2019

Bisexual Well-Being: Assessing a Model of Predictors of Psychosocial Well-Being for Bisexual Men

Philip James Cooke
Marquette University

Timothy Melchert
Marquette University, timothy.melchert@marquette.edu

Psychology of Sexual Orientation and Gender Diversity, Vol. 6, No. 2 (2019): 242-255. DOI.

Bisexual Well-Being: Assessing a Model of Predictors of Psychosocial Well-Being for Bisexual Men

Philip J. Cooke
Department of Counselor Education and Counseling Psychology, Marquette University
Timothy P. Melchert
Department of Counselor Education and Counseling Psychology, Marquette University

Acknowledgement:

The lives of sexual minority individuals over the past half-century have often been colored by stress and stigma, widespread private and public discrimination, and the devastation caused by the HIV/AIDS epidemic. As a result, psychologists and social scientists interested in the health and well-being of LGB individuals often focused on understanding the impacts of stress, stigma, and discrimination on sexual minority individuals (e.g., Herek & Garnets, 2007; Meyer, 1995).

This research had undeniably important and beneficial impacts, although one downside was the tendency to focus on the negative aspects associated with having a sexual minority identity while ignoring LGBT strengths and well-being (Horne, Puckett, Apter, & Levitt, 2014). It was only in the past 10–15 years and the concurrent development of positive psychology that the strengths and positive health dimensions of LGB individuals began to be studied in earnest (Horne et al., 2014; Riggle & Rostosky, 2012). With the increasing acceptance of LGB individuals in mainstream society, there is now more need than ever to shift from a pathology focus toward a more holistic understanding of LGB health and well-being.

The past 10–15 years have also seen a growing focus on the often-overlooked experiences of specific sexual minority groups such as bisexual individuals. Public health studies have suggested bisexual men and women experience greater physical and mental health disparities than their monosexual peers (Conron, Mimiaga, & Landers, 2010; Dilley, Simmons, Boysun, Pizacani, & Stark, 2010; Ross et al., 2018) as well as important strengths and positive experiences that may be unique to bisexual identification (e.g., Brownfield, Brown, Jeevanba, & VanMattson, 2018; Rostosky, Riggle, Pascale-Hague, & McCants, 2010). There has not, however, been much research on the predictors of well-being among bisexual individuals. This study seeks to add to this literature by investigating a model of predictors of the positive dimensions of psychosocial health for bisexual men.

The Minority Stress Model and LGB Well-Being

A substantial body of empirical research has been developed over the past half century documenting both physical and mental health disparities between sexual minority populations and heterosexuals (Centers for Disease Control & Prevention, 2014; Cochran & Mays, 2006; Fredriksen-Goldsen et al., 2014; Herek & Garnets, 2007; King et al., 2008; Matthews & Lee, 2014; Meyer & Northridge, 2007) and between bisexual and monosexual minorities (Conron et al., 2010; Dilley et al., 2010; Fredriksen-Goldsen, Kim, Barkan, Balsam, & Mincer, 2010; Jorm, Korten, Rodgers, Jacomb, & Christensen, 2002). The minority stress model is the most well-established theory explaining the mental health disparities found among sexual minorities (Herek & Garnets, 2007; Meyer, 1995, 2003). This model posits that due to the social marginalization of their sexual minority status, LGB individuals are subjected to chronic stress above and beyond normative, universally experienced stressors. This additive stress can lead to increased negative health outcomes (Meyer, 1995, 2003).

Despite the ubiquity of the minority stress model in LGB research, there is relatively limited research testing the model with bisexual men, as most research has tended to group bisexual individuals with gay men or bisexual women (Israel, 2018). In addition to experiencing greater mental health disparities relative to monosexual minorities (Ross et al., 2018), bisexual individuals are subject to “double discrimination” from both the LGBT and heterosexual communities (Fredriksen-Goldsen et al., 2014; Mulick & Wright, 2011). Some research has observed this prejudice as being slightly stronger toward bisexual men than woman (Fredriksen-Goldsen et al., 2014). Bisexuals have been shown to experience greater psychosocial distress and less well-being relative to gay men and lesbians (Shilo & Savaya, 2012). Proximal minority stress processes (i.e., internalized biphobia and expectations of stigma) have been found to directly predict mental health outcomes among bisexuals (Brewster, Moradi, DeBlaere, & Velez, 2013). Protective factors, particularly social support, may also be of elevated importance for bisexuals given the potential for ostracization in both straight and queer

contexts (Kertzner, Meyer, Frost, & Stirratt, 2009; Ross, Dobinson, & Eady, 2010; Saewyc et al., 2009). While some studies (Brewster et al., 2013; Shilo & Savaya, 2012) looked at multiple aspects of the minority stress model and used indicators of psychosocial distress and well-being, few included multiple protective factors, such as resilience or positive attitudes toward one's sexuality, and even fewer measured well-being holistically.

Conceptualizing and Operationalizing Psychosocial Well-Being

The ways in which well-being has been conceptualized in the LGB mental health literature have varied widely, ranging from a focus on the absence of psychological distress or mental illness (e.g., Dibble, Eliason, & Crawford, 2012; Rivers & Noret, 2008; Schick, Rosenberger, Herbenick, Calabrese, & Reece, 2012) to theories of psychological well-being (e.g., Jennings & Tan, 2014; Riggle, Rostosky, & Danner, 2009; Selvidge, Matthews, & Bridges, 2008). The most prominent conceptualizations of psychological well-being focus on the achievement of happiness and positive affect (Diener, 1984), optimal functioning (Ryff & Keyes, 1995), or optimal social functioning and attitudes (Cooke, Melchert, & Connor, 2016; Keyes, 1998; Lent, 2004; Ryan & Deci, 2001). Furthermore, empirical evidence shows that the presence of these positive aspects of well-being are distinct from the absence of mental illness (Keyes, 2002; Lent, 2004). Therefore, it is important that research on well-being focuses on the presence of positive dimensions of mental health rather than the absence of mental illness (Cooke et al., 2016; Keyes, 2002).

Researchers may be in general agreement that well-being is distinct from mental illness, but there is far less agreement on a single definition of well-being (Cooke et al., 2016). Within psychological well-being research, there are two primary philosophical approaches: hedonic and eudaimonic well-being (Lent, 2004). Hedonic well-being focuses on the attainment of happiness and pleasure, and is typically associated with Ed Diener's subjective well-being theory, which views well-being as a combination of life satisfaction, positive affect, and minimal negative affect (Diener, Emmons, Larsen, & Griffin, 1985). Eudaimonic well-being, on the other hand, views well-being as living in accord with one's true self or achieving optimal functioning or potential (Lent, 2004; Ryan & Deci, 2001). Two of the most prominent eudaimonic theories are Carol Ryff's psychological well-being theory (PWB; Ryff, 1989), which views well-being as consisting of six dimensions of optimal functioning (e.g., self-acceptance, purpose in life), and Keyes's (1998) social well-being theory, which focuses on five areas of optimal social functioning (e.g., social integration, social contribution). Despite the limitations associated with each of these theories (Lent, 2004; Ryan & Deci, 2001), all of them touch on important aspects of what it means to live a fulfilling and satisfying life. In recognition of this, Keyes (2002) proposed an integrative model of well-being, known as the mental health continuum, consisting of: (a) emotional well-being, or two of the three dimensions of subjective well-being (positive affect and life satisfaction); (b) psychological well-being, or the six dimensions of Ryff's PWB theory; and (c) social well-being, or the five dimensions of Keyes's social well-being theory.

Sexual Minority Well-Being Research

There is a growing body of research at the intersection of positive psychology and sexual minority health (Dickinson & Adams, 2014; Domínguez, Bobele, Coppock, & Peña, 2015; Meyer, 2014; Powdthavee & Wooden, 2015; Riggle, Mohr, Rostosky, Fingerhut, & Balsam, 2014; Riggle &

Rostosky, 2012; Vaughan & Rodriguez, 2014; Vaughan et al., 2014). This literature includes findings of lower eudaimonic well-being among sexual minority adults (Riggle et al., 2009) and lower social well-being among bisexuals relative to gay men and lesbians (Kertzner et al., 2009). A recent study (Bariola, Lyons, & Lucke, 2017) using Keyes' (2002) mental health continuum model and its associated measure, the Mental Health Continuum-Short Form (MHC-SF; Keyes et al., 2008), found that 47% of a sample of lesbians and gay men met Keyes' criteria for flourishing, suggesting significant strengths among lesbians and gay men despite well documented mental health disparities. However, with few exceptions (e.g., Shilo & Savaya, 2012), studies rarely test the major hypotheses of the minority stress model using a holistic measure of psychosocial well-being such as the MHC-SF.

