Published in final edited form as:

J Marriage Fam. 2017 October ; 79(5): 1258–1277. doi:10.1111/jomf.12415.

Sexual Minority Stress and Same-Sex Relationship Well-Being: A Meta-Analysis of Research Prior to the U.S. Nationwide Legalization of Same-Sex Marriage

Hongjian Cao^a, Nan Zhou^b, Mark Fine^a, Yue Liang^a, Jiayao Li^a, and W. Roger Mills-Koonce^a

^aHuman Development and Family Studies, University of North Carolina at Greensboro, USA

^bInstitute of Developmental Psychology, Beijing Normal University, China

Abstract

Meta-analytic methods were used to analyze 179 effect sizes retrieved from 32 research reports on the implications that sexual minority stress may have for same-sex relationship well-being. Sexual minority stress (aggregated across different types of stress) was moderately and negatively associated with same-sex relationship well-being (aggregated across different dimensions of relationship well-being). Internalized homophobia was significantly and negatively associated with same-sex relationship well-being, whereas heterosexual discrimination and sexual orientation visibility management were not. Moreover, the effect size for internalized homophobia was significantly larger than those for heterosexual discrimination and sexual orientation visibility management. Sexual minority stress was significantly and negatively associated with same-sex relationship quality but not associated with closeness or stability. Sexual minority stress was significantly and negatively associated with relationship well-being among same-sex female couples but not among same-sex male couples. The current status of research approaches in this field was also summarized and discussed.

Keywords

: meta-analysis; relationship well-being; same-sex couple; sexual minority stress

Nan Zhou (Corresponding Author): Institute of Developmental Psychology, Beijing Normal University, zhounan0428@gmail.com, Tel: +86 157-2731-7079, Mailing Address: Institute of Developmental Psychology, Beijing Normal University, Beijing, China 100875.

Hongjian Cao: Department of Human Development and Family Studies, University of North Carolina at Greensboro, h_cao@uncg.edu, Tel: 336-908-9666, Mailing: 131 Stone Building, University of North Carolina at Greensboro, Greensboro, NC 27402.

Mark Fine: Department of Human Development and Family Studies, University of North Carolina at Greensboro, mafine@uncg.edu, Tel: 336-256-0134, Mailing: 248B Stone Building, University of North Carolina at Greensboro, Greensboro, NC 27402.

Yue Liang: Department of Human Development and Family Studies, the University of North Carolina at Greensboro, y_liang@uncg.edu, Tel: 336-500-9596, Mailing: 131 Stone Building, University of North Carolina at Greensboro, Greensboro, NC 27402.

Jiayao Li: Department of Human Development and Family Studies, University of North Carolina at Greensboro, ljy_65738@163.com, Tel: +86 189-8511-9055, Mailing: 131 Stone Building, University of North Carolina at Greensboro, Greensboro, NC 27402.

W. Roger Mills-Koonce: Department of Human Development and Family Studies, University of North Carolina at Greensboro, r_millsk@uncg.edu or mills-koonce@uncg.edu, Tel: 336-334-4672, Mailing: 145 Stone Building, University of North Carolina at Greensboro, Greensboro, NC 27402.

Data from the 2013 National Health Interview Survey (NHIS) indicate that in the U.S. there are approximately 690,000 same-sex couples (Gates, 2014). The highly politicized nature of issues regarding same-sex relationships has sparked ongoing political, judicial, and social dialogues. The increasing visibility of same-sex couples has challenged researchers to provide more knowledge about this population and has catalyzed a proliferation of studies regarding same-sex relationships during the past few decades (Peplau & Fingerhut, 2007; Umberson, Thomeer, Kroeger, Lodge, & Xu, 2015).

Given their historically disenfranchised status within various socio-political spheres, same-sex couples often experience increased vulnerabilities for relationship well-being (Frost, 2011). When striving to achieve successful relationships, they likely encounter both general life stressors experienced by all couples and minority stressors uniquely associated with being members of a stigmatized group (LeBlanc, Frost, & Wight, 2015). During the past few decades, increasing efforts have been devoted to addressing the implications that different types of sexual minority stress may have for same-sex relationship well-being (Rostosky & Riggle, 2017).

Although there is no golden rules with regard to the “optimal” or “correct” time point to conduct a meta-analytical literature review on a particular topic, the necessity and importance of systematically reviewing the current research concerned with the association between sexual minority stress and same-sex relationship well-being have been highlighted by the following considerations. The historical changes in legal options that are available for same-sex couples likely contribute to the considerable variability in their relationship histories across different cohorts (Hatzenbuehler, O’Cleirigh, Grasso, Mayer, Safren, & Bradford, 2012; Umberson et al., 2015). Accordingly, same-sex couples’ relationship experiences may be (at least partly) “different” before and after the introduction of the U.S. nationwide legalization of same-sex marriage (i.e., *Obergefell v. Hodges*), even though they may continue to be socially stigmatized (Frost, 2015; Frost, Meyer, & Hammack, 2015). With the marriage equality decision as a landmark, it is imperative for scholars who are interested in the effects of sexual minority stress on same-sex relationship well-being to evaluate what has and has not been done and known regarding this topic, and take this social policy reform as an opportunity to develop a scientifically driven agenda to move research of this field forward. Considering that reports included in the present analysis were all conducted prior to the U.S. nationwide legalization of same-sex marriage, this study may provide a systematic overview of the research within a particular historical time period and lay a foundation for research conducted afterwards.

Given that research in this domain is somewhat in its infancy, concerns may arise about whether there have been a sufficient number of studies to date for conducting a meta-analysis. It is worth noting that research in this field has been continuously growing during the recent years (LeBlanc et al., 2015; Peplau & Fingerhut, 2007; Rostosky & Riggle, 2017; Umberson et al., 2015), and that the number of reports included in the present study is comparable to those of recently published meta-analyses on marriage and family issues (e.g., Fawcett, Hawkins, Blanchard, & Carroll, 2010; Fellows, Chiu, Hill, & Hawkins, 2015; Jose, Daniel O’Leary, & Moyer, 2010; Malouff, Thorsteinsson, Schutte, Bhullar, & Rooke, 2010; Mitnick, Heyman, & Smith Slep, 2009). Moreover, as it is clear that research on this *hot*

topic (i.e., sexual minority stress and same-sex relationship well-being) will dramatically and rapidly increase during the following few decades, a *systematic and critical* meta-analytic review of the *newly emerged (yet still a decent amount of)* research in this domain can effectively guide this field to get on the “right” tracks and develop in the “promising” directions (both methodologically and theoretically) *as early as possible before making too many unnecessary detours*.

The present study represents one of the very first efforts in echoing such claims. First, we summarized the current status of research approaches employed to examine the linkage between sexual minority stress and same-sex relationship well-being. Then, utilizing meta-analytic methods, we estimated the average association between sexual minority stress (aggregated across different types of stress) and same-sex relationship well-being (aggregated across different dimensions of relationship well-being), and also examined whether several effect-level characteristics (e.g., stress type, relationship well-being dimension) and report-level characteristics (e.g., publication type) might moderate this association. Lastly, based on our analyses, we discussed the key limitations of the existing research in this field and also proposed several possible avenues for future inquiries.

Conceptualization of Key Constructs and Literature Review

The Multidimensional Nature of Sexual Minority Stress and Relationship Well-Being

As Meyer (2003) conceptualized, whereas general stress is defined as stressors that are experienced by all people in their daily lives (e.g., daily hassles, major life events), minority stress refers to stressors that are uniquely associated with being members of socially stigmatized groups (e.g., internalized homophobia, heterosexist discrimination). Minority stressors: (a) are often additive to general stressors, and require additional coping efforts; (b) are related to stable sociocultural structures and are therefore relatively chronic; and (c) are social status-based and stem from social processes and structures. Meyer also proposed a distal-proximal distinction in which different minority stressors exist on a continuum of proximity to the self. The distal minority stressors refer to stressors that are independent of an individual's perceptions, whereas the more proximal minority stressors are defined as subjective stressors that are related to self-identity as a member of a minority group.

In terms of the minority stressors particularly associated with being members of a sexual minority group, from the distal to the proximal they are: (a) external heterosexist discrimination; (b) appraisals by sexual minorities of the environment as threatening, resulting in expectations of heterosexist discrimination; and (c) the internalization of negative societal attitudes toward being members of sexual minority groups. In addition, Meyer also emphasized that managing the visibility of one's sexual orientation can be stressful because it involves continual preoccupation with monitoring one's behaviors in various circumstances and thus likely produces cognitive and physiological burdens, which may eventually lead to physical and psychological problems. As he also stated, managing the visibility of sexual orientation can be seen as a more proximal stressor because its effects involve a series of personal internal processes; and on the continuum of proximity to the self, it is more proximal to the self than the “expectations of discrimination” but less than the “internalized homophobia”.

Couple relationship well-being is also multifaceted. A substantial body of research (e.g., Crohan & Veroff, 1989; Fletcher, Simpson, & Thomas, 2000; Sprecher, 2002; Totenhagen, Curran, Serido, & Butler, 2013) has suggested that quality, stability, commitment, and closeness are among the most critical indicators of couple relationship well-being. Although these indicators are often positively correlated with each other, they are still conceptually distinct. Thus, to the extent that a relationship is reported by partners to be satisfying, stable, committed, and intimate, it would be defined as “healthy.” Relationship quality represents spouses' subjective evaluation of the degree to which they feel happy with the relationship and partner when everything is considered (Fincham & Bradbury, 1987). Stability refers to the “affective and cognitive states along the related actions” in a dyad that indicate the likelihood of the continuation of the relationship (Booth, Johnson, & Edwards, 1983). Commitment reflects partners' tendency to stay in their current relationship based on a series of factors (e.g., investment) (Adams & Jones, 1997). Closeness is defined as the affective, cognitive, and physical closeness between partners in a relationship (Moss & Schwebel, 1993).

Despite the fact that both sexual minority stress and couple relationship well-being are multidimensional, little is known about the *relative* contributions of different types of stress to same-sex relationship well-being, and whether and to what extent *various aspects* of same-sex relationship well-being are affected by stress. That is, although an emerging body of research has examined the association between *one certain type* of sexual minority stress (e.g., internalized homophobia) and *one certain aspect* of same-sex relationship well-being (e.g., satisfaction), few efforts have been devoted to investigating multiple types of sexual minority stress or different dimensions of same-sex relationship well-being *simultaneously*. Increased specificity seems imperative in refining our understanding of the association between sexual minority stress and same-sex relationship well-being by *differentiating* among different stressors and various couple relationship outcomes. Simply put, utilizing meta-analytic techniques to synthesize research findings from a number of independent reports, the present study seeks to examine more *specified* effects: whether the strength of the association between sexual minority stress and same-sex relationship well-being differed across different types of stress and different dimensions of relationship well-being.

Effect-Level Characteristics

Stress type—Meyer's distal-proximal distinction of minority stressors suggests that the more proximal the minority stressor is to the self, the more salient its influence may be to personal well-being. Similarly, it seems reasonable to expect that the association between sexual minority stress and same-sex relationship well-being may be stronger for the more proximal sexual minority stressors than for the more distal sexual minority stressors. Accordingly, internalized homophobia may be the most salient predictors of same-sex relationship well-being as it is highly proximal to the self. A burgeoning body of research has demonstrated the negative association between internalized homophobia and same-sex relationship well-being (Mohr & Daly, 2008; Otis, Rostosky, Riggle, & Hamrin, 2006).

Several possible explanatory mechanisms have been proposed. First, as internalized homophobia represents “the gay person's direction of negative social attitudes toward the

self, leading to a devaluation of the self and resultant internal conflicts and poor self-regard” (Meyer & Dean, 1998, p. 161), it may contribute to same-sex partners' diminished self-esteem, fears of intimacy, attachment insecurity, doubts toward oneself and partners, and some other risk factors against couple relationship well-being. Second, same-sex partners who have higher levels of internalized homophobia are more likely to internalize the prevailing negative societal views of same-sex relationships (e.g., highly unstable, low commitment) as their personal expectations in relationships, and thus may avoid establishing long-term and highly-invested relationships to protect themselves from potential losses and threats (Otis et al., 2006). Third, higher levels of internalized homophobia also may proliferate to create various secondary stressors (LeBlanc et al., 2015). For example, individuals with higher levels of internalized homophobia tend to devote a considerable amount of time and energy to managing the visibility of their sexual orientation, which may result in stress-based physical and psychological problems. These secondary stressors may, in turn, impair same-sex relationship well-being by draining the resources that partners may otherwise devote to couple relationship maintenance and facilitation.

Relationship well-being dimension—As conceptualized already, couple relationship well-being is multifaceted (e.g., Fletcher et al., 2000). Specifying which aspects of relationship well-being are particularly susceptible to the deleterious consequences of stress represents one of the most important directions for refining our understanding of the association between stress and couple relationship well-being (e.g., Karney, Story, & Bradbury, 2005). Research based on samples of different-sex couples have demonstrated that experiences of stress could influence couple relationship well-being by draining time and energy that partners may otherwise devote to relationship quality facilitation (e.g., less time for shared activities), eroding positive exchanges between partners (e.g., warmth and physical affection), and rendering partners less able to be emotionally available for each other (Bodenmann, 2005; Conger et al., 2010; Randall & Bodenmann, 2009). Accordingly, it seems that the *more affective* dimensions of couple relationship well-being such as satisfaction and intimacy might be more vulnerable to and more directly influenced by the negative impacts of stress than might the other dimensions of couple relationship well-being such as commitment and stability (as they are more closely related to the *cognitive evaluation* of costs and rewards in a relationship and represent a more *long-term view* of the future of the relationship). A study by Totenhagen et al. (2013) indicated that stress was negatively associated with relationship satisfaction and closeness but not with commitment. Although this finding have implications for our hypotheses, that study was based on a sample of different-sex couples and focused on a specific type of general stress (i.e., daily hassles).

