

1 **Sex Differences in the Romantic Relationships of Same-Gender Couples: The Role of**
2 **Visibility Management**

3

4 Chao Song , and Ann Buysse

5 Department of Experimental Clinical and Health Psychology, Faculty of Psychology and
6 Educational Sciences, Ghent University, Ghent, Belgium

7

8 Wei-Hong Zhang

9 International Centre for Reproductive Health (ICRH), Department of Public Health and Primary
10 Care, Faculty of Medicine and Health Sciences, Ghent University, Ghent, Belgium

11

12 Jon Lasser

13 Department of Counseling, Leadership, Adult Education, and School Psychology, Texas State
14 University, San Marcos, TX, USA

15

16 Alexis Dewaele

17 Department of Experimental Clinical and Health Psychology, Faculty of Psychology and
18 Educational Sciences, Ghent University, Ghent, Belgium

1 **Sex differences in the romantic relationships of same-gender couples: the role of visibility**
2 **management**

3 **Abstract**

4 Although internalized homonegativity (IH) in lesbian, gay, or bisexual people (LGBs) predicts
5 adverse relationship satisfaction, this association has typically only been examined on an individual
6 level. Moreover, studies often ignore potential mechanisms that underlie sex differences. One of
7 these mechanisms is related to visibility management (i.e., the careful, planned decisions about
8 whether or not to disclose one's sexual orientation). Therefore, in this study we investigate dyadic
9 sex-specific associations between IH, visibility management, and relationship satisfaction. Our
10 sample includes 254 LGB couples (139 female and 115 male same-gender dyads) in Flanders,
11 Belgium. Data were analyzed with the Actor-Partner Interdependence Mediation Model (APIMeM).
12 Results indicated that there were small to medium significant correlations among IH, visibility
13 management, and relationship satisfaction. We also found support for mediated actor effects:
14 individuals low in IH maintain less restrictive visibility management strategies. These in turn lead
15 to higher relationship satisfaction, but only in female same-gender couples. Our findings contribute
16 to the understanding of mechanisms that underlie the harmful effects of sexual minority stressors
17 for same-gender relationship satisfaction.

18

19 **Keywords**

20 Actor-Partner Interdependence Mediation Model; Internalized Homonegativity; Visibility
21 Management; Same-Gender Relationship Satisfaction.

22 **Introduction**

23 In recent decades, the acceptance and public attitudes toward sexual minority couples (i.e.,
24 those who identify as lesbian, gay, or bisexual; LGBs) have significantly improved in the Western
25 world (Brewer, 2003; Dewaele, Van Houtte, Cox, & Vincke, 2013). However, these relationships
26 often remain devalued and contested. LGBs do not only suffer from general life stressors that are
27 experienced by all couples; they are also confronted with unique minority stressors because of being
28 members of a stigmatized group. This can be detrimental for their romantic relationships in terms
29 of relationship satisfaction, quality, and functioning (Li, Cao, Zhou, & Mills-Koonce, 2019;
30 Gonçalves, Costa, & Leal, 2019; Totenhagen, Randall, & Lloyd, 2018).

31 Several limitations in the existing research are worth noting. Firstly, studies are rare that shed
32 light on how internalized homonegativity (IH), a specific and often-studied minority stressor, might
33 influence romantic relationship characteristics (e.g., relationship satisfaction). Secondly, research
34 has almost exclusively focused on individuals in a romantic relationship instead of taking on a
35 dyadic perspective. The vast majority of existing studies on the association between IH and
36 relationship outcomes only focus on the individuals involved in same-gender couples rather than
37 the couple as a whole (Li et al., 2019). Finally, sex differences have rarely been considered, despite
38 existing evidence that these might play a role in same-gender relationship dynamics (Thies, Starks,
39 Denmark, & Rosenthal, et al., 2016).

1 In this study, we extend prior research by employing an actor-partner mediator model and
2 investigate the association between IH with relationship satisfaction. Specifically, we test whether
3 visibility management strategies mediated this association and whether there are different effects
4 among female and male same-gender couples.