Despite the limited amount of research in this area, some possible predictors of LGB well-being have been identified. For example, a positive view of one's sexual identity (i.e., positive identity valence) has been associated with psychological well-being (Frable, Wortman, & Joseph, 1997; Ghavami, Fingerhut, Peplau, Grant, & Wittig, 2011; Li, Johnson, & Jenkins-Guarnieri, 2013; Luhtanen, 2003), as have various strengths associated with holding an LGB identity (e.g., self-awareness, intimacy; Riggle et al., 2014). Research has also identified general social support as an important factor associated with LGB well-being (Domínguez-Fuentes, Hombrados-Mendieta, & García-Leiva, 2012; Higa et al., 2014; Masini & Barrett, 2008; Riggle & Rostosky, 2012; Wayment & Peplau, 1995) as well as connectedness to the LGBT community (Bachmann & Simon, 2014; Kertzner et al., 2009; Ramirez-Valles, Fergus, Reisen, Poppen, & Zea, 2005; Shilo & Savaya, 2012). While general social support has consistently predicted well-being, there are mixed findings regarding the effects of LGBT-specific support for bisexual individuals (Sheets & Mohr, 2009; Shilo & Savaya, 2012). Coping and resilience, or one's ability to bounce back after stressful experiences, has also been positively associated with well-being in LGB samples (Meyer, 2015; Walker & Longmire-Avital, 2013).

The literature is less clear when it comes to the relationship between minority stress processes and positive mental health outcomes. Some studies have observed minimal influence of discrimination or heterosexist experiences on psychological well-being among sexual minority samples (Morrison, 2011; Selvidge et al., 2008). The relationship between minority stress and well-being for bisexual men is even less clear. Brewster et al. (2013) found a nonsignificant direct effect of antibisexual prejudice on well-being (defined by life satisfaction and self-esteem), but did find a significant indirect relationship through the mediating variable of expectations of stigma. Shilo and Savaya (2012) found that minority stressors, such as lack of family acceptance and identity concealment, and diminished communal and familial support predicted lower well-being among bisexuals, supporting the hypotheses of the minority stress model. No studies addressing the relationship between minority stress and well-being were found that looked at a broader array of protective factors (e.g., resilience, positive views of bisexual identity), used a holistic assessment of well-being, or used a sample exclusively of bisexual men, despite observed gender differences in health disparities (Dilley et al., 2010) among sexual minorities and elevated biphobia directed toward bisexual men (Fredriksen-Goldsen et al., 2014).

The Present Study

This study seeks to further clarify the predictors of psychosocial well-being for bisexual men. The sample was limited to bisexual men due to gender differences among bisexuals, such as noted gender differences in health disparities (Dilley et al., 2010) and elevated biphobia directed toward bisexual

men (Fredriksen-Goldsen et al., 2014; Mohr & Rochlen, 1999). This study investigates (1) the direct effects of minority stress processes on psychosocial well-being, positive minority sexual identity, social support, and resilience; (2) the indirect effects of minority stress on well-being through the mediating variables of positive minority sexual identity, social support, and resilience; (3) the direct effects of social support, resilience, and positive minority sexual identity characteristics on well-being; and (4) the indirect effect of social support on well-being through the mediating variable of positive minority sexual identity. Structural equation modeling (SEM) was used for data analysis for multiple reasons. SEM is a data analytic procedure that is ideal for testing direct and indirect relationships between observed and latent variables (Weston & Gore, 2006). Several of the predictors of interest to this study, such as minority stress processes and positive minority sexual identity characteristics, are not readily assessed by the use of a single indicator. Furthermore, SEM allows for testing both direct and indirect (i.e., mediation) effects within one model, which is particularly useful when studying the hypotheses of the minority stress model, a model that suggests several interrelated variables with causal connections.

The model examined in this study (see Figure 1) was based on Meyer's (2003) minority stress theory with some modifications. Social support was conceptualized to include general support (e.g., family, friends) and LGBT-specific supports. Resilience, rather than coping, was included as the broader construct of coping may not be healthy or adaptive (Meyer, 2015). A latent variable of positive minority sexual identity was measured through the combination of scales measuring positive aspects of LGB identity (e.g., self-awareness, intimacy; Riggle et al., 2014) and positive identity valence (Meyer, 2003). This factor was included to evaluate the effects of positive attitudes toward one's sexual identity on an individual's well-being (Vaughan & Rodriguez, 2014).

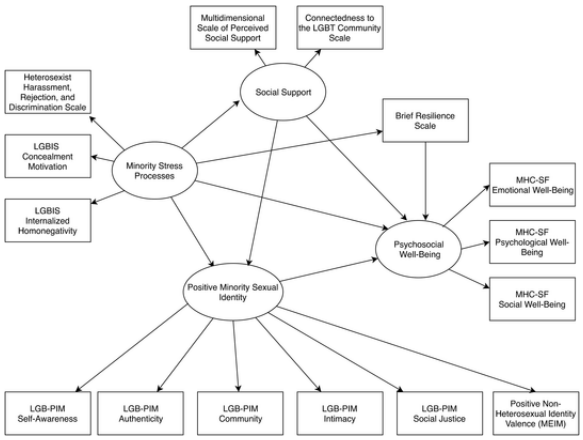

Figure 1. Hypothesized Structural Model. LGBIS = Lesbian, Gay, Bisexual Identity Scales; LGB-PIM = Lesbian, Gay, and Bisexual Positive Identity Measure; MHC-SF = Mental Health Continuum—Short Form.

Several hypotheses were embedded in the model:

1. Minority stress processes would have a negative direct effect on social support, resilience, and positive identity valence, and a nonsignificant direct effect on well-being;
2. Minority stress processes would have nonsignificant indirect effects on well-being through the mediating variables of positive minority sexual identity, social support, and resilience;
3. Positive minority sexual identity would have a positive direct effect on well-being;

4. Social support would have a positive direct effect on positive minority sexual identity and well-being;
5. Social support would have an indirect effect on well-being through the mediating variable of positive minority sexual identity; and
6. Resilience would have a positive direct effect on well-being.

Method

Participants

The study sample included 251 participants who completed a series of online questionnaires. There were 465 individuals who completed part or all of the survey and 317 individuals who completed the full survey. Sixty-three participants identified as gay and were removed from the sample. One of these participants identified as female and another was under the age of 18 years, and both were removed from the sample. An additional participant who identified as straight and identified their past sexual behavior as "exclusively heterosexual" was also removed. The rest of the sample identified as either bisexual (*N* = 212), pansexual (*N* = 11), queer (*N* = 9), or some combination thereof (*N* = 19). Therefore, the final sample included 251 participants. The vast majority of participants (*N* = 218; 87%) identified as White, and the average age of participants was 26.3 (*SD* = 8.1). Additional demographic information for these participants is provided in Table 1.

Table 1. Sample Characteristics

Demographic	*n* (%)
Age	*M* = 26.27 (*SD* = .06)
Gender Identity	
Male	236 (94%)
Transgender, gender nonconforming, or queer identified	12 (4.8%)
Cis-gender male (explicitly identified)	3 (1.2%)
Sexual Identity	
Bisexual	212 (84.4%)
Pansexual	11 (4.4%)
Queer	9 (3.6%)
Some combination of bisexual, pansexual, and queer	19 (7.6%)
Race	
White	218 (86.9%)
Black/African American	8 (3.2%)
American Indian/Alaska Native	2 (.8%)
Latino/Hispanic	19 (7.6%)
Asian	12 (4.8%)
Native Hawaiian or Pacific Islander	0 (0%)
Other	4 (1.6%)
Education	
Did not graduate high school	9 (3.6%)
High school or equivalent (e.g., GED)	41 (15.3%)

Some college (no degree)	84 (33.5%)
Associate's degree (2-year degree)	12 (4.8%)
Bachelor's degree (4 year-degree)	68 (27.1)
Master's degree	23 (9.2%)
Doctoral degree or professional degree (JD, MD)	14 (5.5%)
Income	
Less than $10,000	49 (19.5%)
$10,000–19,999	29 (11.6%)
$20,000–29,999	25 (10.0%)
$30,000–39,999	37 (14.7%)
$40,000–49,999	16 (6.4%)
$50,000–59,999	20 (8.0%)
$60,000–79,999	21 (8.4%)
$80,000–99,999	17 (6.8%)
$100,000–149,999	19 (7.6%)
$150,000 or more	18 (7.2%)
Geographic Location	
Rural	14 (5.6%)
Small town	36 (14.3%)
Suburban town/city	114 (45.4%)
Urban city	87 (34.6%)
Kinsey Scale*	*M* = 3.79 (*SD* = 1.24)
Currently in romantic relationship	111 (44.2%)

* Kinsey Scale measures sexual behavior, with 1 indicating exclusively heterosexual sexual behavior and 7 indicating exclusively homosexual behavior.

Sample Characteristics

When asked to describe the sexual behavior in their lifetime, 44.4% of participants (*N* = 111) described their sexual behavior as somewhere between exclusively heterosexual and bisexual, while 25.6% (*N* = 64) described their sexual behavior as somewhere between exclusively homosexual and bisexual, with the rest describing their behavior as equally heterosexual and homosexual (*N* = 75; 30%; one participant did not answer). The average age in which participants became aware of their sexual orientation was 17 years old; 83.7% of participants (*N* = 210) reported being "out"; and among those who were out, the mean age in which they came out was 20 years old. Slightly under half of participants (*N* = 111; 44.2%) indicated they were currently in a romantic relationship, and of those who were currently in a relationship, 27 (17.8%) indicated they were in a relationship with a male-identified partner and 79 (26.4%) indicated they were in a relationship with a female-identified partner (other participants identified their partner as "queer," "gender queer," or "gender fluid").