Couple type—In general, as compared with men, women: (a) are more emotionally and morally relationship-oriented (e.g., Gilligan, 1982); (b) are more physiologically reactive to stress (e.g., Seeman, 1997); and (c) tend to be more sensitive to the negative changes in close relationships (e.g., Thompson & Walker, 1989). In addition, research based on samples of same-sex couples also has suggested that as compared with gay male partners, lesbian partners tend to be more vigilant to the possibility of discrimination outside of their relationships, and to be more sensitive to interpersonal issues (e.g., power imbalance)

between intimate partners (e.g., Caldwell & Peplau, 1984). Taken together, it seems possible that relationships involving two women might be more susceptible to the influences of sexual minority stress, as compared with relationships involving two men.

Methodological rigor—The strength of effect sizes also may vary as a function of their methodological rigor indicated by the sample quality (e.g., large random or stratified samples or not), design quality (e.g., longitudinal or cross-sectional), measurement quality (e.g., multiple methods or not, multiple informants or not), and analysis quality (e.g., advanced analysis techniques such as structural equation modeling or not) (Buehler, Anthony, Krishnakumar, & Stone, 1997; Weymouth, Buehler, Zhou, & Henson, 2016). Less methodologically rigorous studies are likely to overestimate effect sizes, and results from meta-analyses can be biased if the methodological rigor of effect sizes is not considered (Jüni, Altman, & Egger, 2001).

Report-Level Characteristics

Publication type—Considering that published empirical journal articles typically have undergone a stricter, independent, and blinded peer-review process than do dissertations or theses, it seems warranted to expect differences in the strength of the association between sexual minority stress and same-sex relationship well-being reported in different types of publications. However, more specific hypotheses with regard to the direction of such differences are not offered, given the preliminary and exploratory nature of this analysis.

Couple relationship duration—Couple relationship duration can be somewhat viewed as a proxy for several critical characteristics of couple relationships. Given that the interdependence between partners is primarily derived from their shared living experiences over the developmental course of their relationships (e.g., collaborating on parenting tasks, mutually enjoying sexual lives, negotiating labor division rules, supporting each other for better career development, and getting through family life hardships such as financial difficulties), all things being equal, longer relationship duration may imply a greater level of interdependence and commitment between partners (Veroff, 1999). Generally, achieving and maintaining a long-term union, especially for sexual minority couples, can be viewed as an outgrowth of successfully coping with various risks and difficulties, and thus same-sex couples who obtained long-term relationships may be more resilient or possess more resources (e.g., lower levels of internalized homophobia, higher levels of commitment) as compared to those who did not (Green, 2004; Oswald, Goldberg, Kuvalanka, & Clausell, 2008; Solomon, Rothblum, & Balsam, 2004). Thus, same-sex relationships with longer durations may be less vulnerable to the influences of sexual minority stress as compared to those with shorter durations.

Demographic characteristics—The intersectionality theories have highlighted the importance of considering how individuals' multiple interlocking identities (e.g., race/ethnicity sexual orientation, age) may intersect with each other to shape individuals' life experiences (e.g., Ferguson, Carr, & Snitman, 2014; Parent, DeBlaere, & Moradi, 2013). Therefore, we expected that the mean age of participants in the samples, the percentage of highly educated participants (i.e., college education or above) in the samples, and the

percentage of White participants in the samples may influence the magnitude of the association between sexual minority stress and same-sex relationship well-being. A lack of previous research on the effects of these factors among same-sex couples precludes formal specific hypotheses. However, it is possible that couples involving older partners, partners with higher levels of education, or partners of non-racial/ethnic minority may have more access to resources (e.g., higher income) that can help them better cope with stressors and thus attenuate the association between minority stress and relational well-being (e.g., Karney & Bradbury, 2005; Karney et al., 2005).

Method

Literature Search and Report Selection

Research reports, including both journal articles and dissertations/theses, were located by using two techniques. Considering that a “study” (i.e., a scholarly inquiry) may yield several “reports” and that a “report” may contain multiple “effect sizes”, we used “reports” instead of “studies” when referring to the publications in which the effect sizes of interest were reported and retrieved. First, research reports were retrieved by searching five major databases: PsycINFO, ProQuest Central, EbscoHost, PubMed and Soc Abstracts. Google Scholar also was used.

Three sets of descriptors were used in combination with each other when searching for research reports: (a) sexual minority stress subjects and/or keywords (i.e., *discrimination, stigma, prejudice, minority stress, homophobia, heterosexual, heterosexism, outness, openness, concealment, and their derivatives*); (b) couple relationship well-being subjects and/or keywords (i.e., *couple relationship outcome, adjustment, well-being, functioning, satisfaction, discord, quality, intimacy, closeness, stability, dissolution, commitment, and their derivatives*); and (c) LGBT subjects and/or keywords (i.e., *LGBT, lesbian, gay, same-sex, homosexual, sexual minority, and their derivatives*). Second, to locate additional reports, we supplemented the computerized searches with literature reviews from the selected articles, as well as the reference lists of key reviews in the fields of same-sex relationship studies. We also searched for research concerned with the association between general life stress and same-sex relationship well-being by using subjects or keywords including *general stress, normative stress, daily hassles, major life events, and their derivatives*. Effect sizes for general stress (only 6 effect sizes) were not included in the formal analyses (see the “Limitations” section for discussion).

Inclusion criteria for research reports were as follows: (a) the report was published or written in English; (b) the sample or subsample in the report was comprised of same-sex couples or individuals who were in same-sex relationships (because in some reports only one partner in a couple was recruited); and (c) the report included the zero-order correlation coefficients between some type of stress and some aspect of same-sex couple relationship well-being or the relevant information needed to calculate such coefficients (because the zero-order correlation coefficients were the effect sizes used in the present analyses). Ultimately, such procedures resulted in a pool of 32 reports with 179 effect sizes. All publications included in the present analysis were conducted prior to the U.S. nationwide legalization of same-sex marriage.

Coding and Data Set Preparation

The effect size estimate used in the present study was zero-order correlation coefficient (r). Beta coefficients (β) were transformed using the formula recommended by Peterson and Brown (2005): $r = \beta + 0.5 \lambda$ (in which $\lambda = 1$ when β is nonnegative; $\lambda = 0$ when β is negative). The beta coefficients (β) were valid coefficients and need to be incorporated into meta-analyses instead of being excluded to generate more accurate weighted effect sizes (Kuppens, Laurent, Heyvaert, & Onghena, 2013). The information coded for each effect size included: (a) the independent variable characteristics; (b) the dependent variable characteristics; (c) the effect design characteristics; and (d) the effect methodological rigor. In addition, the report and sample characteristics also were coded.

Independent variable characteristics—For each effect size, the coded independent variable characteristics included: (a) the type of sexual minority stress (i.e., internalized homophobia, heterosexist discrimination, or sexual orientation visibility management); (b) the social network source of the stress (i.e., family members, friends, work colleagues, general others, or composite) (although this variable was coded, it was not used in the formal analyses, please see the “Limitations” section for discussion); (c) the informant of stress (i.e., participant, observer, interviewer, or composite); and (d) the method of assessing stress (i.e., questionnaire, observation, interview, daily diary, or composite).

Dependent variable characteristics—For each effect size, the coded dependent variable characteristics included: (a) relationship well-being dimension (i.e., quality, satisfaction, closeness, intimacy, stability, or commitment; it should be noted that when coding the effect sizes, we combined stability and commitment as a single dimension named “stability” because there was a limited number of effect sizes for each of them and they both reflect the likelihood of the continuation of the current relationship; combined quality and satisfaction as a single dimension named “quality” because they both represent individual's levels of happiness in close relationships; and combined closeness and intimacy as a single dimension named “closeness” because there was a limited number of effect sizes for each of them and they are similar constructs); (b) the informant of relationship outcome (i.e., participant, observer, interviewer, or composite); and (c) the method of assessing relationship outcome (i.e., questionnaire, observation, interview, daily diary, or composite). Effect sizes for negative relationship outcomes (e.g., instability) were reverse coded (e.g., Hunter & Schmidt, 2004).

Effect design characteristics—For each effect size, we coded: (a) whether the effect was longitudinal or cross-sectional (this was coded at the effect-level because in some reports both concurrent and longitudinal associations were examined, and this code was used as an indicator to evaluate the methodological rigor/quality of the effect size); (b) whether the effect was adjusted for covariates; and (c) whether the effect was significant or not and the utilized p -value.

Effect rigor—The methodological rigor of each effect size was assessed according to the rating system that have been used in prior meta-analyses (e.g., Buehler et al., 1997; Weymouth et al., 2016): (a) sample quality (i.e., .50 points for a report based on 100 or more

participants and .50 points for a random or stratified sample); (b) design quality (i.e., 1.00 point if the effect size was based on a longitudinal design); (c) measurement quality (i.e., .50 points if the independent or dependent variable was assessed using multiple methods, .25 points if the independent variable was assessed using multiple informants, and .25 points if the dependent variable was assessed using multiple informants); and (d) analysis quality (i.e., 1.00 point if the effect estimate was based on structural equation modeling or .50 points if the effect estimate was based on a partial correlation or beta coefficient that included controls). Thus, the index score of effect quality ranged from 0 to 4.00.

Report and sample characteristics—For each report, the coded report characteristics included publication type (i.e., journal article or thesis/dissertation) and report design (i.e., longitudinal, cross-sectional, or mixed). The coded sample characteristics included the total sample size, the sampling procedures (i.e., random, purposive, or convenience), the mean age of participants, parental status (i.e., with child, without child, or mixed), union status (i.e., legal marriage, registered domestic partnership, civil union, cohabitation, dating relationships, or mixed), couple type (i.e., all same-sex male, all same-sex female, or mixed), sexual orientation (i.e., gay, lesbian, bisexual, transgender, or mixed), the socioeconomic diversity of the sample (reversely) indicated by the percentage of highly educated participants (i.e., college education or above), the racial/ethnic diversity of the sample (reversely) indicated by the percentage of White participants, the mean of the relationship duration, and the geographic region of the sample. As reported in the Appendix Table 1, most of the coded information with respect to report and sample characteristics was only used to describe the reports included in the present meta-analysis. Sample characteristics such as sexual orientation, parental status, and union status were not examined as moderators because different reports provided information regarding these factors based on inconsistent classification criteria and useable variables could not be effectively coded. Research design and sampling strategies were not tested as moderators simply because of the limited variability in these factors (see the “Results” section for more discussion).

Inter-rater reliability—All effect sizes ($N = 185 = 179$ effect sizes for sexual minority stress + 6 effect sizes for general life stress) were coded by the first author. To assess the reliability of coding, the fourth author and the fifth author coded a combined, randomly selected 25% of the effect sizes ($n = 46$). Inter-rater reliability was 96% agreement and the range of Cohen's kappa was from .67 to 1.00. Disagreements were resolved through discussion and any resulting changes to the coding guidelines were applied to the entire dataset.

Statistical Analyses

Effect size calculation procedures—Out of 179 effect sizes for sexual minority stress coded from 32 reports, 113 effect estimates were zero-order correlation coefficients (r) and 66 were standardized coefficients (β). All β s were transformed into r s according to the formula recommended by Peterson and Brown (2005). Before pooling the effect estimates, correlations were transformed using Fisher's Z_r transformation (Rosenthal, 1991). Pooled Z_r s were transformed back into r for the analyses and reports. Given the 179 effect sizes or its subsamples were used in the analyses, the statistical power was based on the number of

effect sizes rather the number of reports from which the effect sizes were retrieved (e.g., Kuppens et al., 2013; Weymouth et al., 2016).

Meta-analytic integration and analytic procedures—A three-level random-effect model was used to address the issue of dependent effect estimates (i.e., multiple effect estimates nested within a given report). A random-effect rather than a fixed-effect model was used based on the assumption that “variability between studies is assumed to reflect both sampling error and variability in the population of effects” (Marsh, Bornmann, Mutz, Daniel, & O'Mara, 2009, p. 1295). As compared to the approaches in prior meta-analyses, the multi-level models are more appropriate for incorporating multiple effect estimates within the same report and do not require independence of effect estimates (Marsh et al., 2009; Van den Noortgate & Onghena, 2003).

Reports with multiple effect sizes were addressed in the following ways. (a) Multiple effect sizes from sample waves would be treated as dependent effect sizes nested within a given sample. In the present study, only 1 out of 32 reports used the longitudinal design (i.e., Mohr & Daly, 2008). The association between minority stress (e.g., internalized homophobia) and relationship well-being (e.g., relationship satisfaction) was coded twice from two waves. (b) Multiple effect sizes for the same category/code for an independent or dependent variable would be treated as dependent effect sizes nested within a given sample. For instance, for a given sample, internalized homophobia in relation to relationship satisfaction and associated with relationship commitment were both retrieved and used as dependent effect sizes nested within the sample or report. In addition, we also acknowledge that: (a) multiple effect sizes from independent within-report samples should be retained as independent effect sizes, but reports included in the present study did not have multiple effect sizes from independent within-report samples; and (b) multiple effect sizes from non-independent across-report samples (i.e., multiple reports on data from the same sample) should be treated as dependent effect sizes nested within a given sample, but reports included in the present study did not have multiple effect sizes from non-independent across-report samples.

The sampling variation for each effect estimate (Level 1), the variation between multiple dependent effect estimates from the same sample within a given report (Level 2), and the variation between different reports (Level 3) were modeled. The overall estimate of the association between sexual minority stress (aggregated across different types of stress) and same-sex relationship well-being (aggregated across different relationship well-being dimensions) was obtained in the unconditional model and moderators of this association at both the effect-level and the report level were subsequently fitted. Separate models for each moderator were fitted to avoid inflated Type II error rates (Raudenbush & Bryk, 2002). Parameters were estimated using the restricted maximum likelihood procedure in SAS PROC MIXED models. Effect estimates were weighted by the inverse of the sampling variance, and a general Satterthwaite approximation was used for the denominator degrees of freedom for the tests of regression coefficients. Considering that the retrieved effect size estimates may or may not be adjusted for different sets of covariates in their respective original reports, the synthetization of effect estimates in the present meta-analysis were not adjusted for covariates that may potentially moderate the association between sexual minority stress and same-sex relationship well-being (e.g., Kuppens et al., 2013).