5 **Minority stress and its impact on romantic relationships among LGBs**

6 Research conducted across numerous countries found that when LGBs experience minority
7 stress, this might negatively impact their romantic relationships (Cao, Zhou, Fine, & Liang, et al.,
8 2017; Frost & Meyer, 2009; Pepping, Cronin, Halford, & Lyons, 2019). Among various stressors,
9 IH has often been studied as a potential threat to LGBs' well-being (see e.g. Riggle, Rostosky, &
10 Horne, 2010). It is conceptualized as the internalization by LGBs of negative attitudes and
11 assumptions about sexual minorities in society. Meyer and Dean (1998) referred to it as 'the gay
12 person's direction of negative social attitudes toward the self, leading to a devaluation of the self
13 and resultant internal conflicts and poor self-regard' (p. 161). IH has been reported to have a direct
14 impact on relationship length for gay men (Ross & Rosser, 1996), and affects relationship problems
15 and relationship strain among LGBs (Frost & Meyer, 2009).

16 In the case of same-gender couples, the impact of IH on LGB couples has received some
17 attention in the literature. For example, large studies have found that high levels of internalized
18 homonegativity are associated with less satisfaction in romantic relationships (Pepping et al., 2019;
19 Sommantico, De Rosa, & Parrello, 2018; Thies et al., 2016). However, the mechanism underlying
20 the association between IH and relationship satisfaction has rarely been explored (Li et al., 2019;
21 Pepping et al., 2019). A qualitative study has shown that in response to internalized homonegativity,
22 couples use certain coping strategies such as the concealment of their intimate relationship, a form
23 of visibility management, to avoid rejection (Rostosky, Riggle, Gray, & Hatton, 2007). These
24 strategies might thus explain why or whether IH directly or indirectly affects relationship
25 satisfaction.

26 **Visibility management strategies as a mediating role**

27 According to Mohr and Daly (2008), concealment of one's sexual orientation might negatively
28 influence relationship quality through its effects on social support (i.e., intimate relationships that
29 stay hidden cannot receive support from their social environment) and on psychological functioning.
30 Of course, hiding one's intimate relationship is only one of the many behavioral options to cope
31 with minority-specific stressors. Early literature (see Goffman, 1963) identified managing one's
32 identity (i.e., impression management) as a coping strategy, to deal with potential discrimination on
33 the one hand and to avoid self-denial (i.e., to be 'true' to oneself) on the other. In this study, we will
34 therefore specifically focus on visibility management strategies as a way for LGBs to manage
35 experienced or anticipated minority stressors.

36 Visibility management strategies refer to an ongoing process by which LGBs make careful,
37 planned decisions about whether they will disclose their sexual orientation or romantic relationship
38 and by which they continue to monitor the presentation of their sexual orientation in different
39 environments (Lasser & Tharinger, 2003). Its goal is to regulate disclosure to maintain privacy as

1 well as minimize stigma, harm, or marginalization (Dewaele et al., 2013; Lasser, Ryser, & Price,
2 2010). In a qualitative study, support was found for a theoretical model that describes the association
3 between distal minority stress processes (experiencing the social environment as LGB-friendly or
4 homonegative), maintaining less or more restrictive visibility management strategies, and proximal
5 minority stress processes (Dewaele et al., 2013). A study making use of a relatively large sample
6 ($n=2378$) of LGBs also found that visibility management mediated the link between experiences of
7 internalized homonegativity and mental distress. These studies thus support the notion that visibility
8 management acts as a coping strategy for LGBs to manage stigma and to regulate experienced levels
9 of stress.

10 The role of visibility management strategies with regard to intimate relationships is illustrated
11 by research from Mohr and Daly (2008). They argue that not being open about one's sexual
12 orientation (i.e., more restrictive visibility management strategies) might negatively influence
13 intimate relationship quality through its effects on social support. Furthermore, research on same-
14 gender couples has offered evidence for a negative association between concealment on the one
15 hand and relationship satisfaction on the other hand (Jordan & Deluty, 2000; Pepping et al., 2019;
16 Uysal, Lin, Knee, & Bush, 2012). However, although these studies used some measure of
17 concealment, they did not measure visibility management as a dynamic, ongoing process that
18 includes verbal disclosure or concealment of a person's sexual orientation as well as a variety of
19 strategies and modes of communication (D'haese, Dewaele, & Houtte, 2016). Therefore, it remains
20 unknown if and how visibility management strategies relate to characteristics of intimate
21 relationships.