Procedure

The majority of participants were recruited online through e-mail invitations and postings to social media platforms (e.g., LGBT-specific Facebook groups, LGBT Reddit pages). Snowball sampling techniques were also used by encouraging individuals to share information regarding the study on

social media with others who might qualify for the study. Participants were also recruited at an LGBT pride festival in a midwestern city, where individuals provided consent to be contacted in the future and were given a link to the e-mail survey.

Data were collected through Qualtrics, an online survey platform. Informed consent was obtained on the first page of the survey, which was followed by a demographic questionnaire and the survey measures. At the end of the survey, participants were given the option to enter a drawing for one of four $25 Amazon gift cards.

Measures

Psychosocial well-being

For this study, psychosocial well-being was defined as the positive dimensions of psychosocial health and was measured by the Mental Health Continuum-Short Form (MHC-SF; Keyes et al., 2008). The MHC-SF was developed as a relatively short instrument (14 items total) for measuring three dimensions of positive mental health: (a) emotional well-being (3 items); (b) psychological well-being (6 items); and (c) social well-being (5 items). The instrument asks participants to indicate how often they felt a given feeling or attitude in the past month using a 6-point scale ranging from 1 (*never*) to 6 (*almost every day*). For example, one item asks, "How often in the past month have you felt happy?" and another asks, "How often in the past month have you felt that you had warm and trusting relationships with others?" The measure was first used with a sexual minority population by Bariola et al. (2017) and has been shown to discriminate from measures of psychological distress and has good convergent validity with measures of positive mental health (Bariola et al., 2017; Keyes et al., 2008). For the present sample, the three subscales demonstrated strong to adequate internal reliability (emotional well-being subscale, $\alpha = .88$; social well-being subscale, $\alpha = .76$; and psychological well-being subscale, $\alpha = .82$).

Minority stress processes

The gay/bisexual male version of the Heterosexist Harassment, Rejection, and Discrimination Scale (HHRDS) was used to measure the distal minority stress processes of experienced prejudicial events due to minority sexual identity (Szymanski, 2006, 2009). The 14-item HHRDS is designed to assess the frequency of heterosexist acts of (1) harassment and rejection; (2) workplace and school discrimination; and (3) other discrimination. Using a 6-point scale ranging from 1 (*never happened to you*) to 6 (*almost all the time*), participants are asked to indicate the frequency with which they have experienced a prejudicial event in the past year because they are a sexual minority. Sample items include, "How many times have you been rejected by friends because you are a lesbian?" and another asks, "How many times have you heard anti-gay remarks from family members?" Prior studies have supported a three-factor structure for the items and provided evidence of convergent validity with measures of psychological distress (Szymanski, 2006, 2009). For this study, item language was modified to be inclusive of sexual minority men who do not identify as gay or bisexual. Internal consistency was strong ($\alpha = .90$) in the present study sample.

To measure the proximal minority stress processes defined in Meyer's (2003) model, two subscales from the Lesbian, Gay, and Bisexual Identity Scale (LGBIS; Mohr & Kendra, 2011) were used: (1) Concealment Motivation and (2) Internalized Homonegativity. All items ask participants to respond based on their experience as an LGB person, using a 6-point scale from 1 (*strongly disagree*) to 6

(*strongly agree*). The Concealment Motivation scale includes 3 items measuring one's "concern with and motivation to protect one's privacy as an LGB person" (Mohr & Kendra, 2011, p. 239). For example, one item is worded, "I keep careful control over who knows about my same-sex romantic relationships." A moderately positive correlation with a measure of self-concealment helped to establish convergent validity, while discriminant validity was established through a moderately negative correlation with a measure of outness (Mohr & Kendra, 2011). The Internalized Homonegativity scale includes three items measuring the degree to which one rejects his sexual minority identity. For example, one states, "I wish I were heterosexual." Convergent Validity was supported with a strong correlation with a measure of ego dystonic homosexuality (Mohr & Kendra, 2011). When necessary, item wording was modified to accommodate this study's sample (e.g., "non-heterosexual" was used instead of "LGB"). The internal consistency coefficients for these two scales were both strong (α = .86 and .92, respectively).

Positive minority sexual identity

An LGB-specific adaptation (Fingerhut, Peplau, & Ghavami, 2005; Ghavami et al., 2011) of the Multigroup Ethnic Identity Measure (MEIM; Phinney, 1992) was used to measure the degree to which one feels positively toward his minority sexual orientation. The 12-item measure assesses sexual identity affirmation, belonging, and achievement on a 6-point scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*; Fingerhut et al., 2005; Ghavami et al., 2011). Two sample items include, "I feel good about being LGBT," and "I have a clear sense of my LGBT identity and what it means for me." The measure has shown good reliability with lesbian and gay male samples (Fingerhut et al., 2005; Ghavami et al., 2011) and convergent validity with self-esteem (Phinney, 1992). The measure's strong psychometric properties and use in prior studies with sexual minorities supported its use in the present study. Strong reliability (α = .87) was found in the present sample.

The Lesbian, Gay, and Bisexual Positive Identity Measure (LGB-PIM) was used to measure the degree to which individuals believe their minority sexual orientation has helped them to develop specific positive characteristics in their lives (Riggle et al., 2014). Items were developed based on several qualitative studies, including one with a sample of bisexual individuals (Rostosky et al., 2010). The instrument includes five subscales, each with 5 items that use a 7-point response scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Exploratory and confirmatory factor analyses on different samples supported the measure's five factor structure (Riggle et al., 2014).

The Self-Awareness subscale assesses whether an individual perceives his LGB identity as having positively influenced his insight into himself (e.g., "My LGBT identity leads to me to important insights about myself"). Construct validity was supported with a statistically significant correlation with a measure of emotional self-awareness. Internal consistency in the present study was strong (α = .94). The Authenticity subscale is defined as "a comfort with one's LGB identity and with expressing one's identity in interaction with others," including items such as, "I am honest with myself about my LGBT identity" (Riggle et al., 2014, p. 403). Internal consistency was good (α = .88). The scale was correlated with a measure of authentic living and negatively associated with a measure of self-alienation, suggesting good construct validity. The Community subscale measures an individual's perception of "involvement with and support from LGBT communities," as measured by items such as, "I feel supported by the LGBT community" (Riggle et al., 2014, pp. 403–404). Internal consistency was strong

(α = .91). Construct validity was supported by a moderate positive correlation with a measure of group identity. The Intimacy subscale assesses the degree to which one believes his LGBT identity increases his ability to be intimate and sexually free (e.g., "My LGBT identity allows me to be closer to my intimate partner"). A low positive correlation between this scale and a measure of emotional intimacy suggested adequate construct validity. In the present study, internal consistency was good (α = .87). The Social Justice subscale measures the degree to which one's LGBT identity is perceived to have positively influenced one's awareness and concern with various types of social injustice and efforts to bring about positive social change (e.g., "As an LGBT person, it is important to act as an advocate for LGBT rights"). Construct validity evidence was provided through a moderate positive correlation with a measure of attitudes regarding social justice. In the present study, internal consistency was excellent (α = .92).

Social support

To measure social support and connectedness, the Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem, Zimet, & Farley, 1988) and Connectedness to the LGBT Community Scale (Frost & Meyer, 2012) were used. The 12-item MSPSS assesses the perceived social support received from family, friends, and significant others using a 7-point scale ranging from 1 (*very strongly disagree*) to 7 (*very strongly agree*). It includes items such as, "I get the emotional help and support I need from my family." Factor analysis has supported the three-factor structure, and negative correlations with measures of depression and anxiety support the validity of the measure (Zimet et al., 1988). The measure has been used in multiple studies with sexual minority men (e.g., Schwartz, Stratton, & Hart, 2016). In the present study, internal consistency was strong (α = .91).

The 8-item Connectedness to the LGBT Community Scale was developed by Frost and Meyer (2012) to focus on perceived connectedness to the LGBT community as opposed to participation in the community, and uses a 4-point scale ranging from 1 (*agree strongly*) to 4 (*disagree strongly*). This is assessed through items such as, "You feel a bond with the LGBT community." The original study's factor analysis supported one overarching factor and demonstrated adequate predictive validity through positive correlations with measures of psychological well-being and social support (Frost & Meyer, 2012). Scores were reverse coded and in the present study, internal consistency was good (α = .88).

Resilience

The Brief Resilience Scale (BRS; Smith et al., 2008) conceptualizes resilience as "bouncing back from stress" (Smith et al., 2008, p. 195). For example, one item reads, "I tend to bounce back quickly after hard times." This 6-item measure uses a 5-point response scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The measure has shown high correlations with other measures of resilience as well as measures of optimism, purpose in life, and social support. In the present study, internal consistency was strong (α = .90).