Sensitivity analyses and publication bias—Three methods were employed to assess publication bias. First, a funnel plot was used (Torgerson, 2006). This plot depicts the distribution of standard error as a function of the effect size. We used the average Fisher's Z transformed effect estimates when creating the funnel plot to ensure independence. In the absence of publication bias, the plot should look like a funnel where studies are distributed symmetrically around the mean Fisher's Z transformed effect size. Second, published journal articles typically undergo a stronger, independent peer-review process than do dissertations or theses. Thus, we also examined whether the effect size varied as a function of the publication type. We also investigate the potential publication bias using Begg and Mazumdar's rank correlation test (Begg & Mazumdar, 1994), which examines the relationship between the standardized effect size and its variance with a null hypothesis of no publication bias.

Although a three-level random-effects model was used to address dependence among effect sizes, biased SEs may result from insufficient modeling of dependence. We conducted sensitivity analyses comparing the results from the multi-level analyses with those generated using the sandwich estimator, a robust estimation method dealing with the estimation of dependence (Yuan & Bentler, 2002). It computes the estimated variance-covariance matrix of fixed-effect parameters using the asymptotically consistent estimator. We coded the number of effect sizes for a given report and included it as a moderator to examine whether the overall weighted and unweighted effect size differed across reports with different numbers of effect sizes (i.e., reports with fewer than 10 effect sizes *vs.* reports with more than 10 effect sizes).

Results

Current Status of Research Approaches in this Field

One of the central aims of the present study was to summarize the status of methodological strategies employed to examine the association between sexual minority stress and same-sex relationship well-being. The description of reports included in the meta-analysis can be found in Appendix Table 1. Participants in these reports were predominantly White (*Mean* Percentage of White participants = 84.14%, *SD* = 6.01, *Min* = 70.20%, *Max* = 96%), middle-class, and highly educated (*Mean* Percentage of participants with college education or above = 85.76%, *SD* = 11.02, *Min* = 65.00%, *Max* = 100.00%) living in urban areas of the U.S. (only 6 reports involved participants living in rural areas and 7 reports included participants living outside of the U.S.). Most of the participants were middle-aged (*Mean* = 36.93 years old, *SD* = 5.71, *Min* = 22.70, *Max* = 54.00) and in relationships with relatively long length (*Mean* = 6.63 years long, *SD* = 3.38, *Min* = 2.50, *Max* = 16.10). In addition, there was considerable variability in participants' sexual orientation, gender identity, union status, and parental status.

In terms of sampling strategies, with the help of LGBT organizations, participants in the existing research were primarily recruited through (a) snowball sampling; (b) announcements posted on the Internet (e.g., Craigslist, Facebook) or printed on newspapers or LGBT publications; (c) advertisements sent to listservs serving LGBT groups; and (d) flyers distributed at LGBT events or communities. Among the 32 reports, only 1 employed

stratified random sampling procedures. In terms of research designs and data collection methods, only 1 of the 32 reports was longitudinal and only 1 report utilized multiple methods when collecting data. Most of the reports in this field collected data with self-report questionnaires and only from one partner in a couple, and conducted their analyses only at the individual level. The primary data analytic strategies were correlation and regression.

The trends over time for the number and the methodological rigor of research reports on the association between sexual minority stress and same-sex relationship well-being are depicted in Figure 1. Research on the association between sexual minority stress and same-sex relationship well-being over the past two decades has increased substantially in *quantity* over time, which is represented by the squares and the solid line, whereas the methodological *rigor* of research in this field tended to be quite low across different time periods, which is symbolized by the triangles and the dash line.

We also classified research reports into three groups based on their publication years: 1990s (i.e., 1990 - 1999), 2000s (i.e., 2000 - 2009), and 2010s (i.e., 2010 - June, 2015), and examined whether effect sizes varied as a function of the publication cohorts. As reported in Table 1, effect sizes did not differ across different publication cohorts ($F_{[2, 25.1]} = .070$, *ns*), although the weighted mean effect size for the 2000s group was statistically significant ($r = -.102$, $p < .05$) whereas those for the 1990s group and the 2010s group were not ($r = -.085$ and $-.081$, *ns*, respectively). Further, we also examined whether the association between a specific type of sexual minority stress and same-sex relationship well-being varied as a function of the publication cohorts. The interaction between stress type and publication cohort was not significant ($F_{[4, 170]} = .360$, $p = .833$), suggesting that no varying effect sizes across publication cohorts for each specific type of sexual minority stress.

The Average Association between Minority Stress and Same-Sex Relationship Well-Being

A summary of the multi-level, meta-analytic results is presented in Table 1. As indicated, the weighted, average effect size $r = -.090$ ($p < .01$), suggesting that the average association between sexual minority stress (aggregated across different types of stress) and same-sex relationship well-being (aggregated across different dimensions of relationship well-being) was $-.090$. According to Cohen's (1988) criteria regarding the magnitude of effect size r , $.10$ is viewed as “*small*”, $.30$ as a “*moderate*”, and $.50$ as “*large*”. Seventy-six percent of the effect sizes were negative ($n = 136$). Moreover, effect sizes differed significantly between reports ($\sigma_v^2 = .013$, $p = .026$) and within reports ($\sigma_v^2 = .007$, $p = .047$). Thus, it was warranted to conduct analyses to see whether the strength of the association between sexual minority stress and same-sex relationship well-being varied as functions of the effect-level and report-level characteristics.

The Average Effect Size across Stress Types and Relationship Well-Being Dimensions

As reported in Table 1, the omnibus test indicated that the strength of the association between sexual minority stress and same-sex relationship well-being varied as a function of the stress type ($F_{[2, 176]} = 20.660$, $p < .001$). The follow-up tests showed that the effect size for internalized homophobia ($r = -.136$, $p < .001$) was significantly larger than that for heterosexual discrimination ($r = -.053$, *ns*) and that for sexual orientation visibility

management ($r = .008$, ns). Both the omnibus test ($F_{[2, 16.7]} = .740$, ns) and the follow-up tests indicated that the strength of the association between sexual minority stress and same-sex relationship well-being did not differ across different dimensions of relationship well-being. However, it might be worth noting that the effect size for relationship quality was statistically significant ($r = -.102$, $p < .01$) whereas neither the effect size for relationship closeness nor the effect size for relationship stability was significant ($r_s = -.083$ and $-.049$, ns , respectively).

Additional Effect-Level and Report-Level Characteristics

The effect size also differed across couple types ($F_{[2, 182]} = 3.860$, $p < .05$). Specifically, the effect size for the samples of same-sex female couples ($r = -.120$, $p < .001$) and the effect size for the mixed samples ($r = -.080$, $p < .05$) were significantly larger than that for the samples of same-sex male couples ($r = -.056$, ns). To examine the possibility that the effect size for the mixed samples was significant because of the presence of same-sex female couples, we coded a new variable indicating the percentage of same-sex female couples in the mixed samples ($Mean = 47.74\%$, $SD = .14$, $Min = 20\%$, and $Max = .62\%$) and correlated this variable with the effect sizes for mixed samples. The correlation was not significant ($r = -.197$, ns), suggesting that the significant effect size for mixed samples might not be simply because of the presence of same-sex female couples. We also tested if the effect size was associated with the methodological quality of the effect sizes ($Mean = .58$, $SD = .40$, $Min = .00$, $Max = 1.50$), but the result was nonsignificant ($b = .030$, ns).

There was no evidence suggesting effects of the report-level characteristics. Specifically, the effect size was not associated with partners' mean age ($b = .001$, ns), the mean relationship duration ($b = .001$, ns), the socioeconomic diversity of the sample (reversely) indicated by the percentage of highly educated participants (i.e., college education or above) in the samples ($b = .490$, ns), or the racial/ethnic diversity of the sample (reversely) indicated by the percentage of White participants in the samples ($b = .420$, ns). The strength of the association between sexual minority stress and same-sex relationship well-being did not differ between published and unpublished reports ($r = -.080$, $p < .05$ and $r = -.137$, $p < .05$, respectively; $F_{[1, 24.5]} = .750$, ns).

Sensitivity Analyses and Publication Bias

Using the sandwich estimator method, results of the sensitivity analyses indicated that the estimates and standard errors for the overall weighted ($r = -.090$, $p < .01$) and unweighted effect size ($r = -.083$, $p < .01$) (see Appendix Table 2) were very similar to those from the multi-level analyses (see Table 1). In addition, 5 of the 32 research reports contributed more than 10 effect sizes (primarily because they examined multiple relationship well-being outcomes and multiple types of minority stress), and 27 of the 32 research reports contributed fewer than 10 effect sizes to the sample of effects. Results indicated that the estimated weighted effect sizes ($F_{[1, 24.7]} = .030$, ns) and the unweighted effect sizes ($F_{[1, 136]} = .010$, ns) did not differ by the number of effect sizes a research report contributed to the total sample of effect sizes used in the analyses (see Appendix Table 2).

The funnel plot (see Appendix Figure 1) depicted an approximately symmetrical pattern around the mean of Fisher's Z transformed effect estimates (i.e., $-.090$), indicating minimal publication bias. The association between sexual minority stress and relationship well-being did not differ between published and unpublished reports (see Table 1). Moreover, we found no indication of publication bias according to the Begg and Mazumdar's rank correlation test ($z = .697, p = .486$). Thus, there seems to be minimal estimation errors due to publication bias.

Discussion

The present meta-analysis synthesized the available research on the association between sexual minority stress and same-sex relationship well-being conducted prior to the U.S. Supreme Court decision legalizing same-sex marriage nationwide. We summarized the research methodology that has been utilized to examine this issue in a particular historical time period, and obtained increased specificity in our understanding of the impacts of sexual minority stress on same-sex relationship well-being by differentiating among different types of sexual minority stress and among different dimensions of relationship well-being. Several effect- and report-level factors also were examined to explain the variability in the association between sexual minority stress and same-sex relationship well-being. Findings of this study showed how the existing methodological approaches have shaped what we know and what we do not know about the association between sexual minority stress and same-sex relationship well-being, and suggested several possible avenues for future research.

The Average Association between Minority Stress and Same-Sex Relationship Well-Being

Our results confirmed that sexual minority stress was on average associated negatively with same-sex relationship well-being. However, the magnitude of this association was quite “small” based on Cohen's (1988) effect size criteria. Several possible explanations may apply to this finding, suggesting that such a “*small*” effect is not necessarily a “*trivial*” effect but rather may have important implications for future research. From a *methodological* perspective, considering the overall “low” quality of work in this field to date, especially the restricted sample characteristics (i.e., predominantly White, middle-class, and highly educated same-sex couples living in the US urban areas), it might not be surprising to find such a small overall effect. As Karney et al. have pointed out (e.g., Karney & Bradbury, 2005; Karney et al., 2005), conclusions of research regarding the association between stress and couple relationship well-being can be particularly susceptible to the influences of sample characteristics. Despite the fact that stress is on average negatively associated with couple relationship well-being across all segments of society, they may be especially detrimental for couples who lack resources that can facilitate effective coping. Analyses based on “low-risk” samples likely provide conservative tests of the association between stress and relationship well-being because such samples represent a narrow range of stressors and have more access to resources that can help them better cope with stress and thus attenuate the negative association between stress and relationship well-being. Therefore, a more accurate understanding of the association between sexual minority stress

and same-sex relationship well-being may hinge on examinations based on representative samples.

From a *theoretical* perspective, whereas some same-sex couples become distressed under stressful circumstances, many are able to navigate the deleterious consequences of stress and achieve successful relationships. As some qualitative studies have suggested (e.g., Frost, 2011; Reczek, 2015; Rostosky & Riggle, 2015), same-sex couples often can strategically cope with minority stressors, and the experiences of such stressors can somewhat promote their relationship resilience and strengthen their relationship bonds. Accordingly, another possible explanation for why such a small overall effect was found may be that the negative effects of sexual minority stress are buffered by various resilient factors inherent within same-sex partners and relationships. Thus, continuing to document the generic association between sexual minority stress and same-sex relationship well-being seems to be reaching a point of diminished returns; rather, future research will benefit from investigating under what conditions same-sex relationships can thrive in stressful circumstances.

The Roles of the Effect-Level and Report-Level Characteristics

Our findings also indicated that there was significant variability around the mean effect size for the association between sexual minority stress and same-sex relationship well-being, and such variability could be partly explained by the stress type. The effect size for internalized homophobia was significant, whereas the effect sizes for heterosexist discrimination and sexual orientation visibility management were not. The effect size for internalized homophobia was significantly larger than those for the other two. Such findings add to an emerging body of evidence suggesting that sexual minority stress is not monolithic but actually multidimensional, and that it is promising to examine their relative contributions to same-sex relationship well-being (e.g., Meyer, 2003). The salience of internalized homophobia for same-sex relationship well-being, as compared to the influences of the other types of sexual minority stressors, is consistent with the proposition that minority stressors that are more proximal to the self may hold greater implications for individuals' personal and relational well-being than the more distal minority stressors (Meyer, 2003). Possible exploratory pathways via which internalized homophobia may affect same-sex relationship well-being have been proposed in the "Introduction" section, but research is needed to empirically test those mechanisms.

The strength of the association between sexual minority stress and same-sex relationship well-being did not differ across different dimensions of relationship well-being. However, sexual minority stress was significantly and negatively associated with relationship quality but not significantly associated with relationship closeness or stability. As noted already, experiences of stress often impair couple relationship well-being through draining resources that partners may otherwise employ to relationship facilitation, decrease positive exchanges between partners, and increase negative exchanges between partners (Bodenmann, 2005; Conger et al., 2010). These processes may more likely and more directly affect individuals' sentiment toward their partner and relationship than individuals' long-term views of the relationship (i.e., commitment/stability). Although closeness represents a more affective

dimension of relationship well-being, the nonsignificant finding for this dimension may be because of the small number of effect sizes.

The results also indicated that the negative association between sexual minority stress and relationship well-being was significant for same-sex female couples but not for same-sex male couples. Several possible explanations have been proposed in the “Introduction” section for why relationships involving two women may be more susceptible to the influences of stress than are relationships involving two men, which are not reiterated here. Future research, however, will benefit from directly investigating those explanations. Moreover, this finding also may suggest that examining how sex/gender and sexual orientation intersect to shape the stress and relationship experiences of same-sex couples constitutes a direction for future research.

