. Other studies have documented that experiencing violence is associated with a variety of negative mental and behavioral health outcomes such as depressive and anxiety symptoms, suicide ideation, and lower self-esteem (Wyss, 2004; Grossman & D'Augelli, 2007; Almeida, 2009; Bontempo, 2002). However, in this study experiencing violence was related to depressive symptoms after controlling for self-acceptance and perceived discrimination. A majority of participants in this study did not experience any violent events (n = 491, 64.1%) so it is possible that a relationship between CES-D scores and violent 356 M. A. McCarthy et al. experiences may have existed if a greater proportion of participants were the victims of violence.

The results are somewhat consistent with the minority stress model; while self-acceptance and perceived discrimination were independently related to reporting depressive symptoms during the last week, experiencing violent events was not independently related to depressive symptoms. Our findings suggest that at least some

of the stress processes detailed by Meyer (1995, 2003) may explain experiences in the lives of sexual and gender minority individuals who live in Nebraska.

LIMITATIONS

As with any study of hidden populations, this study was limited by a convenience sample since it would be impossible to obtain a true representative sample of LGBT individuals in the state of Nebraska. In addition, some demographic characteristics were not well represented in this study; for example, there were few racial and ethnic minorities and some rural areas of the state were underrepresented.

In addition, little nuanced transgender-specific information was collected. Though we asked about transgender identity, specific data about any transition steps were not collected (e.g., if they live full time in their preferred gender, use of hormones, seeking transition-related surgeries).

This study could have benefitted from some additional measures. It included no direct measure of stress, a typical component of the minority stress model. While LGBT individuals experience unique stressors, they also experience stressful circumstances due to daily life that has little to do with sexuality or gender identity. Future studies should include both general population stressors and LGBT specific stressors. In addition, it did not request that participants identify how they heard about the study. This study included no measure of the degree of social conservatism in the area. If not limited by the length of the survey instrument, these measures may have added additional context to the results presented here. Finally, this study did not include in its inclusion criteria sexual orientation identity categories such as “queer” and “unsure/questioning.” Therefore, people who hold those identities may have been systematically excluded from participating in this study. Future studies could recruit individuals who identify as queer and unsure/questioning.

CONCLUSIONS

The present study provides further evidence to support the overall theoretical validity of the minority stress model posited by Meyer (1995, 2003) in a conservative area of the United States. Despite the lack of statistical significance Minority Stressors Among LGBT Individuals in Nebraska 357 for the impact of violent experiences on CES-D scores, self-acceptance and discriminatory experiences were related to higher levels of depressive symptoms. Clinicians, counselors, and other professionals working with LGBT persons in relation to their health and well-being may want to use these scales as part of a battery of diagnostic tools in determining a LGBT client’s levels of stress related to their sexual minority identity.

The findings of this study have important implications for policy makers, public health planners, and health care providers. Given the importance of discrimination in predicting the depressive symptoms reported by participants in this study, it is clear that policies should be in place to protect the rights of LGBT people, particularly in employment, housing, and in education. Other policy actions that would promote self-acceptance among LGBT people would be repealing discriminatory policies, such as those pertaining to marriage and adoption.

Public health planners should address discrimination, self-acceptance, and suicide prevention efforts as they relate to LGBT people. Health care providers should be mindful that not all patients they encounter are going to be heterosexual and cisgender. It is important for healthcare providers to create a welcoming environment for LGBT people, which can be done by using inclusive language on intake paperwork as well as in the clinical setting. For example, a healthcare provider should use the word “partner” instead of “husband” or “wife” and should use the gender pronoun that the patient prefers. Furthermore, healthcare providers have the opportunity to invite their LGBT patients to discuss matters related to their sexuality and gender identities. The Gay and Lesbian Medical Association is an excellent resource for healthcare providers and researchers to become more culturally competent with respect to their LGBT patients and other matters related to sexuality and gender identity.

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