Data Analysis

Data were analyzed using the two-step procedure recommended by Kline (2016) in which the measurement model is first analyzed and modified followed by analysis of the full structural model. All models were analyzed using the lavaan package for R, Version 0.5–23.1097 (Yves, 2012). All latent factors were standardized so as to have a mean of 0 and a variance of 1. Due to a lack of multivariate

normality in the data, all models were analyzed using the "MLR" estimator—a maximum likelihood estimator (MLE) that uses the Yuan-Bentler residual-based χ^2 correction for non-normal data (Lei & Wu, 2012). Full information maximum likelihood (FIML) was used to address missing data. FIML uses a statistical method that does not require listwise deletion or imputation of missing values, and therefore allows for the inclusion of all cases (Kline, 2016).

Following the recommendations of Kline (2016), the Yuan-Bentler residual-based χ^2(i.e., chi-square goodness of fit test), the root mean square error of approximation (RMSEA), the Comparative Fit Index (CFI), and the Standardized Root Mean Square Residual (SRMR) were used to evaluate the global fit of the models. For the χ^2 statistic, *p* values greater than .05 indicate exact model fit, and values less than .05 indicate poor model-data fit (Martens, 2005). For RMSEA, values lower than .06 generally indicate good fit, with values between .06 and .08 indicating acceptable fit, and values above .10 being potentially unacceptable fit (West, Taylor, & Wu, 2012). For CFI, values greater than .95 indicate good model fit, while for SRMR, values less than .08 indicate good model fit (West et al., 2012).

Multiple power analysis guidelines were consulted (e.g., Kline, 2016; Weston & Gore, 2006) that suggested the need for a sample size of between 200 and 500 participants. In addition, the minimum sample size necessary for conducting the RMSEA test for measure of model fit was computed through use of the statistical calculator developed by Preacher and Coffman (2006). This resulted in a recommended minimum sample size of 187.5 participants.

Results

To ensure that the statistical assumptions of SEM were met, analyses were run to assess for multivariate normality and multicollinearity. Data from only three scales were normally distributed, while the rest deviated from normality significantly based on an assessment of the histograms, Q-Q plots, skewness/kurtosis, and Shapiro-Wilk normality statistics. Transformations were therefore tested in an attempt to correct for the lack of normality in the data. These transformations only slightly improved the data distributions and consequently were not used in subsequent analyses. Instead, the Yuan-Bentler residual-based χ^2 was used to help minimize error introduced by the lack of normal distributions (Lei & Wu, 2012).

Bivariate correlations were analyzed to assess multicollinearity among the predictor variables (see Table 2). Most of these correlations were not high enough to suggest multicollinearity. Of concern, however, were the correlations between (a) MEIM and the LGB-PIM authenticity scale, (b) MEIM and the Connectedness to the LGBT Community scale, (c) the Connectedness to the LGBT Community scale and the LGB-PIM Community scale, and (d) the Connectedness to the LGBT Community scale and the LGB-PIM Social Justice, all of which were equal to or greater than .72. These correlations were nonetheless deemed acceptable given the strong internal consistency of the scales (Grewal, Cote, & Baumgartner, 2004) and the ability to address collinearity issues through theoretically guided modifications to the model (e.g., setting the error terms of highly correlated variables to covary when theoretically appropriate; Kline, 2016).

Table 2. Bivariate Correlations

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
MHC-SF - Emotional Well-Being														
MHC-SF - Psychological Well-Being	.74**													
MHC-SF - Social Well-Being	.64**	.67*												
HHRDS	-.10	-.03	-.17*											
LGBIS - Concealment Motivations	-.19*	-.16	-.23**	-.02										
LGBIS - Internalized Homonegativity	.01	-.05	-.01	.04	.27**									
MEIM	.19*	.20*	.21**	.30**	-.40**	-.34**								
LGB-PIM Self-Awareness	.17*	.20*	.12	.34**	-.18*	-.13	.63**							
LGB-PIM Authenticity	.30**	.30**	.31**	-.02	-.52**	-.53**	.54**	.30**						
LGB-PIM Community	.26**	.22**	.28**	.08	-.36**	-.31**	.73**	.46**	.47**					
LGB-PIM Intimacy	.22**	.26**	.11	.21**	-.21**	-.20*	.55**	.55**	.43**	.43**				
LGB-PIM Social Justice	.04	.04	-.03	.27**	-.12	-.12	.61**	.64**	.19*	.41**	.43**			
MSPSS	.48**	.53**	.48**	-.12	-.16	-.01	.25**	.14	.27**	.31**	.30**	.04		
Connectedness to LGBT Community	.13	.11	.16	.22**	-.29**	-.25**	.79**	.62**	.33**	.72**	.49**	.74**	.14	
BRS	.50**	.54**	.41**	-.08	-.07	-.03	.06	.02	.22**	.10	.13	-.11	.24**	-.03

Note. MHC-SF = Mental Health Continuum—Short Form; HHRDS = Heterosexist Harassment, Rejection, and Discrimination Scale; LGBIS = Lesbian, Gay, Bisexual Identity Scales; MEIM = Multigroup Ethnic Identity Measure; LGB-PIM = Lesbian, Gay, and Bisexual Positive Identity Measure; MSPSS = Multidimensional Scale of Perceived Social Support; BRS = Brief Resilience Scale.

*$p < .01$. **$p < .001$.

Measurement Model - Confirmatory Factor Analysis (CFA)

Confirmatory factor analysis was used to analyze the measurement portion of the model. Two slight a priori modifications were made based on an examination of bivariate correlations: The Connectedness to the LGBT Community scale was set to covary with both the Community and Social Justice scales of the LGB-PIM to help correct for potential collinearity issues. After initially running the analysis, three modifications were made to produce a positive definite latent variable covariance matrix, one of the statistical assumptions for MLE (Kline, 2016). The original measurement model produced a positive indefinite latent variable covariance matrix as indicated by implausibly high correlations between positive minority sexual identity and minority stress (r = −1.22) and social support (*r* = 1.47). This indicated that some combination of one or more of the observed indicators of each latent variable was too highly correlated. Model modifications were made to resolve this problem in a manner that was statistically and theoretically justified and resulted in as few modifications as possible. This approach resulted in removal of one indicator from each of the three identified latent variables: (1) the HHRDS from minority stress, (2) LGB-PIM Authenticity scale from positive minority sexual identity, and (3) the Connectedness to the LGBT Community scale from social support. The HHRDS was removed based on its significant deviation from normality (skew = 1.56, kurtosis = 3.12), which reflected minimal reporting of prejudicial experiences by the individuals in this sample. Removal of the HHRDS did not resolve the collinearity problem between the minority stress and positive minority sexual identity latent variables. Therefore, the LGB-PIM Authenticity scale was considered for removal since it had the highest bivariate correlations between any of the observed indicators of the minority stress and positive minority sexual identity latent variables (*r* = .53 and .52, with the LGBIS Concealment Motivation and Internalized Homonegativity scales, respectively). Furthermore, the items on the LGB-PIM authenticity scale focus on how much one feels comfortable identifying openly as LGBT, which may be seen as the inverse of the minority stress process of concealment motivation (i.e., not being comfortable openly identifying as LGBT to others). Therefore, it seemed highly plausible that these scales were assessing the same construct, thus violating the assumption of multicollinearity. To resolve the issue of collinearity between the positive minority sexual identity and social support latent variables, the Connectedness to the LGBT Community scale was removed from the model. This was done because of the aforementioned high correlations between the Connectedness to the LGBT Community scale and several indicators of the positive minority sexual identity latent variable. The scale also appeared to have substantial theoretical overlap with the LGB-PIM Community and MEIM scales. With this change, the social support latent variable had only one indicator and was changed from a latent to an observed variable, resulting in the removal of the social support latent variable from the measurement model entirely.

With these modifications, the model converged normally. All observed variables had highly significant factor loadings, but model fit was poor (Yuan-Bentler residual-based χ^2 = 123.110, $p < .000$; robust RMSEA = .107, 90% CI [.088, .126]; CFI = .906; SRMR = .065). To identify ways to improve the model fit, modification indices were consulted. Following best practices in SEM, decisions for modifications were made only if they were theoretically justified (Kline, 2016). After consulting modification indices, the following error terms for the observed indicators of the positive minority sexual identity latent variable were set to covary with one another: (a) LGB-PIM Self-Awareness scale with LGB-PIM Social Justice scale; (b) LGB-PIM Self-Awareness scale with LGB-PIM Community scale; (c) LGB-PIM Self-Awareness

scale with LGB-PIM Intimacy scale; and (d) LGB-PIM Intimacy scale with LGB-PIM Social Justice scale. This was deemed theoretically acceptable given the strong possibility that the scales share common sources of error, such as one's introspective abilities or level of extraversion. Modification indices also suggested the MEIM and the LGB-PIM Social Justice scale could be allowed to covary to improve model fit. This seemed theoretically justified as both scales assess the degree to which one is invested in learning about and taking part in the LGBT community.