Although several effect-level variables moderated the association between stress and same-sex relationship well-being, no evidence was found with respect to the effects of any report-level characteristics. This lack may be due to the limited variability in these variables. That is, most of the null findings may simply arise from a failure of the field in its current status to examine samples of same-sex couples that are demographically diverse. Thus, we tend to be cautious when interpreting these findings and recommend researchers test the effects of these variables in representative samples.

The Current Status of Research Approaches Employed in this Field

Recent analyses based on the U.S. Census data have suggested that partners in same-sex relationships are heterogeneous in race/ethnicity and social class (Gates, 2015; Kastanis & Wilson, 2014), and that same-sex couples' residences are not limited to specific communities or geographic areas but rather are represented in both urban and rural communities and in both socially progressive and conservative states and nations (Gates, 2013; Moore & Brainer, 2013). However, as demonstrated in the present study, most of what we know to date with regard to the association between sexual minority stress and same-sex relationship well-being has been primarily based on samples of predominantly White, middle-class, and highly educated couples living in urban areas within the U.S.

The current analyses also indicated that there was substantial variability in several other same-sex partner characteristics, such as sexual orientation or gender identity, union status, and parental status. Taken together, these findings highlighted the importance of examining how different sociostructural factors may, independently and intersectionally, affect the association between sexual minority stress and same-sex relationship well-being. The intersectionality theories can be useful for investigating the diversity inherent within same-sex relationships because they emphasize how multiple identities may intersect to shape individuals' life experiences (Ferguson et al., 2014).

Our analyses also indicated that although there has been a proliferation of research concerned with the association between sexual minority stress and same-sex relationship well-being over the past few decades, the methodological rigor of research in this field tended to be very low across different time periods. Most of the existing studies were cross-sectional, exclusively utilized self-report questionnaire method, collected data only from one

partner in a couple, and analyzed data only at the individual. It is imperative to improve research designs in this field to obtain high quality data (e.g., the longitudinal, multi-method, and multi-informant designs and data based on representative samples).

In terms of data collection methods that may be utilized in the future research of this field, the following ones may be noteworthy. First, daily diary is appropriate for studying experiences of stress that occur on a recurring daily basis (Bolger, Davis, & Rafaeli, 2003), which makes retrospective biases less likely, allows for the examination of daily fluctuations around the mean levels of stress, and helps to reflect a full assessment of the average of stress experiences over a period of time. Second, qualitative or mixed-methods are very helpful when examining the understudied topics in historically underrepresented populations (which is the case for research in this field) because they not only allow researchers to capture the full range of participants' experiences, but also enable researchers to probe how participants make meaning of their experiences (Gabb, 2013). Third, as stress often has unseen physiological effects on individuals, produces heightened levels of arousal, and then influence individuals' personal health and relational adjustment, psychophysiological approaches such as assessing cardiac indicators of autonomic functioning and salivary cortisol levels as an indicator of hypothalamic-pituitary-adrenal axis functioning are important for delineating the physiological mechanisms through which minority stress may influence same-sex partners' relational well-being.

As to statistical analyses, the more advanced approaches (e.g., structural equation modeling, multilevel modeling) should be more widely utilized in this field, which will help to capture the complexity inherent in same-sex relationships (Smith, Sayer, & Goldberg, 2013). The interdependence between partners has been long emphasized in couple relationship research, highlighting the importance of dyadic approaches in this field. Thus, collecting data from both partners in a same-sex couple is imperative and dyadic data analytic strategies such as the actor-partner interdependence model and its derivatives should be more widely used in this field (Kenny, Kashy, & Cook, 2006).

Limitations of the Current Study

Although we have identified some limitations of the present meta-analysis over the course of the paper, some additional ones also need to be noted. First, this study was limited by an insufficient number of effect sizes for more complex and meaningful analyses. For example, although sexual minority stress and relationship well-being are both multidimensional, we were unable to examine the interaction between stress type and couple relationship well-being dimension to further specify what specific aspects of same-sex relationship well-being are predicted by what specific types of minority stress.

Second, research reports included in this meta-analysis were conducted prior to the U.S. Supreme Court decision legalizing same-sex marriage nationwide, a historical period within which the legal contexts for same-sex couples were remarkably varied across the country. The life experiences of same-sex couples participating in these selected studies might be branded with historical marks. Investigating how the marriage equality decision will affect same-sex couples' experiences of stress becomes an important mission for future research (Hatzenbuehler et al., 2012; Meyer, 2016).

Third, although meta-analysis has been widely utilized to synthesize research findings, limitations of this type of analysis should be acknowledged (e.g., Walker, Hernandez, & Kattan, 2008). When performing a meta-analysis, researchers must make theoretical and methodological choices and these choices affect the results, and some of the choices are made “arbitrarily.” In the present study, (a) although we provided a rationale for the multifaceted conceptualization of sexual minority stress and relationship well-being, the number of research reports included in the current analysis depends on how broad the definitions of stress and relationship well-being are; and that (b) although the rating system of the methodological rigor of effect sizes has been utilized in prior meta-analyses (Buehler et al., 1997; Weymouth et al., 2016), this system awaits to be systematically evaluated and refined.

Fourth, although the social network source of stress was coded but it was not further examined in the present study as a moderator because: (a) few studies clearly specified the social network source of stress and examined its association with relationship well-being and the number of effect sizes for each subcategory was quite limited; and (b) the available research that did specify the network source of stress and examine its impacts on same-sex relationship well-being were primarily qualitative (e.g., Reczek, 2015; Rostosky, Korfhage, Duhigg, Stern, Bennett, & Riggle, 2004; Rothblum, Balsam, & Solomon, 2011). However, it is important to specify the social network source of stress for same-sex couples and examining their relative influences on same-sex relationship well-being (LeBlanc, Frost, Alston-Stepnitz, Bauermeister, Stephenson, Woodyatt, & de Vries, 2015). Although some studies have demonstrated the salient influences of family members in shaping same-sex relationship well-being (e.g., Reczek, 2015), a recent study found that sexual minority individuals relied less on family and more on others (e.g., friends) for daily support (Frost, Meyer, & Schwartz, 2016).

Lastly, although general life stress was coded, it was not examined as a central focus in the present study because of the particularly small number of effect sizes (i.e., 6 effect sizes). Some preliminary findings, however, may be worth noting. The average effect size for general stress was $r = -.30$ ($p < .001$), which was larger than those for minority stressors coded in the current study. Considering the salient impacts of general life stress on different-sex relationships (Randall & Bodenmann, 2009; Story & Bradbury, 2004), the influential role of general life stress on same-sex relationship well-being might not be surprising. However, investigations of the association between general life stress and same-sex relationship well-being remain quite sparse to date. It is promising to examine: (a) the association between general stress and same-sex relationship well-being; (b) the relative influences of general stress and minority stress on same-sex relationship well-being; and (c) how different stressors may operate in conjunction to shape same-sex relationship well-being (Frost & Fingerhut, 2016; LeBlanc et al., 2015).

Conclusion

Given their historically disenfranchised status, same-sex couples likely experience increased vulnerabilities for relationship well-being. The implications that different types of sexual minority stress may have for same-sex relationship well-being have been one of the

important research foci during the past few decades. Findings of the present meta-analytic review suggest that on average sexual minority stress was significantly and negatively associated with same-sex relationship well-being. The magnitude of this association, however, was small. It is also noteworthy that internalized homophobia was negatively and moderately associated with same-sex relationship well-being, whereas heterosexual discrimination and sexual orientation visibility management were not. Moreover, the effect size for internalized homophobia was significantly larger than those for heterosexual discrimination and sexual orientation visibility management, suggesting that minority stressors that are more proximal to the self might be more salient predictors of same-sex relationship well-being.

Considering the restricted sample characteristics in the existing research, the “*small*” effect sizes we found in the current study may not necessarily be “*trivial*” effects but rather may have critical methodological and theoretical implications. From a methodological perspective, examinations based on more diverse and representative samples in which the historically underrepresented populations are oversampled will yield less distorted view of the effects of stress on same-sex relationship well-being. From a theoretical perspective, continuing to document the simple main association between stress and same-sex relationship well-being seems to be reaching a point of diminished returns; rather, future research will benefit from systematically investigating this association from a more “*specified*” and “*refined*” perspective to address: (a) what aspects of same-sex relationship well-being are predicted by what types of stress; (b) under what conditions same-sex couples are able to successfully navigate the deleterious consequences of stress and thrive in stressful circumstances; and (c) under what situations stress will take hold in same-sex relationships and impair relationship well-being.

Acknowledgments

Preparation of this article was supported by funding from the NICHD (1K01 HD075833-01; PI: W. Roger Mills-Koonce) and by funding from the American Psychological Foundation's 2015 Roy Scrivner Research Grant (PI: Hongjian Cao).

Appendix

Figure 1.

Funnel plot of Fisher's Z transformed effect sizes.

Note. This plot depicts the distribution of standard error as a function of effect size. In the absence of publication bias, the plot should look like a funnel where research reports are distributed symmetrically around *the mean Fisher's Z transformed effect size* (i.e., -0.090 in the present study).

Table 1
Description of Individual Research Reports Included in this Meta-Analysis (N = 32)

Report	N	Sampling Strategy	Region (%)	Age (year)	Rate (%)	Ethn (%)	Sexual Orientation (%)	Sample Type	Unit/Lenq (year)	Design	Method	Data Type	Main Analysis Method	Sexual Orientation (%)	Sample Status (%)	Parental Status (%)	Annual Income or Socioeconomic Status (%)	
Brager (1990)	1411	Annual membership directories of national support groups for women on complex	Illinois and Wisconsin (23), Southern California (77)	1979-9	96	92	Exclusively homosexual (70), predominantly homosexual (24)	Mixed	6.3	C	S	I	Correlation	Exclusively homosexual (70), predominantly homosexual (24)	Currently living with partner (90.2) and more described their sexual orientation	×	\$14,000-\$19,999 (11), \$20,000-\$29,999 (11)	
*Rennett (1990)	1021	Organization and bulletin boards of New Community Services (NCS), a national organization of women in LGBT cities	Large city (53%), medium city (35%), small city (12%), and county (2)	38.5	84.3	82.4	Exclusively lesbian (49%), predominantly lesbian (63%), bisexual (16%), and gay (12%)	F	7.08	C	S	I	Correlation & Regression	Exclusively lesbian (49%), predominantly lesbian (63%), bisexual (16%), and gay (12%)	Currently living with partner (90.2) and more described their sexual orientation	Living with child (12.7)	<\$25,000 (3.4), \$25,000-\$49,999 (51.1), >\$50,000 (1.7)	
*McIntire (1992)	221 C	Advertisements in LGBT magazines, local bookstores, and social networks	Metropolitan U.S. (50.7), suburban (28), rural (14.3)	36	94.2	88.3	×	F	7.4	C	S	D	Correlation	×	×	Had children (13.3)	\$10,000 (12.6), \$10,000-\$19,999 (44), \$20,000-\$29,999 (23.3), \$30,000-\$39,999 (19.2), >\$40,000 (1.2)	
Ross & Rosser (1996)	1841	Participants attending the National Lesbian Health Services	A Midwestern U.S. city	37.0	×	65.4	×	M	×	C	S	I	Correlation	×	×	×	×	
Cantor & Ulin (1997)	1241	Advertisements in LGBT magazines, local bookstores, and social networks	New England (51%), Midwest (31%), South (11%), and West (7%)	15	×	88	×	F	4.5	C	S	I	Correlation	×	×	×	Male or upper middle class (73)	
*Barnes (1998)	461	Snowball sampling	Southern California	45	83	91.6	×	F	6	C	S	I	Correlation	×	×	×	<\$40,000 (47.7), >\$40,000 (10.3), \$40,000-\$49,999 (1.7)	
Jordan & DeBruin (2000)	3051	Convenience sampling and snowball sampling	12.4 in rural areas, 4.6 in suburban settings, and 3.9 in urban settings	33.5	85.6	96	×	F	3.9	C	S	I	Path Analysis	×	×	×	Highest level of 7 or higher (> 30)	
Ogden & Rothblum (2000)	1071	Snowball sampling and convenience sampling	25 U.S. states, including California, New York, and Washington	33	92	75	×	F	×	C	S	I	Regression	×	Primary living with partner (64.1), Single (35.9), and more described their sexual orientation	Reported parenting (11.4)	<\$30,000 (77)	
*Henderson (2001)	8571	Snowball sampling and convenience sampling	×	F: 37 M: 38.2	F: 86 M: 87	F: 70 M: 75	×	Mixed	F: 5.8 M: 7.0	C	S	I	Structural Equation Modeling	×	×	×	79% and 77% professional and graduate students for gay and lesbian, respectively	Median \$40,000-\$49,999
*MacLean-Morris (2003)	89 C	Snowball sampling and convenience sampling	10 U.S. states: AZ (38.2), WA (14.6), NM (12.4), CA (11.2), HI (11.6), IL (5.5), and others (4.3)	43	82.6	92.3	×	M	9.2	C	S	I	Regression	Exclusively toward men (58.6), predominantly toward men, moderately toward men, moderately toward women (41.4), and predominantly toward women (0.0)	Exclusively toward men (58.6), predominantly toward men, moderately toward men, moderately toward women (41.4), and predominantly toward women (0.0)	×	×	Under \$10,000 (5), \$10,000-\$19,999 (28), \$20,000-\$29,999 (12), \$30,000-\$39,999 (12), \$40,000 or more (16)
Bakum & Rymaszewski (2005)	2721	Public events, snowball sampling, and convenience sampling	Northeast (41), South (38.2), West (16), and Central (3)	34.8	85	96	×	F	4.2	C	S	I	Regression & Path Analysis	Lesbian or gay (77), Bisexual (18.6), Gay (0.1), and Others (4)	Lesbian or gay (77), Bisexual (18.6), Gay (0.1), and Others (4)	×	×	Under \$10,000 (5), \$10,000-\$19,999 (28), \$20,000-\$29,999 (12), \$30,000-\$39,999 (12), \$40,000 or more (16)
Tokoguchi et al. (2005)	313 C	A letter was sent to all members of the LGBT community in Vermont	VT (65.3), NY (11.2), MA (11.2), CT (11.2), NH (11.2), and others (4.3)	M: 45.5 F: 44	82.5	×	×	Mixed	×	C	S	×	MANOVA, Correlation	×	Civilization in Vermont	×	Mean Gay = \$60,795, Mean Lesbian = \$47,939	
Mohr & Fastagier (2006)	401 C	Solicitation on LGBT magazines	Illinois (51) and more diverse regions of the U.S. and Canada	36.2	85.7	78.6	×	Mixed	6.3	C	S	D	Multiple Regression Model by Family & Social Support	×	×	×	×	
Onis, Riggle, & Ronsky (2006)	41 C	Advertisements in local LGBT magazines	Midwest region	32.4	86	65	Lesbian (95), Bisexual (5)	F	4.0	C	S	D	Regression & Kenny's (1996) techniques	Lesbian (95), Bisexual (5)	×	×	Median \$30,000-\$39,999	
Onis, Ronsky, Riggle, & Herring (2008)	131 C	Advertisements in local LGBT magazines	28 U.S. states	M: 37.3 F: 38.7	F: 79.7 M: 82.8	×	F: 100% of partner (A and B), 71% of partner (B), 11.4% of partner (A and B), and 0% of partner (A and B) (2.1)	Mixed	F: 7.5 M: 6.3	C	S	D	Path Analysis & Kenny's (1996) techniques	F: 100% of partner (A and B), 71% of partner (B), 11.4% of partner (A and B), and 0% of partner (A and B) (2.1)	×	×	Family income ranged from \$10,000 to \$39,999, with the male income at \$10,000	