22 **Sex differences in same-gender romantic relationships from a dyadic perspective**

23 Sex also warrants consideration when examining minority stress and relationship outcomes
24 (Guschlbauer, Smith, DeStefano, & Soltis, 2019). There is a lack of research examining sex
25 differences in romantic relationships specifically. A systematic review of heterosexual couples
26 (Jackson et al., 2014) showed that women report slightly lower relationship satisfaction than men.
27 There is limited literature on sex differences in romantic relationships among LGBs. One study
28 focuses mainly on individual-level minority stress and relationship satisfaction (Rostosky & Riggle,
29 2017) but does not compare men with women. There is some evidence that women and men
30 experience different levels of minority stressors, with GB men reporting higher levels of IH than
31 LB women (Van Beusekom, Bos, Kuyper, Overbeek, et al., 2018), and lesbian women reporting
32 higher levels of relationship satisfaction than gay men (Guzmán-González, Barrientos, Gómez,
33 Meyer, et al., 2019). Additionally, identity concealment was linked with poorer individual outcomes
34 among lesbians only (Bariola, Lyons, & Leonard, 2016). Furthermore, jealousy alerts individuals to
35 threats to valued relationships but has also been shown to represent a potential risk to relationship
36 satisfaction that differs for gay and bisexual men when compared to lesbian and bisexual woman.
37 (Edlund & Sagarin 2017; Kuhle et al., 2009; Scherer et al., 2013). These results also raise questions
38 about the potential effect of IH on relationship satisfaction for female and male same-gender couples
39 separately.

1 Furthermore, given extensive evidence for stress crossover from one partner to another, studies
2 that investigate relationship satisfaction should include both partners (for review, see Randall, &
3 Bodenmann, 2017). Dyadic research on heterosexual couples has modelled stress and relationship
4 satisfaction via Actor-Partner Interdependence Models (APIM, e.g. Breitenstein, Milek, Nussbeck,
5 Davila et al., 2018; Randall, & Bodenmann, 2017; Williamson, Karney, & Bradbury, 2013).
6 Nevertheless, the vast majority of existing studies on the associations between minority-related
7 stress and same-gender romantic relationship outcomes have collected data from only one partner
8 in a couple and analysed data from an individual rather than a dyadic perspective (Li et al., 2019).
9 And even when both partners' data are available, researchers still face the challenge of
10 distinguishing one partner from the other simply based on their sex (i.e., the interchangeable nature
11 of same-gender dyads; Li et al., 2019; Sadler, Ethier, & Woody, 2011). Efforts appropriately
12 addressing this issue with more rigorous approaches are pressing (Ledermann, Macho, &
13 Kenny, 2011). To conclude, the purpose of the present study is to test the following hypotheses:

14 H1: IH will be negatively associated with relationship satisfaction in individuals.

15 H2: Visibility management will mediate the negative association between IH and relationship
16 satisfaction.

17 For both hypotheses we expect to find actor as well as partner effects. Finally, we will
18 investigate whether the associations between IH, visibility management, and relationship
19 satisfaction differ between male and female in same-gender romantic relationships.

20 **2 Methods**

21 *2.1 Data collection, Participants*

22 Data for this study were derived from a larger project and were collected through an online
23 survey between 2017 and 2018, in order to examine the impact of minority stress on the intimate
24 relationships of LGBs (see Symons, Dewaele, Van Houtte, & Buysse, 2019). The survey was
25 administered in Flanders (the Dutch-speaking community in Belgium) following a protocol that was
26 approved by the ethical board of the Faculty of Psychology and Educational Sciences (Ghent
27 University). Diverse recruitment strategies were used, including advertisements in the written press,
28 through LGB-specific and non-LGB-specific events and associations, and through social media
29 (mainly Facebook).