These modifications resulted in a much-improved model fit (Yuan-Bentler residual-based χ^2 = 57.780, $p < .000$; robust RMSEA = .067, 90% CI [.044, .091]; CFI = .968; SRMR = .049). Factor loadings ranged from .463 to .943. The covarying error terms were all statistically significant with the exception of the covarying term for the LGB-PIM Self-Awareness scale and the LGB-PIM Community scale (p = .069).

Residual correlations were also consulted to assess model fit. As a general rule, residual correlations greater than .1 suggest that the relationship between the two variables is not well accounted for by the model (Kline, 2016). Residuals were below .1 for all variables except two that were only slightly above the .1 threshold (−.15 and −.11, respectively). Since the residual correlations for these variables was only slightly greater than .1 and the model fit was adequate, this did not appear to warrant additional modifications.

Structural Model

The hypothesized structural model (see Figure 1) was analyzed with modifications made to the measurement model outlined above. The model converged normally, but model fit was poor (Yuan-Bentler residual-based χ^2 = 94.183, $p < .000$; robust RMSEA = .069, 90% CI [.07, .102]; CFI = .955; SRMR = .062). All factor loadings were highly significant ($p > .000$).

Residual correlations were consulted to evaluate model fit and identify possible modifications (Kline, 2016). The sole residual correlation well above .1 was between the observed indicators of social support (MSPSS) and resilience (BRS; r = .211). These scales were set to covary as it seemed theoretically plausible for perceived social support and resilience to have correlated error terms as both may be influenced by factors such as childhood upbringing and personality traits (e.g., extroversion, conscientiousness).

This minor modification improved global model fit (Yuan-Bentler residual-based χ^2 = 81.693, $p < .000$; robust RMSEA = .061, 90% CI [.042, .080]; CFI = .965; SRMR = .052) and lowered residual correlations to levels similar to the measurement model. While χ^2 did not indicate good fit, CFI and SRMR indicated good model fit, and RMSEA model fit was on the boundary between good and acceptable model fit. All factor loadings were highly significant (i.e., $p < .000$; see Table 3 and Figure 2 for all parameter estimates). The model accounted for 59% of the variance in both well-being and positive minority sexual identity.

Table 3. Structural Model Parameter Estimates

Parameter Estimates	Indicator	B	*SE*	Z	*p*-value	β
Latent Variable						
Well-Being	MHC-SF - Emotional Well-Being	.59	.04	13.72	.00	.83
	MHC-SF - Social Well-Being	.52	.04	11.66	.00	.76
	MHC-SF - Psychological Well-Being	.63	.04	15.61	.00	.89
Minority Stress Processes	LGBIS-Concealment Motivations	.80	.13	6.29	.00	.57
	LGBIS-Internalized Homonegativity	.52	.10	5.13	.00	.47
Positive Minority Sexual Identity	LGB-PIM Self-Awareness	.66	.13	4.87	.00	.66
	LGB-PIM Intimacy	.50	.10	4.99	.00	.58
	LGB-PIM Community	.72	.13	5.77	.00	.78
	LGB-PIM Social Justice	.49	.11	4.23	.00	.50
	MEIM	.56	.10	5.64	.00	.94
Regression Estimates						
Well-Being	MSPSS	.61	.08	7.17	.00	.45
Well-Being	BRS	.81	.10	8.06	.00	.47
Well-Being	Minority Stress	-.13	.29	-.44	.66	-.08
Well-Being	Positive Minority Sexual Identity	.05	.16	.33	.74	.05
Social Support	Minority Stress Processes	-.22	.12	-1.78	.08	-.19
BRS	Minority Stress Processes	-.08	.09	-.98	.33	-.09
Positive Minority Sexual Identity	Minority Stress Processes	-1.11	.35	-3.20	.00	-.72
Positive Minority Sexual Identity	Social Support	.23	.10	2.21	.03	.17
Error Covariance Estimates						
LGB-PIM Self-Awareness	LGB-PIM Social Justice	.73	.13	5.82	.00	.47
LGB-PIM Self-Awareness	LGB-PIM Community	-.16	.08	-2.00	.05	-.15
LGB-PIM Self-Awareness	LGB-PIM Intimacy	.33	.12	2.87	.00	.26
LGB-PIM Intimacy	LGB-PIM Social Justice	.29	.11	2.71	.01	.20
LGB-PIM Social Justice	MEIM	.20	.06	3.37	.00	.47
MSPSS	BRS	.24	.07	3.46	.00	.23
Error Estimates						

MHC-SF - Emotional Well-Being		.38	.05	7.67	.00	.31
MHC-SF - Social Well-Being		.50	.05	9.54	.00	.43
MHC-SF - Psychological Well-Being		.25	.04	6.21	.00	.21
LGBIS-Concealment Motivations		1.36	.19	7.08	.00	.68
LGBIS-Internalized Homonegativity		.97	.12	8.01	.00	.78
LGB-PIM Self - Awareness		1.36	.14	9.88	.00	.56
LGB-PIM Intimacy		1.19	.12	9.58	.00	.66
LGB-PIM Community		.80	.11	7.61	.00	.39
LGB-PIM Social Justice		1.73	.16	10.68	.00	.75
MEIM		.11	.05	2.25	.02	.12
MSPSS		1.32	.16	8.37	.00	.97
BRS		.82	.06	13.08	.00	.99

Note. B = unstandardized parameter estimate; SE = standard error; Z = z-score; β = standardized parameter estimate; MHC-SF = Mental Health Continuum—Short Form; LGBIS = Lesbian, Gay, Bisexual Identity Scales; LGB-PIM = Lesbian, Gay, and Bisexual Positive Identity Measure; MEIM = Multigroup Ethnic Identity Measure; MSPSS = Multidimensional Scale of Perceived Social Support; BRS = Brief Resilience Scale.

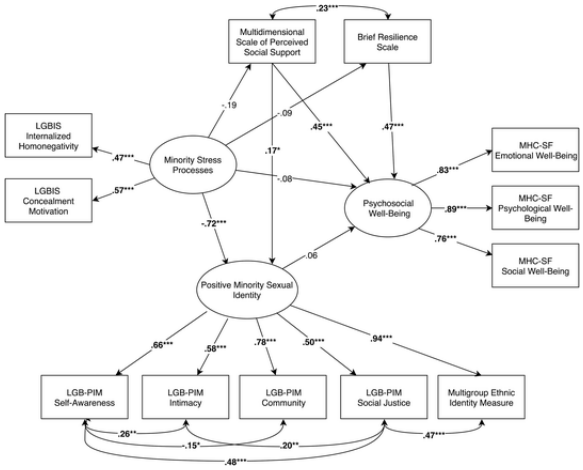

Figure 2. Structural Model 2 With Parameter Estimates. LGBIS = Lesbian, Gay, Bisexual Identity Scales; LGB-PIM = Lesbian, Gay, and Bisexual Positive Identity Measure; MHC-SF = Mental Health Continuum—Short Form. Error estimates are not included. Bolded numbers indicate statistical significance.
* p < .05. ** p < .01. *** p < .001.

Hypothesis 1: Direct effects of minority stress

As hypothesized, minority stress had a statistically insignificant direct effect on well-being (β = −.083, *SE* = .294, z = −.442, *p* = .658) and a statistically significant direct effect on positive non-heterosexual identity (β = −.715, *SE* = .349, z = −3.197, *p* = .001). Contrary to hypotheses, minority stress had statistically insignificant direct effects on social support (β = −.187, *SE* = .123, z = −1.78, *p* = .075) and resilience (β = −.093, *SE* = .086, z = −.983, *p* = .326).

Hypothesis 2: Mediating effects of minority stress' effect on well-being

Minority stress had nonsignificant indirect effects on well-being through the mediating variables of social support (β = −.085, *SE* = .078, z = −1.69, *p* = .091), resilience (β = −.044, *SE* = .07, z = −.977, *p* = .329), and positive minority sexual identity (β = −.039, *SE* = .185, z = −.033, *p* = .742).

Hypothesis 3: Direct effect of positive minority sexual identity on well-being

The positive minority sexual identity latent variable did not have a statistically significant effect on well-being (β = .055, *SE* = .164, z = .333, *p* = .739).

Hypothesis 4: Direct effect of social support on well-being

Social support did have a statistically significant and positive effect on well-being (β = .454, *SE* = .084, z = 7.166, *p* < .000).

Hypothesis 5: Mediating effect of social support's effect on well-being

Contrary to hypothesis, the indirect effect of social support on well-being through the mediating variable of positive minority sexual identity was not significant (β = .009, *SE* = .039, z = .321, *p* = .748).

Hypothesis 6: Direct effect of resilience on well-being

Resilience also had a statistically significant and positive effect on well-being (β = .471, *SE* = .1, z = 8.064, *p* < .000).