Report	N	Sampling Strategy	Region (%)	Age (year)	Rate (%)	Rate (%)	Sexual Orientation (%)	Sample Type	Union Length (year)	Design	Method	Data Type	Main Analysis Method	Sexual Orientation (%)	Control Union Status (%)	Domestic Status (%)	Annual Income of Same-sex Union (%)
Mohr & Daily (2008)	511	Anonymous in public universities	13 U.S. states: Pacific Northwest (19%), Midwest (19%), Northeast (22)	22.7	75	100	Bisexual (13), Gay or Lesbian (13), and Other (5)	Match	2.5	L	S	I	Regression	Bisexual (13), Gay or Lesbian (13), and Other (5)	x	x	x
Clauss & Rouman (2009)	490	x	A Midwestern U.S. community	34.3 (p < .05)	87	x	x	Match	M: 7.1, F: 5.9	C	S & O	D	Multi-level Modeling	x	x	x	x
Henderson et al. (2009)	1141	Non-probability, purposive, and convenience sampling (e.g., Craigslist, flyers, e-mail lists, and social networks, and snowball sampling)	Quebec (10), Ontario (10), British Columbia (10), Alberta (10), Saskatchewan (10), Manitoba (10), and other provinces (10)	33.4	82.5	96.5	x	F	4.87	C	S	I	Structural Equation Modeling	x	x	x	< \$35,000 (21.4), \$35,000-\$49,999 (21.7), \$50,000-\$64,999 (21.9), \$65,000-\$79,999 (22.1), \$80,000-\$94,999 (22.3), \$95,000-\$109,999 (22.5), \$110,000-\$124,999 (22.7), \$125,000-\$139,999 (22.9), \$140,000-\$154,999 (23.1), \$155,000-\$169,999 (23.3), \$170,000-\$184,999 (23.5), \$185,000-\$199,999 (23.7), \$200,000-\$214,999 (23.9), \$215,000-\$229,999 (24.1), \$230,000-\$244,999 (24.3), \$245,000-\$259,999 (24.5), \$260,000-\$274,999 (24.7), \$275,000-\$289,999 (24.9), \$290,000-\$304,999 (25.1), \$305,000-\$319,999 (25.3), \$320,000-\$334,999 (25.5), \$335,000-\$349,999 (25.7), \$350,000-\$364,999 (25.9), \$365,000-\$379,999 (26.1), \$380,000-\$394,999 (26.3), \$395,000-\$409,999 (26.5), \$410,000-\$424,999 (26.7), \$425,000-\$439,999 (26.9), \$440,000-\$454,999 (27.1), \$455,000-\$469,999 (27.3), \$470,000-\$484,999 (27.5), \$485,000-\$499,999 (27.7), \$500,000-\$514,999 (27.9), \$515,000-\$529,999 (28.1), \$530,000-\$544,999 (28.3), \$545,000-\$559,999 (28.5), \$560,000-\$574,999 (28.7), \$575,000-\$589,999 (28.9), \$590,000-\$604,999 (29.1), \$605,000-\$619,999 (29.3), \$620,000-\$634,999 (29.5), \$635,000-\$649,999 (29.7), \$650,000-\$664,999 (29.9), \$665,000-\$679,999 (30.1), \$680,000-\$694,999 (30.3), \$695,000-\$709,999 (30.5), \$710,000-\$724,999 (30.7), \$725,000-\$739,999 (30.9), \$740,000-\$754,999 (31.1), \$755,000-\$769,999 (31.3), \$770,000-\$784,999 (31.5), \$785,000-\$799,999 (31.7), \$800,000-\$814,999 (31.9), \$815,000-\$829,999 (32.1), \$830,000-\$844,999 (32.3), \$845,000-\$859,999 (32.5), \$860,000-\$874,999 (32.7), \$875,000-\$889,999 (32.9), \$890,000-\$904,999 (33.1), \$905,000-\$919,999 (33.3), \$920,000-\$934,999 (33.5), \$935,000-\$949,999 (33.7), \$950,000-\$964,999 (33.9), \$965,000-\$979,999 (34.1), \$980,000-\$994,999 (34.3), \$1,000,000-\$1,014,999 (34.5), \$1,015,000-\$1,029,999 (34.7), \$1,030,000-\$1,044,999 (34.9), \$1,045,000-\$1,059,999 (35.1), \$1,060,000-\$1,074,999 (35.3), \$1,075,000-\$1,089,999 (35.5), \$1,090,000-\$1,104,999 (35.7), \$1,105,000-\$1,119,999 (35.9), \$1,120,000-\$1,134,999 (36.1), \$1,135,000-\$1,149,999 (36.3), \$1,150,000-\$1,164,999 (36.5), \$1,165,000-\$1,179,999 (36.7), \$1,180,000-\$1,194,999 (36.9), \$1,195,000-\$1,209,999 (37.1), \$1,210,000-\$1,224,999 (37.3), \$1,225,000-\$1,239,999 (37.5), \$1,240,000-\$1,254,999 (37.7), \$1,255,000-\$1,269,999 (37.9), \$1,270,000-\$1,284,999 (38.1), \$1,285,000-\$1,299,999 (38.3), \$1,300,000-\$1,314,999 (38.5), \$1,315,000-\$1,329,999 (38.7), \$1,330,000-\$1,344,999 (38.9), \$1,345,000-\$1,359,999 (39.1), \$1,360,000-\$1,374,999 (39.3), \$1,375,000-\$1,389,999 (39.5), \$1,390,000-\$1,404,999 (39.7), \$1,405,000-\$1,419,999 (39.9), \$1,420,000-\$1,434,999 (40.1), \$1,435,000-\$1,449,999 (40.3), \$1,450,000-\$1,464,999 (40.5), \$1,465,000-\$1,479,999 (40.7), \$1,480,000-\$1,494,999 (40.9), \$1,495,000-\$1,509,999 (41.1), \$1,510,000-\$1,524,999 (41.3), \$1,525,000-\$1,539,999 (41.5), \$1,540,000-\$1,554,999 (41.7), \$1,555,000-\$1,569,999 (41.9), \$1,570,000-\$1,584,999 (42.1), \$1,585,000-\$1,599,999 (42.3), \$1,600,000-\$1,614,999 (42.5), \$1,615,000-\$1,629,999 (42.7), \$1,630,000-\$1,644,999 (42.9), \$1,645,000-\$1,659,999 (43.1), \$1,660,000-\$1,674,999 (43.3), \$1,675,000-\$1,689,999 (43.5), \$1,690,000-\$1,704,999 (43.7), \$1,705,000-\$1,719,999 (43.9), \$1,720,000-\$1,734,999 (44.1), \$1,735,000-\$1,749,999 (44.3), \$1,750,000-\$1,764,999 (44.5), \$1,765,000-\$1,779,999 (44.7), \$1,780,000-\$1,794,999 (44.9), \$1,795,000-\$1,809,999 (45.1), \$1,810,000-\$1,824,999 (45.3), \$1,825,000-\$1,839,999 (45.5), \$1,840,000-\$1,854,999 (45.7), \$1,855,000-\$1,869,999 (45.9), \$1,870,000-\$1,884,999 (46.1), \$1,885,000-\$1,899,999 (46.3), \$1,900,000-\$1,914,999 (46.5), \$1,915,000-\$1,929,999 (46.7), \$1,930,000-\$1,944,999 (46.9), \$1,945,000-\$1,959,999 (47.1), \$1,960,000-\$1,974,999 (47.3), \$1,975,000-\$1,989,999 (47.5), \$1,990,000-\$2,004,999 (47.7), \$2,005,000-\$2,019,999 (47.9), \$2,020,000-\$2,034,999 (48.1), \$2,035,000-\$2,049,999 (48.3), \$2,050,000-\$2,064,999 (48.5), \$2,065,000-\$2,079,999 (48.7), \$2,080,000-\$2,094,999 (48.9), \$2,095,000-\$2,109,999 (49.1), \$2,110,000-\$2,124,999 (49.3), \$2,125,000-\$2,139,999 (49.5), \$2,140,000-\$2,154,999 (49.7), \$2,155,000-\$2,169,999 (49.9), \$2,170,000-\$2,184,999 (50.1), \$2,185,000-\$2,199,999 (50.3), \$2,200,000-\$2,214,999 (50.5), \$2,215,000-\$2,229,999 (50.7), \$2,230,000-\$2,244,999 (50.9), \$2,245,000-\$2,259,999 (51.1), \$2,260,000-\$2,274,999 (51.3), \$2,275,000-\$2,289,999 (51.5), \$2,290,000-\$2,304,999 (51.7), \$2,305,000-\$2,319,999 (51.9), \$2,320,000-\$2,334,999 (52.1), \$2,335,000-\$2,349,999 (52.3), \$2,350,000-\$2,364,999 (52.5), \$2,365,000-\$2,379,999 (52.7), \$2,380,000-\$2,394,999 (52.9), \$2,395,000-\$2,409,999 (53.1), \$2,410,000-\$2,424,999 (53.3), \$2,425,000-\$2,439,999 (53.5), \$2,440,000-\$2,454,999 (53.7), \$2,455,000-\$2,469,999 (53.9), \$2,470,000-\$2,484,999 (54.1), \$2,485,000-\$2,499,999 (54.3), \$2,500,000-\$2,514,999 (54.5), \$2,515,000-\$2,529,999 (54.7), \$2,530,000-\$2,544,999 (54.9), \$2,545,000-\$2,559,999 (55.1), \$2,560,000-\$2,574,999 (55.3), \$2,575,000-\$2,589,999 (55.5), \$2,590,000-\$2,604,999 (55.7), \$2,605,000-\$2,619,999 (55.9), \$2,620,000-\$2,634,999 (56.1), \$2,635,000-\$2,649,999 (56.3), \$2,650,000-\$2,664,999 (56.5), \$2,665,000-\$2,679,999 (56.7), \$2,680,000-\$2,694,999 (56.9), \$2,695,000-\$2,709,999 (57.1), \$2,710,000-\$2,724,999 (57.3), \$2,725,000-\$2,739,999 (57.5), \$2,740,000-\$2,754,999 (57.7), \$2,755,000-\$2,769,999 (57.9), \$2,770,000-\$2,784,999 (58.1), \$2,785,000-\$2,799,999 (58.3), \$2,800,000-\$2,814,999 (58.5), \$2,815,000-\$2,829,999 (58.7), \$2,830,000-\$2,844,999 (58.9), \$2,845,000-\$2,859,999 (59.1), \$2,860,000-\$2,874,999 (59.3), \$2,875,000-\$2,889,999 (59.5), \$2,890,000-\$2,904,999 (59.7), \$2,905,000-\$2,919,999 (59.9), \$2,920,000-\$2,934,999 (60.1), \$2,935,000-\$2,949,999 (60.3), \$2,950,000-\$2,964,999 (60.5), \$2,965,000-\$2,979,999 (60.7), \$2,980,000-\$2,994,999 (60.9), \$2,995,000-\$3,009,999 (61.1), \$3,010,000-\$3,024,999 (61.3), \$3,025,000-\$3,039,999 (61.5), \$3,040,000-\$3,054,999 (61.7), \$3,055,000-\$3,069,999 (61.9), \$3,070,000-\$3,084,999 (62.1), \$3,085,000-\$3,099,999 (62.3), \$3,100,000-\$3,114,999 (62.5), \$3,115,000-\$3,129,999 (62.7), \$3,130,000-\$3,144,999 (62.9), \$3,145,000-\$3,159,999 (63.1), \$3,160,000-\$3,174,999 (63.3), \$3,175,000-\$3,189,999 (63.5), \$3,190,000-\$3,204,999 (63.7), \$3,205,000-\$3,219,999 (63.9), \$3,220,000-\$3,234,999 (64.1), \$3,235,000-\$3,249,999 (64.3), \$3,250,000-\$3,264,999 (64.5), \$3,265,000-\$3,279,999 (64.7), \$3,280,000-\$3,294,999 (64.9), \$3,295,000-\$3,309,999 (65.1), \$3,310,000-\$3,324,999 (65.3), \$3,325,000-\$3,339,999 (65.5), \$3,340,000-\$3,354,999 (65.7), \$3,355,000-\$3,369,999 (65.9), \$3,370,000-\$3,384,999 (66.1), \$3,385,000-\$3,399,999 (66.3), \$3,400,000-\$3,414,999 (66.5), \$3,415,000-\$3,429,999 (66.7), \$3,430,000-\$3,444,999 (66.9), \$3,445,000-\$3,459,999 (67.1), \$3,460,000-\$3,474,999 (67.3), \$3,475,000-\$3,489,999 (67.5), \$3,490,000-\$3,504,999 (67.7), \$3,505,000-\$3,519,999 (67.9), \$3,520,000-\$3,534,999 (68.1), \$3,535,000-\$3,549,999 (68.3), \$3,550,000-\$3,564,999 (68.5), \$3,565,000-\$3,579,999 (68.7), \$3,580,000-\$3,594,999 (68.9), \$3,595,000-\$3,609,999 (69.1), \$3,610,000-\$3,624,999 (69.3), \$3,625,000-\$3,639,999 (69.5), \$3,640,000-\$3,654,999 (69.7), \$3,655,000-\$3,669,999 (69.9), \$3,670,000-\$3,684,999 (70.1), \$3,685,000-\$3,699,999 (70.3), \$3,700,000-\$3,714,999 (70.5), \$3,715,000-\$3,729,999 (70.7), \$3,730,000-\$3,744,999 (70.9), \$3,745,000-\$3,759,999 (71.1), \$3,760,000-\$3,774,999 (71.3), \$3,775,000-\$3,789,999 (71.5), \$3,790,000-\$3,804,999 (71.7), \$3,805,000-\$3,819,999 (71.9), \$3,820,000-\$3,834,999 (72.1), \$3,835,000-\$3,849,999 (72.3), \$3,850,000-\$3,864,999 (72.5), \$3,865,000-\$3,879,999 (72.7), \$3,880,000-\$3,894,999 (72.9), \$3,895,000-\$3,909,999 (73.1), \$3,910,000-\$3,924,999 (73.3), \$3,925,000-\$3,939,999 (73.5), \$3,940,000-\$3,954,999 (73.7), \$3,955,000-\$3,969,999 (73.9), \$3,970,000-\$3,984,999 (74.1), \$3,985,000-\$3,999,999 (74.3), \$4,000,000-\$4,014,999 (74.5), \$4,015,000-\$4,029,999 (74.7), \$4,030,000-\$4,044,999 (74.9), \$4,045,000-\$4,059,999 (75.1), \$4,060,000-\$4,074,999 (75.3), \$4,075,000-\$4,089,999 (75.5), \$4,090,000-\$4,104,999 (75.7), \$4,105,000-\$4,119,999 (75.9), \$4,120,000-\$4,134,999 (76.1), \$4,135,000-\$4,149,999 (76.3), \$4,150,000-\$4,164,999 (76.5), \$4,165,000-\$4,179,999 (76.7), \$4,180,000-\$4,194,999 (76.9), \$4,195,000-\$4,209,999 (77.1), \$4,210,000-\$4,224,999 (77.3), \$4,225,000-\$4,239,999 (77.5), \$4,240,000-\$4,254,999 (77.7), \$4,255,000-\$4,269,999 (77.9), \$4,270,000-\$4,284,999 (78.1), \$4,285,000-\$4,299,999 (78.3), \$4,300,000-\$4,314,999 (78.5), \$4,315,000-\$4,329,999 (78.7), \$4,330,000-\$4,344,999 (78.9), \$4,345,000-\$4,359,999 (79.1), \$4,360,000-\$4,374,999 (79.3), \$4,375,000-\$4,389,999 (79.5), \$4,390,000-\$4,404,999 (79.7), \$4,405,000-\$4,419,999 (79.9), \$4,420,000-\$4,434,999 (80.1), \$4,435,000-\$4,449,999 (80.3), \$4,450,000-\$4,464,999 (80.5), \$4,465,000-\$4,479,999 (80.7), \$4,480,000-\$4,494,999 (80.9), \$4,495,000-\$4,509,999 (81.1), \$4,510,000-\$4,524,999 (81.3), \$4,525,000-\$4,539,999 (81.5), \$4,540,000-\$4,554,999 (81.7), \$4,555,000-\$4,569,999 (81.9), \$4,570,000-\$4,584,999 (82.1), \$4,585,000-\$4,599,999 (82.3), \$4,600,000-\$4,614,999 (82.5), \$4,615,000-\$4,629,999 (82.7), \$4,630,000-\$4,644,999 (82.9), \$4,645,000-\$4,659,999 (83.1), \$4,660,000-\$4,674,999 (83.3), \$4,675,000-\$4,689,999 (83.5), \$4,690,000-\$4,704,999 (83.7), \$4,705,000-\$4,719,999 (83.9), \$4,720,000-\$4,734,999 (84.1), \$4,735,000-\$4,749,999 (84.3), \$4,750,000-\$4,764,999 (84.5), \$4,765,000-\$4,779,999 (84.7), \$4,780,000-\$4,794,999 (84.9), \$4,795,000-\$4,809,999 (85.1), \$4,810,000-\$4,824,999 (85.3), \$4,825,000-\$4,839,999 (85.5), \$4,840,000-\$4,854,999 (85.7), \$4,855,000-\$4,869,999 (85.9), \$4,870,000-\$4,884,999 (86.1), \$4,885,000-\$4,899,999 (86.3), \$4,900,000-\$4,914,999 (86.5), \$4,915,000-\$4,929,999 (86.7), \$4,930,000-\$4,944,999 (86.9), \$4,945,000-\$4,959,999 (87.1), \$4,960,000-\$4,974,999 (87.3), \$4,975,000-\$4,989,999 (87.5), \$4,990,000-\$5,004,999 (87.7), \$5,005,000-\$5,019,999 (87.9), \$5,020,000-\$5,034,999 (88.1), \$5,035,000-\$5,049,999 (88.3), \$5,050,000-\$5,064,999 (88.5), \$5,065,000-\$5,079,999 (88.7), \$5,080,000-\$5,094,999 (88.9), \$5,095,000-\$5,109,999 (89.1), \$5,110,000-\$5,124,999 (89.3), \$5,125,000-\$5,139,999 (89.5), \$5,140,000-\$5,154,999 (89.7), \$5,155,000-\$5,169,999 (89.9), \$5,170,000-\$5,184,999 (90.1), \$5,185,000-\$5,199,999 (90.3), \$5,200,000-\$5,214,999 (90.5), \$5,215,000-\$5,229,999 (90.7), \$5,230,000-\$5,244,999 (90.9), \$5,245,000-\$5,259,999 (91.1), \$5,260,000-\$5,274,999 (91.3), \$5,275,000-\$5,289,999 (91.5), \$5,290,000-\$5,304,999 (91.7), \$5,305,000-\$5,319,999 (91.9), \$5,320,000-\$5,334,999 (92.1), \$5,335,000-\$5,349,999 (92.3), \$5,350,000-\$5,364,999 (92.5), \$5,365,000-\$5,379,999 (92.7), \$5,380,000-\$5,394,999 (92.9), \$5,395,000-\$5,409,999 (93.1), \$5,410,000-\$5,424,999 (93.3), \$5,425,000-\$5,439,999 (93.5), \$5,440,000-\$5,454,999 (93.7), \$5,455,000-\$5,469,999 (93.9), \$5,470,000-\$5,484,999 (94.1), \$5,485,000-\$5,499,999 (94.3), \$5,500,000-\$5,514,999 (94.5), \$5,515,000-\$5,529,999 (94.7), \$5,530,000-\$5,544,999 (94.9), \$5,545,000-\$5,559,999 (95.1), \$5,560,000-\$5,574,999 (95.3), \$5,575,000-\$5,589,999 (95.5), \$5,590,000-\$5,604,999 (95.7), \$5,605,000-\$5,619,999 (95.9), \$5,620,000-\$5,634,999 (96.1), \$5,635,000-\$5,649,999 (96.3), \$5,650,000-\$5,664,999 (96.5), \$5,665,000-\$5,679,999 (96.7), \$5,680,000-\$5,694,999 (96.9), \$5,695,000-\$5,709,999 (97.1), \$5,710,000-\$5,724,999 (97.3), \$5,725,000-\$5,739,999 (97.5), \$5,740,000-\$5,754,999 (97.7), \$5,755,000-\$5,769,999 (97.9), \$5,770,000-\$5,784,999 (98.1), \$5,785,000-\$5,799,999 (98.3), \$5,800,000-\$5,814,999 (98.5), \$5,815,000-\$5,829,999 (98.7), \$5,830,000-\$5,844,999 (98.9), \$5,845,000-\$5,859,999 (99.1), \$5,860,000-\$5,874,999 (99.3), \$5,875,000-\$5,889,999 (99.5), \$5,890,000-\$5,904,999 (99.7), \$5,905,000-\$5,919,999 (99.9), \$5,920,000-\$5,934,999 (100.1), \$5,935,000-\$5,949,999 (100.3), \$5,950,000-\$5,964,999 (100.5), \$5,965,000-\$5,979,999 (100.7), \$5,980,000-\$5,994,999 (100.9), \$5,995,000-\$6,009,999 (101.1), \$6,010,000-\$6,024,999 (101.3), \$6,025,000-\$6,039,999 (101.5), \$6,040,000-\$6,054,999 (101.7), \$6,055,000-\$6,069,999 (101.9), \$6,070,000-\$6,084,999 (102.1), \$6,085,000-\$6,099,999 (102.3), \$6,100,000-\$6,114,999 (102.5), \$6,115,000-\$6,129,999 (102.7), \$6,130,000-\$6,144,999 (102.9), \$6,145,000-\$6,159,999 (103.1), \$6,160,000-\$6,174,999 (103.3), \$6,175,000-\$6,189,999 (103.5), \$6,190,000-\$6,204,999 (103.7), \$6,205,000-\$6,219,999 (103.9), \$6,220,000-\$6,234,999 (104.1), \$6,235,000-\$6,249,999 (104.3), \$6,250,000-\$6,264,999 (104.5), \$6,265,000-\$6,279,999 (104.7), \$6,280,000-\$6,294,999 (104.9), \$6,295,000-\$6,309,999 (105.1), \$6,310,000-\$6,324,999 (105.3), \$6,325,000-\$6,339,999 (105.5), \$6,340,000-\$6,354,999 (105.7), \$6,355,000-\$6,369,999 (105.9), \$6,370,000-\$6,384,999 (106.1), \$6,385,000-\$6,399,999 (106.3), \$6,400,000-\$6,414,999 (106.5), \$6,415,000-\$6,429,999 (106.7), \$6,430,000-\$6,444,999 (106.9), \$6,445,000-\$6,459,999 (107.1), \$6,460,000-\$6,474,999 (107.3), \$6,475,000-\$6,489,999 (107.5), \$6,490,000-\$6,504,999 (107.7), \$6,505,000-\$6,519,999 (107.9), \$6,520,000-\$6,534,999 (108.1), \$6,535,000-\$6,549,999 (108.3), \$6,550,000-\$6,564,999 (108.5), \$6,565,000-\$6,579,999 (108.7), \$6,580,000-\$6,594,999 (108.9), \$6,595,000-\$6,609,999 (109.1), \$6,610,000-\$6,624,999 (109.3), \$6,625,000-\$6,639,999 (109.5), \$6,640,000-\$6,654,999 (109.7), \$6,655,000-\$6,669,999 (109.9), \$6,670,000-\$6,684,999 (110.1), \$6,685,000-\$6,699,999 (110.3), \$6,700,000-\$6,714,999 (110.5), \$6,715,000-\$6,729,999 (110.7), \$6,730,000-\$6,744,999 (110.9), \$6,745,000-\$6,759,99