30 Participants were asked how they would label themselves in terms of sexual identity: 'more
31 heterosexual than homosexual', 'bisexual', 'more homosexual than heterosexual', 'homosexual', or
32 'something else'. Participants who indicated that they identify as 'more heterosexual than
33 homosexual' or who indicated 'something else' were asked whether they are able to complete
34 questions that concern LGBs. Individuals in a romantic relationship with a duration of more than
35 three months were selected for this study. Via a unique couple identifier code, respondents could be
36 matched with their partner. We included all couples that have two biological males or two biological
37 females in a relationship that has lasted for at least three months. Within this group, we explored the
38 gender identity of the individuals involved: 70.2 % of all participants identified as cisgender (i.e.,

1 someone whose gender identity matches their biological sex at birth, $n=348$), 2.8 % as transgender
2 (i.e., someone whose gender identity differs from their sex as registered at birth, $n=14$), 1.4% as
3 gender neutral (i.e., someone who identifies as not distinguishing according to gender, $n=7$), 0.8%
4 as bigender (i.e., someone who identifies as both male and female, $n=4$), and 24.8% as agender (i.e.,
5 someone who identifies as not belonging to any gender, $n=123$). 46.4 % of the couples involved at
6 least one partner who did not identify as cisgender.

7 The final sample included 254 same-gender couples (508 individual LGBs) with 139 female
8 and 115 male same-gender dyads. The age of the female participants ranged from 19 to 66 years
9 with an average of 34.53 years ($SD=11.04$). The age of the male participants ranged from 20 to 69
10 years with an average of 31.66 years ($SD=10.71$). The median of relationship duration was 48
11 months (interquartile range=24–120 months).

12 **2.2. Measures**

13 **2.2.1 Internalized Homonegativity Inventory**

14 IH was measured by a subscale of the Internalized Homonegativity Inventory as developed by
15 Mayfield (2001). This subscale consists of nine items that measure the extent to which LGB
16 respondents have developed negative attitudes towards homosexuality (e.g. ‘I feel ashamed of my
17 homosexuality’ and ‘When people around me talk about homosexuality, I get nervous’).
18 Respondents rated each item on a five-point scale (score 1 = *completely agree*, score 5 = *completely*
19 *disagree*). The scores of negatively phrased items were reversed so that a higher score refers to more
20 internalized homonegativity. Previous studies have demonstrated that scores on this scale among
21 Dutch participants have adequate internal consistency with Cronbach’s Alpha of 0.76 and 0.77
22 respectively (Cox et al., 2010; Dewaele et al., 2014). In the current sample, internal consistency was
23 0.75. Additionally, results obtained from the CFA demonstrated that the model fit is acceptable
24 ($\chi^2/df= 3.17$, CFI = 0.94, TLI = 0.90, and RMSEA = 0.07).

25 **2.2.2 Visibility Management Scale**

26 The Visibility Management Scale developed by Lasser et al. (2010) was adapted to measure
27 how participants manage the visibility of their romantic relationship. Participants who were in a
28 relationship were presented items that measure openness about being in a same-gender relationship
29 such as ‘I want my acquaintances to know that I have a relationship’ and ‘I am afraid others will
30 reject me if they discover that I have a relationship’. Fifteen items were rated on a six-point scale
31 (score 1 = *completely disagree*, score 6 = *completely agree*). The scores on negatively phrased items
32 were reversed so that a higher score refers to more openness. Internal consistency was judged to be
33 good in previous studies, with Cronbach’s Alpha values ranging from 0.75 to 0.92 (Dewaele et al.,
34 2014; D’haese et al., 2016; Lasser et al., 2005). In the current study Cronbach’s Alpha was 0.85.
35 The results of the CFA indicated that the model fit was acceptable ($\chi^2/df= 1.79$, CFI = 0.97, TLI =
36 0.96, and RMSEA = 0.04).

37 **2.2.3 Brief Dyadic Adjustment Scale**

38 The Brief Dyadic Adjustment Scale developed by Sabourin, Valois and Lussier (2005) was

1 applied to measure relationship satisfaction. This scale consists of four items, and the first three
2 items in the questionnaire employ a six-point Likert-type response format with responses ranging
3 from 1 (*always*) to 6 (*never*) to evaluate individuals' perceptions regarding the quality of life shared
4 with their partners (e.g., 'How often do you discuss, or have you considered separating, or ending
5 your relationship?'). The fourth item measures the individuals' subjective experience of happiness
6 in his or her romantic relationship. It employs a seven-point Likert-type response format with
7 responses ranging from 1 (*extremely unhappy*) to 7 (*perfectly happy*). Previous studies have
8 demonstrated that scores on this scale have an internal consistency reliability of 0.70–0.96 (i.e., the
9 values of Cronbach's Alpha) in the general population (Sabourin et al., 2005) and 0.65–0.84 among
10 LGBs (Caska-Wallace et al., 2016; Péloquin & Lafontaine, 2010; Gonçalves et al., 2019).
11 Cronbach's Alpha was 0.71 in the present sample. The results of the CFA indicated that the model
12 was an acceptable fit ($\chi^2/df= 3.43$, CFI = 0.97, TLI = 0.91, and RMSEA = 0.09).