Discussion

This study sought to assess the relationships between minority stress processes, including prejudicial experiences and internalized stigma, universal and sexual minority specific protective factors, and well-being on a sample of bisexual men. Unfortunately, the HHRDS measure, which assessed experiences of discrimination, was not included in the final model. Therefore, it is more appropriate to conceptualize this latent variable as measuring some of the proximal minority stress processes indicated in Meyer's (2003) minority stress theory.

The hypothesis that minority stress processes would have a nonsignificant effect on well-being was entirely supported. This finding is congruent with some previous research that found minority stress processes, such as experiencing prejudicial events and concealing one's identity, were not significant predictors of psychological well-being (e.g., Selvidge et al., 2008), while divergent from other studies that found a significant effect (e.g., Shilo & Savaya, 2012). While previous research has shown that internalized homonegativity and identity concealment are significant predictors of psychological distress (see Meyer, 2003), this finding suggests that these proximal minority stress processes may be less influential on psychosocial well-being than they are on psychosocial distress in bisexual men.

Although this study did not directly compare the effects of these proximal minority stress processes on both psychosocial well-being and distress, it nevertheless provides additional support for the notion that psychological distress and psychological well-being should be understood as related but distinct constructs with different predictors for LGB individuals. It appears that the mere absence of internalized homonegativity and identity concealment may not increase the likelihood that non-heterosexual men will experience the added presence of positive affect, meaning in life, or social connection. Put another way, the absence of additive minority stress does not automatically increase the likelihood that one will lead a happy or fulfilling life in the same way it decreases the likelihood that one experiences psychological distress. For an increased likelihood of elevated well-being in non-heterosexual men, the presence of other positive factors, such as social support or resilience, are likely needed.

Unexpectedly, minority stress had statistically insignificant effects on social support and resilience, although the effect of minority stress on social support approached statistical significance ($p = .075$) and the relationship was in the expected negative direction. This finding may be at least partially explained by the variables used to measure minority stress: other proximal minority stress processes, such as expectations of rejection or stigma, may have a more deleterious effect on social support and resilience than internalized homonegativity or identity concealment given past research findings (e.g., Brewster et al., 2013). Minority stress also did not indirectly affect well-being through the intervening variables of social support and resilience. While this mediating effect was absent from this study's sample, it may be that social support, resilience, and positive minority sexual identity moderate the effect of minority stress processes on well-being. Unfortunately, due to statistical limitations, the model was unable to assess for this moderator effect (see the study limitations section below).

As hypothesized, minority stress had a statistically significant direct and large effect on positive minority sexual identity, while social support had a positive, albeit small, direct effect on positive minority sexual identity. This finding aligns well with prior theory and empirical findings suggesting that

minority stress processes would negatively impact one's outlook toward their minority sexual identity (Meyer, 2003). The effect of social support on well-being was not mediated through positive sexual identity. Once again, it may be that positive minority sexual identity plays a moderating, rather than mediating, role in the relationship between social support and well-being in bisexual men.

The hypothesis that positive minority sexual identity would have a statistically significant and positive effect on well-being was entirely unsupported. This finding contradicts previous empirical research that suggested a positive relationship between positive views of one's sexual identity and well-being (e.g., Higa et al., 2014; Keleher, Wei, & Liao, 2010; Riggle et al., 2014). There are two theoretically viable explanations for this finding. The most straightforward explanation is that universal protective factors such as social support and resilience have far more predictive value for the well-being of non-heterosexual men; therefore, these variables captured the variance in well-being better than the positive minority sexual identity latent variable. A second possible explanation is that holding a positive view of one's sexual identity might be conceptualized better as a variable moderating the effect of other predictors on well-being. In other words, holding positive beliefs about one's identity might dampen the negative effects of minority stress on well-being, but it may not directly increase (or decrease) the well-being of bisexual men. This would fit with Meyer's (2003) theory of minority stress that views factors such as positive identity valence as moderating, rather than mediating, the deleterious effect on minority stress on mental health outcomes.

The hypotheses that social support and resilience would have statistically significant and positive effects on well-being was fully supported by the model. The medium effect sizes (r = .45 and r = .47, respectively) indicate that the perception of having social support and being able to bounce back from stress has a moderate to strong effect on one's psychosocial well-being. These findings are remarkable given that social support and resilience were the only significant predictors of well-being in the model. This suggests that these universal protective factors may have a more profound impact on well-being for LGB individuals than LGB-specific factors such as positive sexual identity. What might explain the lack of significant effects on well-being for the variables specific to minority sexual identity? The most straightforward answer might be that positive universal factors such as social support and resilience are simply more determinative of one's psychosocial well-being than factors specific to one's sexual identity. Additional research is necessary to clarify whether this is the case.

Limitations

This study's strengths come with some important limitations. Although the study sample was statistically adequate, there are several issues that limit the generalizability of the findings. The sample was overwhelmingly White, and therefore underrepresented bisexual men of color. Additionally, as is often a problem in research with LGBT populations (Meyer & Wilson, 2009), the sample may not be representative of the broader non-heterosexual male population, as participants were largely recruited through social media outlets.

Virtually all of the scores from the scales used in the final model had non-normal distributions. While statistical procedures were used to minimize the impact of the non-normal data on the analysis, it is possible that non-normality introduced unique error into the model. Several scales that were originally intended to be included in the model, such as the Connectedness to the LGBT Community scale and

the authenticity scale of the LGB-PIM, were removed for statistical reasons. Excluding these variables may have affected the findings of the model in general.

The minority stress model (Meyer, 2003) includes several factors (e.g., social support, resilience, positive sexual identity valence) as moderators of the negative relationship between minority stress and mental health. Analyzing these moderator effects in the present study required the creation of several product terms, which significantly increased the number of model parameter estimates. Unfortunately, when this was attempted, the model was underidentified and unable to be analyzed. Therefore, it was decided to exclude all moderator effects, as testing select moderators might have changed the model's overall outcome in ways that may not have occurred had all moderators been included. Not being able to identify whether these variables had significant moderation effects as theorized by Meyer (2003) substantially limits the study's conclusions.

Conclusions

The authors found no prior study that used SEM to test a broad model of psychosocial well-being for bisexual men. Previous studies on LGB mental health have often used regression analysis that do not allow for testing a comprehensive model with specified relationships between multiple variables (e.g., Morrison, 2011). By using SEM, this study was able to show that social support and resilience have a much stronger impact on well-being than minority stress processes and positive sexual minority identity when all of these variables are tested together in a comprehensive manner. This study also appears to be the first to use a comprehensive conceptualization of well-being to investigate predictors of sexual minority mental health in a sample of bisexual men. The use of the MHC-SF strengthened this study's claim to be measuring psychosocial well-being rather than a more specific construct (e.g., life satisfaction, happiness, purpose in life) or merely the absence of psychosocial distress.

The present study's findings add additional empirical support to the suggestion that LGB mental health be considered more holistically and not be solely based on factors shown to predict psychological distress. It is noteworthy that proximal minority stress processes and positive attitudes toward one's sexual identity did not have statistically significant effects on well-being in the present study, while the universal protective factors of social support and resilience had moderate-to-strong effects on well-being. The latter finding regarding social support and resilience aligns well with prior LGBT mental health research (Dickinson & Adams, 2014; Herek & Garnets, 2007; Meyer, 2003, 2015; Riggle, Whitman, Olson, Rostosky, & Strong, 2008; Selvidge et al., 2008), while the finding regarding the effects of internalized stigma contradicts a central hypothesis of the minority stress model (Meyer, 2003).

References

Bachmann, A. S., & Simon, B. (2014). Society matters: The mediational role of social recognition in the relationship between victimization and life satisfaction among gay men. *European Journal of Social Psychology*, *44*, 195–201. 10.1002/ejsp.2007

Bariola, E., Lyons, A., & Lucke, J. (2017). Flourishing among sexual minority individuals: Application of the dual continuum model of mental health in a sample of lesbians and gay men. ***Psychology of Sexual Orientation and Gender Diversity***, *4*, 43–53. 10.1037/sgd0000210

Brewster, M. E., Moradi, B., DeBlaere, C., & Velez, B. L. (2013). Navigating the borderlands: The roles of minority stressors, bicultural self-efficacy, and cognitive flexibility in the mental health of bisexual individuals. *Journal of Counseling Psychology*, *60*, 543–556. 10.1037/a0033224

Brownfield, J. M., Brown, C., Jeevanba, S. B., & VanMattson, S. B. (2018). More than simply getting Bi: An examination of coming out growth for bisexual individuals. ***Psychology of Sexual Orientation and Gender Diversity***, *5*, 220–232. 10.1037/sgd0000282

Centers for Disease Control and Prevention. (2014). *Lesbian, gay, bisexual, and transgender health*. Atlanta, GA: Author. Retrieved from http://www.cdc.gov/lgbthealth/

Cochran, S. D., & Mays, V. M. (2006). Estimating prevalence of mental and substance-using disorders among lesbians and gay men from existing national health data. In A. M.Omoto & H. S.Kurtzman (Eds.), *Contemporary perspectives on lesbian, gay, and bisexual psychology: Sexual orientation and mental health* (pp. 143–165). Washington, DC: American Psychological Association. 10.1037/11261-007