Report	N	Sampling Strategy	Region (%)	Age (year)	Race (%)	Edu (%)	Sexual Orientation (%)	Couple Type	Union Length (year)	Design	Method	Data Type	Main Analysis Method	Sexual Orientation (%)	Control Union Status (%)	Perennial Status (%)	Annual Income of Same-sex Couple (%)
Sevi et al. (2015)	2501	LGBT and other civil unions published on PubMed, and other LGBT and other civil unions published on PubMed	Canada	29.4	x	x	x	M	x	C	S	I	Regression	x	x	x	\$10,000 (14.1%), \$10,000-20,000 (14.4%), \$20,000-30,000 (14.4%), \$30,000-40,000 (14.4%), \$40,000-50,000 (14.4%), \$50,000-60,000 (14.4%), \$60,000-70,000 (14.4%), \$70,000-80,000 (14.4%), \$80,000-90,000 (14.4%), \$90,000-100,000 (14.4%), > \$100,000 (14.4%)

Note. Report: references marked with an “*”; indicate theses or dissertations and without an “*”; indicate journal articles. Sample size: I = individuals, C = Couples, M = same-sex male couples, Mixed = F = female, M = male; Age and Union Length: values with an “+” indicate medians and without an “+” indicate means. Couple Type: F = same-sex female couples, M = same-sex male couples, Mixed = both same-sex female couples and same-sex male couples; Design: C = cross-sectional, L = longitudinal; Method: S = self-report questionnaire, O = observation; Data Type: I = individual, C = Dyadic. Cell filled with a “x” indicates that a given report did not report relevant information or we could not provide a specific value for that variable based on the data presented by the researchers. The specific values in the table for Age, Race, Edu, and Union Length were rounded off to one decimal point in order to save space. It should be particularly noted that the definition and operationalization of characteristics such as rural areas, urban areas, and social class were not given by the authors of the current meta-analysis but by the authors of the selected studies, suggesting that we just presented information based on the reports of the original studies (e.g., when one report reported that 10% of participants were living in rural areas, we just presented in that report are from rural areas).

Table 2
Sensitivity Analyses using the Sandwich Estimator

	<i>k</i>	<i>n</i>	Estimate	<i>SE</i>	95% <i>CI</i>	Test statistic	<i>p</i>
Overall mean with sandwich estimator							
Weighted	32	179	-.090 ^{**}	.025	-.139, -.041	<i>t</i> = -3.580 ^{**}	.004
Unweighted	32	179	-.083 ^{**}	.025	-.132, -.034	<i>t</i> = -3.350 ^{**}	.007
Weighted overall mean by the number of effect sizes						<i>F</i> (1, 24.7) = .030	.865
Reports with fewer than 10 effect sizes	27	106	-.092 ^{**}	.029	-.149, -.035	<i>t</i> = -3.23 ^{**}	.003
Reports with more than 10 effect sizes	5	73	-.080	.065	-.207, .047	<i>t</i> = -1.24	.228
Unweighted overall mean by the number of effect sizes						<i>F</i> (1, 136) = .010	.938
Reports with fewer than 10 effect sizes	27	106	-.088	.097	-.278, .102	<i>t</i> = -.910	.383
Reports with more than 10 effect sizes	5	73	-.076	.117	-.305, .153	<i>t</i> = -.650	.527

Note. Subgroups with the same superscript represent nonsignificant differences.