13 **2.3 Statistical Analysis**

14 We used IBM SPSS Statistics version 22.0 (SPSS 22.0; see e.g., IBM, 2012) to perform
15 preliminary data analysis. Missing data patterns were examined among all key study variables. In
16 order to evaluate patterns of missingness, we computed the Little and Rubin (2002) missing
17 completely at random (MCAR) test; results suggest the data are missing completely at random,
18 $\chi^2 = 30.70$; $df = 28$, $p = 0.33$. Therefore, multiple imputation was used to handle missing data
19 (Baraldi & Enders, 2010). Outliers were investigated using the z test in which all raw scores were
20 transferred into z scores, where scores falling outside the convention of -3.29 and $+3.29$ were
21 regarded as outliers (Tabachnick & Fidell, 2001). Hence, eight outliers were discovered in the data,
22 which were replaced with the nearest non-extreme values in these variables (Barnett & Lewis,
23 1994). Residual and scatter plots and analysis of skewness and kurtosis values for all variables
24 indicated assumptions of normality, linearity, and homoscedasticity were satisfied.

25 Furthermore, common method variance may influence some hypothesized relationships
26 between constructs in the research model. Using Harman's single-factor test, we tested our data for
27 common method bias (Podsakoff & Organ, 1986). The first factor, which was extracted using
28 principal axis factoring without rotation, accounts for only 25.42% (less than 40%) of the overall
29 variance. Therefore, common method bias did not affect this analysis. In addition, variance inflation
30 factors (VIF) were calculated to check for multicollinearity. VIF value was 1.405, lower than the
31 upper limit of 10.0 (Neter et al., 1989). Therefore, multicollinearity issues did not affect this
32 analysis.

33 Mplus version 7.4 (Mplus 7.4; Muthén and Muthén, 2015) was used to perform the
34 confirmatory factor analysis (CFA). We evaluated the model using model fit indices including the
35 relative/normed chi-square (χ^2/df), comparative fit index (CFI), Tucker Lewis index (TLI), and root
36 mean square error of approximation (RMSEA), and good model fit is indicated with a χ^2/df of less
37 than 0.10, RMSEA of less than 0.10, and both CFI and TLI above 0.90 (Hu and Bentler, 1999;
38 Steiger, 1990). Finally, a dyadic mediation model (i.e., APIMeM) was analyzed. Two partners in a
39 same-gender couple should be regarded as "interchangeable" with one another, as their sex does not

1 vary within a couple. The APIMeM for interchangeable dyads is specifically designed with partner
 2 A and partner B designations as totally arbitrary and thus suitable for an interchangeable twin dyads
 3 model by forcing equality constraints on all parameters—means, variance, intercepts, and paths (the
 4 same actor effect and the same partner effect)—that are indistinguishable (Kenny et al., 2006; Olsen
 5 & Kenny, 2006; Sadler et al., 2011). Indirect effects were additionally estimated by bootstrap
 6 analyses as recommended by Hayes (2013). If the 95% confidence interval includes 0 then the
 7 indirect effect is not significant at the .05 level; if 0 is not in the interval then the indirect effect is
 8 statistically significant at the .05 level (Hayes, 2013). In addition, multigroup analyses were used to
 9 test whether the pathways (i.e., path coefficients) in our models were equal for the two samples
 10 (Kline, 2005). Before testing the differences of the multigroup model, the goodness of fit of the
 11 models was tested for the samples separately.