Conron, K. J., Mimiaga, M. J., & Landers, S. J. (2010). A population-based study of sexual orientation identity and gender differences in adult health. *American Journal of Public Health*, *100*, 1953–1960. 10.2105/AJPH.2009.174169

Cooke, P. J., Melchert, T., & Connor, K. (2016). Measuring well-being: A review of instruments. *The Counseling Psychologist*, *44*, 730–757. 10.1177/0011000016633507

Dibble, S. L., Eliason, M. J., & Crawford, B. (2012). Correlates of wellbeing among African American lesbians. *Journal of Homosexuality*, *59*, 820–838. 10.1080/00918369.2012.694763

Dickinson, P., & Adams, J. (2014). Resiliency and mental health and well-being among lesbian, gay and bisexual people. *International Journal of Mental Health Promotion*, *16*, 117–125. 10.1080/14623730.2014.903621

Diener, E. (1984). Subjective well-being. *Psychological Bulletin*, *95*, 542–575. 10.1037/0033-2909.95.3.542

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, *49*, 71–75. 10.1207/s15327752jpa4901_13

Dilley, J. A., Simmons, K. W., Boysun, M. J., Pizacani, B. A., & Stark, M. J. (2010). Demonstrating the importance and feasibility of including sexual orientation in public health surveys: Health disparities in the Pacific Northwest. *American Journal of Public Health*, *100*, 460–467. 10.2105/AJPH.2007.130336

Domínguez, D. G., Bobele, M., Coppock, J., & Peña, E. (2015). LGBTQ relationally based positive psychology: An inclusive and systemic framework. *Psychological Services*, *12*, 177–185. 10.1037/a0038824

Domínguez-Fuentes, J. M., Hombrados-Mendieta, M. I., & García-Leiva, P. (2012). Social support and life satisfaction among gay men in Spain. *Journal of Homosexuality*, *59*, 241–255. 10.1080/00918369.2012.648879

Fingerhut, A. W., Peplau, L. A., & Ghavami, N. (2005). A dual-identity framework for understanding lesbian experience. *Psychology of Women Quarterly*, *29*, 129–139. 10.1111/j.1471-6402.2005.00175.x

Frable, D. E., Wortman, C., & Joseph, J. (1997). Predicting self-esteem, well-being, and distress in a cohort of gay men: The importance of cultural stigma, personal visibility, community networks, and positive identity. *Journal of Personality*, *65*, 599–624. 10.1111/j.1467-6494.1997.tb00328.x

Fredriksen-Goldsen, K. I., Kim, H.-J., Barkan, S. E., Balsam, K. F., & Mincer, S. L. (2010). Disparities in health-related quality of life: A comparison of lesbians and bisexual women. *American Journal of Public Health*, *100*, 2255–2261. 10.2105/AJPH.2009.177329

Fredriksen-Goldsen, K. I., Simoni, J. M., Kim, H. J., Lehavot, K., Walters, K. L., Yang, J., . . .Muraco, A. (2014). The health equity promotion model: Reconceptualization of lesbian, gay, bisexual, and transgender (LGBT) health disparities. *American Journal of Orthopsychiatry*, *84*, 653–663. 10.1037/ort0000030

Frost, D. M., & Meyer, I. H. (2012). Measuring community connectedness among diverse sexual minority populations. *Journal of Sex Research*, *49*, 36–49. 10.1080/00224499.2011.565427

Ghavami, N., Fingerhut, A., Peplau, L. A., Grant, S. K., & Wittig, M. A. (2011). Testing a model of minority identity achievement, identity affirmation, and psychological well-being among ethnic minority and sexual minority individuals. *Cultural Diversity and Ethnic Minority Psychology*, *17*, 79–88. 10.1037/a0022532

Grewal, R., Cote, J. A., & Baumgartner, H. (2004). Multicollinearity and measurement error in structural equation models: Implications for theory testing. *Marketing Science*, *23*, 519–529. 10.1287/mksc.1040.0070

Herek, G. M., & Garnets, L. D. (2007). Sexual orientation and mental health. *Annual Review of Clinical Psychology*, *3*, 353–375. 10.1146/annurev.clinpsy.3.022806.091510

Higa, D., Hoppe, M. J., Lindhorst, T., Mincer, S., Beadnell, B., Morrison, D. M., . . .Mountz, S. (2014). Negative and positive factors associated with the well-being of lesbian, gay, bisexual, transgender, queer, and questioning (LGBTQ) youth. *Youth & Society*, *46*, 663–687. 10.1177/0044118X12449630

Horne, S. G., Puckett, J. A., Apter, R., & Levitt, H. M. (2014). Positive psychology and LGBTQ populations. In J. T.Pedrotti & L. M.Edwards (Eds.), *Perspectives on the intersection of multiculturalism and positive psychology* (pp. 189–202). New York, NY: Springer.

Israel, T. (2018). Bisexuality: From margin to center. ***Psychology of Sexual Orientation and Gender Diversity***, *5*, 233–242. 10.1037/sgd0000294

Jennings, L. K., & Tan, P. P. (2014). Self-compassion and life satisfaction in gay men. *Psychological Reports*, *115*, 888–895. 10.2466/21.07.PR0.115c33z3

Jorm, A. F., Korten, A. E., Rodgers, B., Jacomb, P. A., & Christensen, H. (2002). Sexual orientation and mental health: Results from a community survey of young and middle-aged adults. *The British Journal of Psychiatry*, *180*, 423–427. 10.1192/bjp.180.5.423

Keleher, J., Wei, M., & Liao, K. Y.-H. (2010). Attachment, positive feelings about being a lesbian, perceived general support, and well-being. *Journal of Social and Clinical Psychology*, *29*, 847–873.

Kertzner, R. M., Meyer, I. H., Frost, D. M., & Stirratt, M. J. (2009). Social and psychological well-being in lesbians, gay men, and bisexuals: The effects of race, gender, age, and sexual identity. *American Journal of Orthopsychiatry*, *79*, 500–510. 10.1037/a0016848

Keyes, C. L. M. (1998). Social well-being. *Social Psychology Quarterly*, *61*, 121–140. 10.2307/2787065

Keyes, C. L. (2002). The mental health continuum: From languishing to flourishing in life. *Journal of Health and Social Behavior*, *43*, 207–222. 10.2307/3090197

Keyes, C. L., Wissing, M., Potgieter, J. P., Temane, M., Kruger, A., & van Rooy, S. (2008). Evaluation of the mental health continuum-short form (MHC-SF) in Setswana-speaking South Africans. *Clinical Psychology & Psychotherapy*, *15*, 181–192. 10.1002/cpp.572

King, M., Semlyen, J., Tai, S. S., Killaspy, H., Osborn, D., Popelyuk, D., & Nazareth, I. (2008). A systematic review of mental disorder, suicide, and deliberate self harm in lesbian, gay and bisexual people. *BMC Psychiatry*, *8*, 70. 10.1186/1471-244X-8-70

Kline, R. B. (2016). *Principles and practice of structural equation modeling*. New York, NY: Guilford Press.

Lei, P.-W., & Wu, Q. (2012). Estimation in structural equation modeling. In R. H.Hoyle (Ed.), *Handbook of structural equation modeling* (pp. 164–179). New York, NY: Guilford Press.

Lent, R. W. (2004). Toward a unifying theoretical and practical perspective on well-being and psychosocial adjustment. *Journal of Counseling Psychology*, *51*, 482–509. 10.1037/0022-0167.51.4.482

Li, Y., Johnson, B. D., & Jenkins-Guarnieri, M. A. (2013). Sexual identity development and subjective well-being among Chinese lesbians. *International Perspectives in Psychology: Research, Practice, Consultation*, *2*, 242–254. 10.1037/a0033752

Luhtanen, R. K. (2003). Identity, stigma management, and well-being: A comparison of lesbians/bisexual women and gay/bisexual men. *Journal of Lesbian Studies*, *7*, 85–100. 10.1300/J155v07n01_06

Martens, M. P. (2005). The use of structural equation modeling in counseling psychology research. *The Counseling Psychologist*, *33*, 269–298. 10.1177/0011000004272260

Masini, B. E., & Barrett, H. A. (2008). Social support as a predictor of psychological and physical well-being and lifestyle in lesbian, gay, and bisexual adults aged 50 and over. *Journal of Gay & Lesbian Social Services*, *20*, 91–110. 10.1080/10538720802179013

Matthews, D. D., & Lee, J. G. (2014). A profile of North Carolina lesbian, gay, and bisexual health disparities, 2011. *American Journal of Public Health*, *104*, e98–e105. 10.2105/AJPH.2013.301751

Meyer, I. H. (1995). Minority stress and mental health in gay men. *Journal of Health and Social Behavior*, *36*, 38–56. 10.2307/2137286

Meyer, I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychological Bulletin*, *129*, 674–697. 10.1037/0033-2909.129.5.674