^{**}
p < .01.

References

References marked with an asterisk indicate studies included in the meta-analysis.

- *. Ackbar S, Senn CY. What's the confusion about fusion?-Differentiating positive and negative closeness in lesbian relationships. *Journal of Marital and Family Therapy*. 2010; 36:416–430. DOI: 10.1111/j.1752-0606.2010.00219.x [PubMed: 21039656]
- Adams JM, Jones WH. The conceptualization of marital commitment: An integrative analysis. *Journal of Personality and Social Psychology*. 1997; 72:1177–1196. DOI: 10.1037/0022-3514.72.5.1177
- *. Balsam KF, Szymanski DM. Relationship quality and domestic violence in women's same-sex relationships: The role of minority stress. *Psychology of Women Quarterly*. 2005; 29:258–269. DOI: 10.1111/j.1471-6402.2005.00220.x
- Begg CB, Mazumdar M. Operating characteristics of a rank correlation test for publication bias. *Biometrics*. 1994; 50:1088–1101. DOI: 10.2307/2533446 [PubMed: 7786990]
- *. Berger RM. Passing: Impact of the quality of same-sex couple relationships. *Social Work*. 1990; 35:328–332. DOI: 10.1093/sw/35.4.328 [PubMed: 2392712]
- Bodenmann, G. Dyadic Coping and Its Significance for Marital Functioning. In: Revenson, TA, Kayser, K., Bodenmann, G., editors. *Couples coping with stress: Emerging perspectives on dyadic coping*. Washington, DC: American Psychological Association; 2005. p. 33–49.
- Bolger N, Davis A, Rafaeli E. Diary methods: Capturing life as it is lived. *Annual Review of Psychology*. 2003; 54:579–616. DOI: 10.1146/annurev.psych.54.101601.145030
- Booth A, Johnson D, Edwards JN. Measuring marital instability. *Journal of Marriage and the Family*. 1983; 45:387–394. DOI: 10.2307/351516
- *. Brownson, DF. Master thesis. 1998. Internalized homophobia and relationship satisfaction among lesbians. Retrieved from ProQuest Central Database
- Buehler C, Anthony C, Krishnakumar A, Stone G. Interparental conflict and youth problem behaviors: A meta-analysis. *Journal of Child and Family Studies*. 1997; 6:223–247. DOI: 10.1023/A:1025006909538

- Caldwell MA, Peplau LA. The balance of power in lesbian relationships. *Sex Roles*. 1984; 10:587–599. DOI: 10.1007/BF00287267
- *. Caron SL, Ulin M. Closeting and the quality of lesbian relationships. *Families in Society: The Journal of Contemporary Social Services*. 1997; 78:413–419. DOI: 10.1606/1044-3894.799
- *. Clausell E, Roisman GI. Outness, Big Five personality traits, and same-sex relationship quality. *Journal of Social and Personal Relationships*. 2009; 26:211–226. DOI: 10.1177/0265407509106711
- Cohen, J. *Statistical power analysis for the behavioral sciences*. 2nd. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc; 1988.
- Conger RD, Conger KJ, Martin MJ. Socioeconomic status, family processes, and individual development. *Journal of Marriage and Family*. 2010; 72:685–704. DOI: 10.1111/j.1741-3737.2010.00725.x [PubMed: 20676350]
- Crohan SE, Veroff J. Dimensions of marital well-being among White and Black newlyweds. *Journal of Marriage and the Family*. 1989; 51:373–383. DOI: 10.2307/352500
- *. Dispenza F. An exploratory model of proximal minority stress and the work-life interface for men in same-sex, dual-earner relationships. *Journal of Counseling & Development*. 2015; 93:321–332. DOI: 10.1002/jcad.12030
- *. Doyle DM, Molix L. How does stigma spoil relationships? Evidence that perceived discrimination harms romantic relationship quality through impaired self-image. *Journal of Applied Social Psychology*. 2014; 44:600–610. DOI: 10.1111/jasp.12252
- Fawcett EB, Hawkins AJ, Blanchard VL, Carroll JS. Do Premarital Education Programs Really Work? A Meta-analytic Study. *Family Relations*. 2010; 59:232–239. DOI: 10.1111/j.1741-3729.2010.00598.x
- Fellows KJ, Chiu HY, Hill EJ, Hawkins AJ. Work–Family Conflict and Couple Relationship Quality: A Meta-analytic Study. *Journal of Family and Economic Issues*. 2015; :1–10. DOI: 10.1007/s10834-015-9450-7
- Ferguson, AD., Carr, G., Snitman, A. Intersections of race-ethnicity, gender, and sexual minority communities. In: Miville, ML., Ferguson, AD., editors. *Handbook of race-ethnicity and gender in psychology*. New York, NY: Springer Science + Business Media; 2014. p. 45-63.
- Fincham FD, Bradbury TN. The assessment of marital quality: A reevaluation. *Journal of Marriage and the Family*. 1987; 49:797–809. DOI: 10.2307/351973
- *. Fingerhut AW, Maisel NC. Relationship formalization and individual and relationship well-being among same-sex couples. *Journal of Social and Personal Relationships*. 2010; 27:956–969. DOI: 10.1177/0265407510376253
- Fletcher GO, Simpson JA, Thomas G. The measurement of perceived relationship quality components: A confirmatory factor analytic approach. *Personality and Social Psychology Bulletin*. 2000; 26:340–354. DOI: 10.1177/0146167200265007
- Frost DM. Stigma and intimacy in same-sex relationships: A narrative approach. *Journal of Family Psychology*. 2011; 25:1–10. DOI: 10.1037/2326-3598.1.S.49 [PubMed: 21355641]
- Frost DM. Meanings of intimacy after Obergefell v. Hodges: Reflections on policy change and reply to commentary. *Analyses of Social Issues and Public Policy*. 2015; 15:431–435. DOI: 10.1111/asap.12105
- Frost DM, Fingerhut AW. Daily exposure to negative campaign messages decreases same-sex couples' psychological and relational well-being. *Group Processes & Intergroup Relations*. 2016; 19:477–492. DOI: 10.1177/1368430216642028
- Frost DM, Meyer IH, Hammack PL. Health and well-being in emerging adults' same-sex relationships: Critical questions and directions for research in developmental science. *Emerging Adulthood*. 2015; 3:3–13. DOI: 10.1177/2167696814535915 [PubMed: 27588221]
- Frost DM, Meyer IH, Schwartz S. Social support networks among diverse sexual minority populations. *American Journal of Orthopsychiatry*. 2016; 86:91–102. DOI: 10.1037/ort0000117 [PubMed: 26752447]
- Gabb, J. Qualitative research on LGBT-parent families. In: Goldberg, AE., Allen, KR., editors. *LGBT-parent families: Innovations in research and implications for practice*. New York, NY: Springer Science + Business Media; 2013. p. 325-342.

- Gates, GJ. Geography of the LGBT population. In: Baumle, AK., editor. International handbook on the demography of sexuality. New York, NY: Springer Science + Business Media; 2013. p. 229-242.
- Gates, GJ. LGB families and relationships: Analyses of the 2013 National Health Interview Survey. 2014. Retrieved from the University of California at Los Angeles, the Williams Institute website: <http://williamsinstitute.law.ucla.edu/wp-content/uploads/lgb-families-nhis-sep-2014.pdf>
- Gates, GJ. Lesbian, gay, bisexual, and transgender family formation and demographics. In: Swan, W., editor. Gay, lesbian, bisexual, and transgender civil rights: A public policy agenda for uniting a divided America. Boca Raton, FL: CRC Press; 2015. p. 21-34.
- Gilligan, C. In a different voice: Psychological theory and women's development. Cambridge, MA: Harvard University Press; 1982.
- Green R. Risk and Resilience in Lesbian and Gay Couples: Comment on Solomon, Rothblum, and Balsam 2004. *Journal of Family Psychology*. 2004; 18:290–292. DOI: 10.1037/0893-3200.18.2.290 [PubMed: 15222835]
- *. Greene DC, Britton PJ. Predicting relationship commitment in gay men: Contributions of vicarious shame and internalized homophobia to the investment model. *Psychology of Men & Masculinity*. 2015; 16:78–87. DOI: 10.1037/a0034988
- Hatzenbuehler ML, O'Leirigh C, Grasso C, Mayer K, Safren S, Bradford J. Effect of same-sex marriage laws on health care use and expenditures in sexual minority men: A quasi-natural experiment. *American Journal of Public Health*. 2012; 102:285–291. DOI: 10.2105/AJPH.2011.300382 [PubMed: 22390442]
- *. Henderson AW, Lehavot K, Simoni JM. Ecological models of sexual satisfaction among lesbian/bisexual and heterosexual women. *Archives of Sexual Behavior*. 2009; 38:50–65. DOI: 10.1007/s10508-008-9384-3 [PubMed: 18574685]
- *. Henderson, MC. Doctoral dissertation. 2001. Impact of romanticism, commitment, and internalized homophobia on accommodation processes among same-sex couples. Retrieved from ProQuest Central Database
- *. Jeong JY, Horne SG. Relationship characteristics of women in interracial same-sex relationships. *Journal of Homosexuality*. 2009; 56:443–456. DOI: 10.1080/00918360902821445 [PubMed: 19418334]
- *. Jones, JA. Doctoral dissertation. 2011. Relationship quality and internalized homophobia: The mediating effects of depression and social support for lesbian and gay couples. Retrieved from ProQuest Central Database
- *. Jordan KM, Deluty RH. Social support, coming out, and relationship satisfaction in lesbian couples. *Journal of Lesbian Studies*. 2000; 4:145–164. DOI: 10.1300/J155v04n01_09
- Jose A, Daniel O'Leary K, Moyer A. Does premarital cohabitation predict subsequent marital stability and marital quality? A meta-analysis. *Journal of Marriage and Family*. 2010; 72:105–116. DOI: 10.1111/j.1741-3737.2009.00686.x
- Jüni P, Altman DG, Egger M. Systematic reviews in health care: Assessing the quality of controlled clinical trials. *British Medical Journal*. 2001; 323:42–46. DOI: 10.1136/bmj.323.7303.42 [PubMed: 11440947]
- *. Kamen C, Burns M, Beach SH. Minority stress in same-sex male relationships: When does it impact relationship satisfaction? *Journal of Homosexuality*. 2011; 58:1372–1390. DOI: 10.1080/00918369.2011.614904 [PubMed: 22029562]
- Karney BR, Bradbury TN. Contextual Influences on Marriage: Implications for Policy and Intervention. *Current Directions in Psychological Science*. 2005; 14:171–174. DOI: 10.1111/j.0963-7214.2005.00358.x
- Karney, BR., Story, LB., Bradbury, TN. Marriages in context: Interactions between chronic and acute stress among newlyweds. In: Revenson, TA, Kayser, K., Bodenmann, G., editors. *Couples coping with stress: Emerging perspectives on dyadic coping*. Washington, DC: American Psychological Association; 2005. p. 13-32.
- Kastanis, A., Wilson, B. Race/ethnicity, gender and socioeconomic wellbeing of individuals in same-sex couples. 2014. Retrieved from the University of California at Los Angeles, the Williams Institute: <http://wiwp.archstaging.com/wp-content/uploads/Census-Compare-Feb-2014.pdf>
- Kenny, DA., Kashy, DA., Cook, WL. *Dyadic data analysis*. New York, NY: Guilford; 2006.

- *. Khaddouma A, Norona JC, Whitton SW. Individual, couple, and contextual factors associated with same-sex relationship instability. *Couple and Family Psychology: Research and Practice*. 2015; 4:106–125. DOI: 10.1037/cfp0000043
- Kuppens S, Laurent L, Heyvaert M, Onghena P. Associations between parental psychological control and relational aggression in children and adolescents: A multilevel and sequential meta-analysis. *Developmental psychology*. 2013; 49:1697–1712. DOI: 10.1037/a0030740 [PubMed: 23163637]
- LeBlanc AJ, Frost DM, Alston-Stepnitz E, Bauermeister J, Stephenson R, Woodyatt CR, de Vries B. Similar others in same-sex couples' social networks. *Journal of homosexuality*. 2015; 62:1599–1610. DOI: 10.1080/00918369.2015.1073046 [PubMed: 26192404]
- LeBlanc AJ, Frost DM, Wight RG. Minority stress and stress proliferation among same-sex and other marginalized couples. *Journal of Marriage and Family*. 2015; 77:40–59. DOI: 10.1111/jomf.12160 [PubMed: 25663713]
- *. Lewis RJ, Millettich RJ, Derlega VJ, Padilla MA. Sexual minority stressors and psychological aggression in lesbian women's intimate relationships: The mediating roles of rumination and relationship satisfaction. *Psychology of Women Quarterly*. 2014; 38:535–550. DOI: 10.1177/0361684313517866
- Malouff JM, Thorsteinsson EB, Schutte NS, Bhullar N, Rooke SE. The five-factor model of personality and relationship satisfaction of intimate partners: A meta-analysis. *Journal of Research in Personality*. 2010; 44:124–127. DOI: 10.1016/j.jrp.2009.09.004
- Marsh HW, Bornmann L, Mutz R, Daniel H, O'Mara A. Gender effects in the peer reviews of grant proposals: A comprehensive meta-analysis comparing traditional and multilevel approaches. *Review of Educational Research*. 2009; 79:1290–1326. DOI: 10.3102/0034654309334143
- *. Matchett-Morris GA. The mediating role of stress in the relationship between social support and couple satisfaction among gay male couples. Doctoral dissertation. 2004 Retrieved from ProQuest Central Database.
- *. Melamed DK. Internalized homophobia and lesbian couple functioning. Doctoral dissertation. 1992 Retrieved from ProQuest Central Database.
- Meyer IH. Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: conceptual issues and research evidence. *Psychological Bulletin*. 2003; 129:674–697. DOI: 10.1037/0033-2909.129.5.674 [PubMed: 12956539]
- Meyer IH. Does an improved social environment for sexual and gender minorities have implications for a minority stress research agenda. *Psychology of Sexualities Review*. 2016; 7(1):81–90. [PubMed: 27642514]
- Meyer, IH., Dean, L. Internalized homophobia, intimacy, and sexual behavior among gay and bisexual men. In: Herek, GM., editor. *Stigma and sexual orientation: Understanding prejudice against lesbians, gay men, and bisexuals*. Thousand Oaks, CA: Sage; 1998. p. 160-186.
- Mitnick DM, Heyman RE, Smith Slep AM. Changes in relationship satisfaction across the transition to parenthood: a meta-analysis. *Journal of Family Psychology*. 2009; 23:848–852. DOI: 10.1037/a0017004 [PubMed: 20001143]
- *. Mohr JJ, Daly CA. Sexual minority stress and changes in relationship quality in same-sex couples. *Journal of Social and Personal Relationships*. 2008; 25:989–1007. DOI: 10.1177/0265407508100311
- *. Mohr JJ, Fassinger RE. Sexual orientation identity and romantic relationship quality in same-sex couples. *Personality and Social Psychology Bulletin*. 2006; 32:1085–1099. DOI: 10.1177/0146167206288281 [PubMed: 16861312]
- Moore, MR., Brainer, A. Race and ethnicity in the lives of sexual minority parents and their children. In: Goldberg, AE., Allen, KR., editors. *LGBT-parent families: Innovations in research and implications for practice*. New York, NY: Springer Science + Business Media; 2013. p. 133-148.
- Moss BF, Schwebel AI. Defining intimacy in romantic relationships. *Family Relations*. 1993; 42:31–37. DOI: 10.2307/584918
- *. Oetjen H, Rothblum ED. When lesbians aren't gay: Factors affecting depression among lesbians. *Journal of Homosexuality*. 2000; 39:49–73. DOI: 10.1300/J082v39n01_04 [PubMed: 10864377]