12 **3 Results**

13 **3.1 Preliminary analyses**

14 Consistent with previous study, we first explored the dyadic data for nonindependence using
 15 intraclass correlations (ICC) to investigate whether there are associations between both partners’
 16 reports of the same variable (Kenny, Kashy, & Cook, 2006). In our case, we checked a specific
 17 measure that can be applied to data from indistinguishable dyads (Alferes & Kenny, 2009). In dyadic
 18 data analysis, the ICC may assume any value between –1.0 and 1.0. An ICC of 1.0 suggests that
 19 members of the dyad had identical responses: any variability is completely attributed to dyad
 20 membership (Kenny, Kashy, & Cook, 2006).

21 The ICC indicated that same-gender couple members were similar to one another. Thus we
 22 moved forward with our dyadic data analyses. Means, standard deviations, and correlations of the
 23 main study variables are reported in Table 1. The scores of participants for IH ranged from 9 to 45
 24 ($M = 18.20, SD = 5.08$), visibility management ranged from 15 to 90 ($M = 68.90, SD = 10.49$),
 25 relationship satisfaction ranged from 4 to 25 ($M = 21.26, SD = 2.28$). There were small to medium
 26 significant correlations among all variables.

27 Table 1 Descriptive and correlations ($N=508$)

	M	SD	1	2	3	ICC
Females ($n=278$)						
1 Internalized Homonegativity	18.858	5.114	1			.396
2 Visibility Management	68.078	10.837	-.539**	1		.543
3 Relationship Satisfaction	21.373	2.539	-.167**	.192**	1	.825
Males ($n=230$)						
1 Internalized Homonegativity	17.342	4.970	1			.295

2 Visibility Management	69.825	10.115	-.567**	1		.514
3 Relationship Satisfaction	21.154	1.941	-.215**	.211**	1	.594

1 Note. * $p < 0.05$, ** $p < 0.01$

2 3.2 APIMeM Analyses

3 *Direct Paths*

4 The APIMeM was separately tested in the female subsample and male subsample. The baseline
5 model provided acceptable joint model-data fit indices for both groups, indicating that one common
6 model is plausible across genders (female subsample: $\chi^2/df = 1.11$, CFI = 0.99, TLI = 0.99, and
7 RMSEA = 0.03; male subsample: $\chi^2/df = 1.63$, CFI = 0.94, TLI = 0.94, and RMSEA = 0.07).
8 Standardized coefficients for path analyses are displayed in Figure 1 and 2.

9 For female same-gender couples, higher scores on IH were associated with more restrictive
10 visibility management strategies ($\beta = -0.53$, $p < 0.01$). Less restrictive visibility management
11 strategies were associated with higher relationship satisfaction ($\beta = 0.14$, $p < 0.05$). Other actor
12 effects are not significant. Additionally, none of the direct partner effects were significant (Figure
13 1). For male same-gender couples, higher scores on IH were associated with more restrictive
14 visibility management strategies ($\beta = -0.55$, $p < 0.01$). Other actor effects were not significant. None
15 of the direct partner effects were significant (Figure 2).

16 We also used multigroup models to test whether the path coefficients differ between women
17 and men. We compared the first model (allowing the paths to vary across sex) with the second model
18 (constraining the structural paths across gender to be equal) to examine the sex differences. The
19 results showed non-significant chi-square differences between two models, $\Delta\chi^2(6) = 2.84$, $p > 0.05$.
20 Inspection of each path coefficient further confirmed that there were no differences in direct effects.