Meyer, I. H. (2014). Minority stress and positive psychology: Convergences and divergences to understanding LGBT health. ***Psychology of Sexual Orientation and Gender Diversity***, *1*, 348–349. 10.1037/sgd0000070

Meyer, I. H. (2015). Resilience in the study of minority stress and health of sexual and gender minorities. ***Psychology of Sexual Orientation and Gender Diversity***, *2*, 209–213. 10.1037/sgd0000132

Meyer, I. H., & Northridge, M. E. (Eds.). (2007). *The health of sexual minorities: Public health perspectives on lesbian, gay, bisexual and transgender population*. New York, NY: Springer. 10.1007/978-0-387-31334-4

Meyer, I. H., & Wilson, P. A. (2009). Sampling lesbian, gay, and bisexual populations. *Journal of Counseling Psychology*, *56*, 23–31. 10.1037/a0014587

Mohr, J. J., & Kendra, M. S. (2011). Revision and extension of a multidimensional measure of sexual minority identity: The Lesbian, Gay, and Bisexual Identity Scale. *Journal of Counseling Psychology*, *58*, 234–245. 10.1037/a0022858

Mohr, J. J., & Rochlen, A. B. (1999). Measuring attitudes regarding bisexuality in lesbian, gay male, and heterosexual populations. *Journal of Counseling Psychology*, *46*, 353–369. 10.1037/0022-0167.46.3.353

Morrison, M. A. (2011). Psychological health correlates of perceived discrimination among Canadian gay men and lesbian women. *Canadian Journal of Community Mental Health*, *30*, 81–98. 10.7870/cjcmh-2011-0018

Mulick, P. S., & Wright, L. W., Jr. (2011). The Biphobia Scale a decade later: Reflections and additions. *Journal of Bisexuality*, *11*, 453–457. 10.1080/15299716.2011.620486

Phinney, J. S. (1992). The multigroup ethnic identity measure: A new scale for use with diverse groups. *Journal of Adolescent Research*, *7*, 156–176. 10.1177/074355489272003

Powdthavee, N., & Wooden, M. (2015). Life satisfaction and sexual minorities: Evidence from Australia and the United Kingdom. *Journal of Economic Behavior & Organization*, *116*, 107–126. 10.1016/j.jebo.2015.04.012

Preacher, K. J., & Coffman, D. L. (2006). *Computing power and minimum sample size for RMSEA* [Computer Software]. Retrieved from http://quantpsy.org/

Ramirez-Valles, J., Fergus, S., Reisen, C. A., Poppen, P. J., & Zea, M. C. (2005). Confronting stigma: Community involvement and psychological well-being among HIV-positive latino gay men. *Hispanic Journal of Behavioral Sciences*, *27*, 101–119. 10.1177/0739986304270232

Riggle, E. D. B., Mohr, J. J., Rostosky, S. S., Fingerhut, A. W., & Balsam, K. F. (2014). A multifactor lesbian, gay, and bisexual positive identity measure (LGB-PIM). ***Psychology of Sexual Orientation and Gender Diversity***, *1*, 398–411. 10.1037/sgd0000057

Riggle, E. D. B., & Rostosky, S. S. (2012). *A positive view of LGBTQ: Embracing identity and cultivating well-being*. Lanham, MD: Rowman & Littlefield.

Riggle, E. D., Rostosky, S. S., & Danner, F. (2009). LGB identity and eudaimonic well being in midlife. *Journal of Homosexuality*, *56*, 786–798. 10.1080/00918360903054277

Riggle, E. D. B., Whitman, J. S., Olson, A., Rostosky, S. S., & Strong, S. (2008). The positive aspects of being a lesbian or gay man. *Professional Psychology: Research and Practice*, *39*, 210–217. 10.1037/0735-7028.39.2.210

Rivers, I., & Noret, N. (2008). Well-being among same-sex-and opposite-sex-attracted youth at school. *School Psychology Review*, *37*, 174–187.

Ross, L. E., Dobinson, C., & Eady, A. (2010). Perceived determinants of mental health for bisexual people: A qualitative examination. *American Journal of Public Health*, *100*, 496–502. 10.2105/AJPH.2008.156307

Ross, L. E., Salway, T., Tarasoff, L. A., MacKay, J. M., Hawkins, B. W., & Fehr, C. P. (2018). Prevalence of depression and anxiety among bisexual people compared to gay, lesbian, and heterosexual individuals: A systematic review and meta-analysis. *Journal of Sex Research*, *55*, 435–456. 10.1080/00224499.2017.1387755

Rostosky, S. S., Riggle, E. D. B., Pascale-Hague, D., & McCants, L. E. (2010). The positive aspects of a bisexual self-identification. *Psychology and Sexuality*, *1*, 131–144. 10.1080/19419899.2010.484595

Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology*, *52*, 141–166. 10.1146/annurev.psych.52.1.141

Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, *57*, 1069–1081. 10.1037/0022-3514.57.6.1069

Ryff, C. D., & Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*, *69*, 719–727. 10.1037/0022-3514.69.4.719

Saewyc, E. M., Homma, Y., Skay, C. L., Bearinger, L. H., Resnick, M. D., & Reis, E. (2009). Protective factors in the lives of bisexual adolescents in North America. *American Journal of Public Health*, *99*, 110–117. 10.2105/AJPH.2007.123109

Schick, V., Rosenberger, J. G., Herbenick, D., Calabrese, S. K., & Reece, M. (2012). Bidentity: Sexual behavior/identity congruence and women's sexual, physical and mental well-being. *Journal of Bisexuality*, *12*, 178–197. 10.1080/15299716.2012.674855

Schwartz, D. R., Stratton, N., & Hart, T. A. (2016). Minority stress and mental and sexual health: Examining the psychological mediation framework among gay and bisexual men. ***Psychology of Sexual Orientation and Gender Diversity***, *3*, 313–324. 10.1037/sgd0000180

Selvidge, M. M., Matthews, C. R., & Bridges, S. K. (2008). The relationship of minority stress and flexible coping to psychological well being in lesbian and bisexual women. *Journal of Homosexuality*, *55*, 450–470. 10.1080/00918360802345255

Sheets, R. L., & Mohr, J. J. (2009). Perceived social support from friends and family and psychosocial functioning in bisexual young adult college students. *Journal of Counseling Psychology*, *56*, 152–163. 10.1037/0022-0167.56.1.152

Shilo, G., & Savaya, R. (2012). Mental health of lesbian, gay, and bisexual youth and young adults: Differential effects of age, gender, religiosity, and sexual orientation. *Journal of Research on Adolescence*, *22*, 310–325. 10.1111/j.1532-7795.2011.00772.x

Smith, B. W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., & Bernard, J. (2008). The brief resilience scale: Assessing the ability to bounce back. *International Journal of Behavioral Medicine*, *15*, 194–200. 10.1080/10705500802222972

Szymanski, D. M. (2006). Does internalized heterosexism moderate the link between heterosexist events and lesbians' psychological distress?*Sex Roles*, *54*, 227–234. 10.1007/s11199-006-9340-4

Szymanski, D. M. (2009). Examining potential moderators of the link between heterosexist events and gay and bisexual men's psychological distress. *Journal of Counseling Psychology*, *56*, 142–151. 10.1037/0022-0167.56.1.142

Vaughan, M. D., Miles, J., Parent, M. C., Lee, H. S., Tilghman, J. D., & Prokhorets, S. (2014). A content analysis of LGBT-themed positive psychology articles. ***Psychology of Sexual Orientation and Gender Diversity***, *1*, 313–324. 10.1037/sgd0000060

Vaughan, M. D., & Rodriguez, E. M. (2014). LGBT strengths: Incorporating positive psychology into theory, research, training, and practice. ***Psychology of Sexual Orientation and Gender Diversity***, *1*, 325–334. 10.1037/sgd0000053

Walker, J. J., & Longmire-Avital, B. (2013). The impact of religious faith and internalized homonegativity on resiliency for black lesbian, gay, and bisexual emerging adults. *Developmental Psychology*, *49*, 1723–1731. 10.1037/a0031059

Wayment, H. A., & Peplau, L. A. (1995). Social support and well-being among lesbian and heterosexual women: A structural modeling approach. *Personality and Social Psychology Bulletin*, *21*, 1189–1199. 10.1177/01461672952111007

West, S. G., Taylor, A. B., & Wu, W. (2012). Model fit and model selection in structural equation modeling. In R. H.Hoyle (Ed.), *Handbook of structural equation modeling* (pp. 209–231). New York, NY: Guilford Press.

Weston, R., & Gore, P. A., Jr. (2006). A brief guide to structural equation modeling. *The Counseling Psychologist*, *34*, 719–751. 10.1177/0011000006286345

Yves, R. (2012). Lavaan: An R package for structural equation modeling. *Journal of Statistical Software*, *48*, 1–36. Retrieved from http://www.jstatsoft.org/v48/i02/

Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment*, *52*, 30–41. 10.1207/s15327752jpa5201_2