- Oswald RF, Goldberg A, Kuvalanka K, Clausell E. Structural and moral commitment among same-sex couples: Relationship duration, religiosity, and parental status. *Journal of Family Psychology*. 2008; 22:411–419. DOI: 10.1037/0893-3200.22.3.411 [PubMed: 18540769]
- *. Otis MD, Rostosky SS, Riggle EB, Hamrin R. Stress and relationship quality in same-sex couples. *Journal of Social and Personal Relationships*. 2006; 23:81–99. DOI: 10.1177/0265407506060179
- *. Otis MD, Riggle EB, Rostosky SS. Impact of mental health on perceptions of relationship satisfaction and quality among female same-sex couples. *Journal of Lesbian Studies*. 2006; 10:267–283. DOI: 10.1300/J155v10n01_14 [PubMed: 16873225]
- Parent MC, DeBlaere C, Moradi B. Approaches to research on intersectionality: Perspectives on gender, LGBT, and racial/ethnic identities. *Sex Roles*. 2013; 68:639–645. DOI: 10.1007/s11199-013-0283-2
- Peplau LA, Fingerhut AW. The close relationships of lesbian and gay men. *Annual Review of Psychology*. 2007; 58:405–424. DOI: 10.1146/annurev.psych.58.110405.085701
- Peterson RA, Brown SP. On the use of beta coefficients in meta-analysis. *Journal of Applied Psychology*. 2005; 90:175–181. DOI: 10.1037/0021-9010.90.1.175 [PubMed: 15641898]
- Randall AK, Bodenmann G. The role of stress on close relationships and marital satisfaction. *Clinical Psychology Review*. 2009; 29:105–115. DOI: 10.1016/j.cpr.2008.10.004 [PubMed: 19167139]
- Raudenbush, SW., Bryk, AS. Hierarchical linear models: Applications and data analysis methods. Thousand Oaks, CA: Sage; 2002.
- Reczek C. Parental disapproval and gay and lesbian relationship quality. *Journal of family issues*. 2015; Advanced online publication. doi: 10.1177/0192513X14566638
- *. Reeves T, Horne SG. A comparison of relationship satisfaction, social support, and stress between women with first and prior same-sex relationship. *Journal of GLBT Family Studies*. 2009; 5:215–234. DOI: 10.1080/15504280903035720
- *. Romano, K. Unpublished doctoral dissertation. New York University; New York: 1990. The relation of perceived societal and familial homonegativism and homophobia and individual homophobia to relationship satisfaction and self-esteem in partnered lesbians.
- Rosenthal, R. Meta-analytic procedures for social research. Thousand Oaks, CA: Sage; 1991.
- *. Ross MW, Rosser BS. Measurement and correlates of internalized homophobia: A factor analytic study. *Journal of Clinical Psychology*. 1996; 52:15–21. DOI: 10.1002/(sici)1097-4679(199601)52:1<15::aid-jclp2>3.0.co;2-v [PubMed: 8682906]
- Rostosky SS, Korfhage BA, Duhigg JM, Stern AJ, Bennett L, Riggle ED. Same-sex couple perceptions of family support: A consensual qualitative study. *Family Process*. 2004; 43:43–57. DOI: 10.1111/j.1545-5300.2004.04301005.x [PubMed: 15359714]
- Rostosky SS, Otis MD, Riggle EB, Kelly S, Brodnicki C. An exploratory study of religiosity and same-sex couple relationships. *Journal of GLBT Family Studies*. 2008; 4:17–36. DOI: 10.1080/15504280802084407
- Rostosky SS, Riggle EB. 'Out' at work: The relation of actor and partner workplace policy and internalized homophobia to disclosure status. *Journal of Counseling Psychology*. 2002; 49:411–419. DOI: 10.1037/0022-0167.49.4.411
- Rostosky, SS., Riggle, EB. Happy together: Thriving as a same-sex couple in your family, workplace, and community. Washington, DC: American Psychological Association; 2015.
- Rostosky SS, Riggle ED. Same-sex relationships and minority stress. *Current Opinion in Psychology*. 2017; 13:29–38. DOI: 10.1016/j.copsyc.2016.04.011 [PubMed: 28813290]
- Rothblum ED, Balsam KF, Solomon SE. Narratives of same-sex couples who had civil unions in Vermont: The impact of legalizing relationships on couples and on social policy. *Sexuality Research & Social Policy*. 2011; 8:183–191. DOI: 10.1007/s13178-011-0054-1
- Seeman MV. Psychopathology in women and men: Focus on female hormones. *The American Journal of Psychiatry*. 1997; 154:1641–1647. DOI: 10.1176/ajp.154.12.1641 [PubMed: 9396940]
- *. Ševi S, Ivankovi I, Štulhofer A. Emotional intimacy among coupled heterosexual and gay/bisexual Croatian men: Assessing the role of minority stress. *Archives of sexual behavior*. 2016; 45:1259–1268. DOI: 10.1007/s10508-015-0538-9 [PubMed: 26014824]
- Smith, JZ., Sayer, AG., Goldberg, AE. Multilevel modeling approaches to the study of LGBT-parent families: Methods for dyadic data analysis. In: Goldberg, AE., Allen, KR., editors. LGBT-parent

families: Innovations in research and implications for practice. New York, NY: Springer Science + Business Media; 2013. p. 307-323.

Solomon SE, Rothblum ED, Balsam KF. Pioneers in partnership: Lesbian and gay male couples in civil unions compared with those not in civil unions and married heterosexual siblings. *Journal of Family Psychology*. 2004; 18:275–286. DOI: 10.1037/0893-3200.18.2.275 [PubMed: 15222833]

Sprecher S. Sexual satisfaction in premarital relationships: Associations with satisfaction, love, commitment, and stability. *Journal of Sex Research*. 2002; 39:190–196. DOI: 10.1080/00224490209552141 [PubMed: 12476266]

Story LB, Bradbury TN. Understanding marriage and stress: Essential questions and challenges. *Clinical Psychology Review*. 2004; 23:1139–1162. DOI: 10.1016/j.cpr.2003.10.002 [PubMed: 14729426]

*. Szymanski DM, Hilton AN. Fear of intimacy as a mediator of the internalized heterosexism-relationship quality link among men in same-sex relationships. *Contemporary Family Therapy: An International Journal*. 2013; 35:760–772. DOI: 10.1007/s10591-013-9249-3

Thompson L, Walker AJ. Gender in families: Women and men in marriage, work, and parenthood. *Journal of Marriage and the Family*. 1989; 51:845–871. DOI: 10.2307/353201

*. Todosijevic J, Rothblum ED, Solomon SE. Relationship satisfaction, affectivity, and gay-specific stressors in same-sex couples joined in civil unions. *Psychology of Women Quarterly*. 2005; 29:158–166. DOI: 10.1111/j.1471-6402.2005.00178.x

Torgerson CJ. Publication bias: The Achilles' heel of systematic reviews? *British Journal of Educational Studies*. 2006; 54:89–102. DOI: 10.1111/j.1467-8527.2006.00332.x

Totenhagen CJ, Curran MA, Serido J, Butler EA. Good days, bad days: Do sacrifices improve relationship quality? *Journal of Social and Personal Relationships*. 2013; 30:881–900. DOI: 10.1177/0265407512472475

Umberson D, Thomeer MB, Kroeger RA, Lodge AC, Xu M. Challenges and opportunities for research on same-sex relationships. *Journal of Marriage and Family*. 2015; 77:96–111. DOI: 10.1111/jomf.12155 [PubMed: 25598552]

Van den Noortgate W, Onghena P. Multilevel meta-analysis: A comparison with traditional meta-analytical procedures. *Educational and Psychological Measurement*. 2003; 63:765–790. DOI: 10.1177/0013164402251027

Veroff, J., Young, AM., Coon, HM. The early years of marriage. In: Duck, S., editor. *Handbook of personal relationships: Theory, research and interventions*. 2nd. Hoboken, NJ: John Wiley & Sons; 1997. p. 431-450.

Walker E, Hernandez AV, Kattan MW. Meta-analysis: Its strengths and limitations. *Cleveland Clinic Journal of Medicine*. 2008; 75(6):431–439. [PubMed: 18595551]

Weymouth BB, Buehler C, Zhou N, Henson RA. A meta-analysis of parent–adolescent conflict: Disagreement, hostility, and youth maladjustment. *Journal of Family Theory & Review*. 2016; 8:95–112. DOI: 10.1111/jftr.12126

*. Whitton SW, Kuryluk AD. Associations between relationship quality and depressive symptoms in same-sex couples. *Journal of Family Psychology*. 2014; 28:571–576. DOI: 10.1037/fam0000011 [PubMed: 25000131]

Yuan K, Bentler PM. On normal theory based inference for multilevel models with distributional violations. *Psychometrika*. 2002; 67:539–562. DOI: 10.1007/BF02295130

Figure 1. Trends over Time for the Number and the Methodological Rigor of Reports on the Association Between Sexual Minority Stress and Same-Sex Relationship Well-Being
 Note. The methodological rigor was created by averaging the methodological rigor of reports in a given year, and the number of publications was created by counting the number of reports in a given year.

Table 1

Summary of Multi-Level Meta-Analytic Results

Variable	k	n	Estimate	SE	95% CI	Test statistic	p
Overall mean							
Weighted	32	179	-.090 ^{**}	.026	-.040, -.140	$t = -3.530^{**}$	.002
Unweighted	32	179	-.083	.074	.062, -.228	$t = -1.120$	.288
Effect-level factors							
Stress type							
<i>Internalized Homophobia</i>	24	87	-.136 ^{a***}	.022	-.179, -.093	$F(2, 176) = 20.660^{***}$	.000
<i>Heterosexist Discrimination</i>	8	41	-.053 ^b	.028	-.108, .002	$t = -1.880$	.064
<i>Visibility Management</i>	13	51	.008 ^b	.026	-.043, .059	$t = .300$	.767
Relationship well-being dimension							
<i>Quality</i>	29	134	-.102 ^{a**}	.028	-.157, -.047	$F(2, 16.7) = .740$	.492
<i>Closeness</i>	5	14	-.083 ^a	.063	-.206, .040	$t = -1.320$	.198
<i>Stability</i>	8	31	-.049 ^a	.044	-.135, .047	$t = -1.100$	.282
Couple type							
<i>Same-sex male</i>	12	61	-.056 ^b	.031	-.117, .005	$F(2, 182) = 3.860^*$	.023
<i>Same-sex female</i>	16	63	-.120 ^{a***}	.030	-.179, -.061	$t = -1.820$	.076
<i>Mixed</i>	9	55	-.080 ^{a*}	.035	-.149, -.011	$t = -4.020^{**}$	.000
Methodological rigor	32	179	.030	.018	-.005, .065	$t = -2.260^*$	.028
Publication cohort						$t = 1.670$	.097
<i>1990s</i>	6	31	-.085 ^a	.064	-.210, -.040	$F(2, 25.1) = .070$	.933
<i>2000s</i>	14	96	-.102 ^{a*}	.040	-.180, -.024	$t = -1.340$	.192
<i>2010s</i>	12	52	-.081 ^a	.042	-.163, .001	$t = -2.520^*$	.018
						$t = -1.920$	.069
Report-level factors							
Publication type							
<i>Journal article</i>	26	135	-.080 ^{a*}	.029	-.137, -.023	$F(1, 24.5) = .750$	.395
<i>Thesis/dissertation</i>	6	44	-.137 ^{a*}	.060	-.255, -.019	$t = -2.780^*$	.010
Relationship duration	25	150	.001	.010	-.018, .020	$t = -2.290^*$	.031
						$t = .110$	.916

Variable	<i>k</i>	<i>n</i>	Estimate	<i>SE</i>	95% <i>CI</i>	Test statistic	<i>p</i>
Age	31	174	.001	.005	-.008, .010	<i>t</i> = .250	.805
Education	21	111	.490	.314	-.125, 1.105	<i>t</i> = 1.560	.135
Race/Ethnicity	29	170	.420	.461	-.484, 1.324	<i>t</i> = .910	.372

Note. Superscripts *a*, *b*, *c* and *d* are used to illustrate differences between subgroups; (a) subgroups with different superscripts represent significant differences; and subgroups with the same superscript represent nonsignificant differences. The “*k*” refers to the number of reports and the “*n*” refers to the number of effect sizes.

* *p* < .05,
** *p* < .01, and
*** *p* < .001.