21 *Mediating Paths*

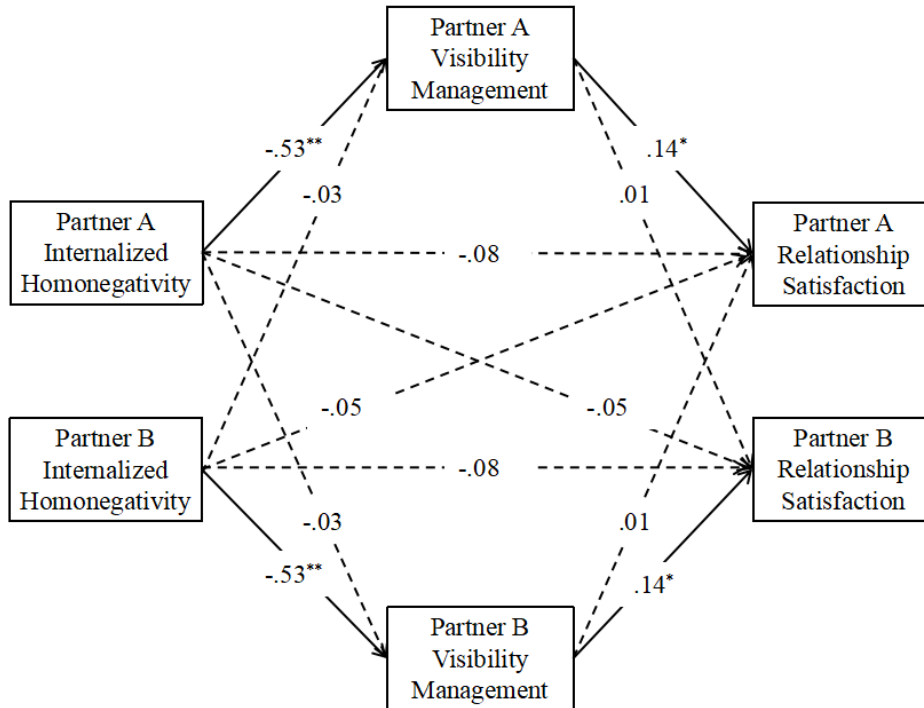
22 By testing the indirect effects of the model, we found a significant actor effect between IH and
23 relationship satisfaction via visibility management among female same-gender couples ($\beta = -.076$,
24 $95\%CI = [-.154, -.003]$, see Table 2 for details), yet no other partner effects. Additionally, for male
25 same-gender couples, none of the indirect actor or partner effects of IH on relationship satisfaction
26 via visibility management were significant.

27 Table 2 APIMeM results among female same-gender couples for the indirect results

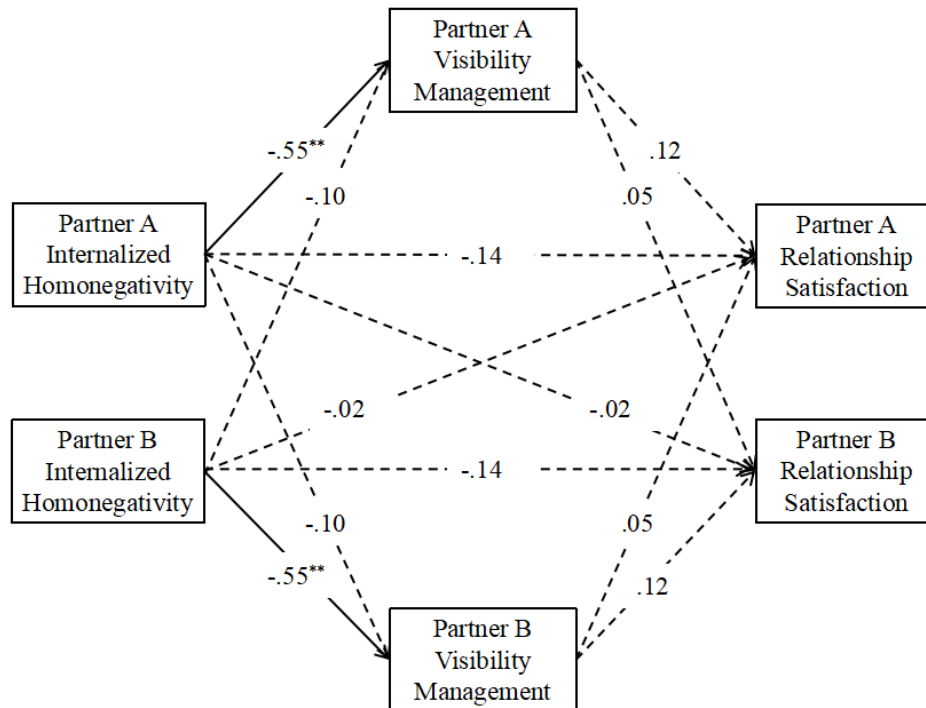
Indirect effect	Female same-gender couples		Male same-gender couples	
	β	95% CI	β	95% CI
IHa \rightarrow VMa \rightarrow RSa	-.076**	[-.154, -.003]	-.065	[-.150, .024]

IHa → VMp → RSa	-.001	[-.014, .008]	-.005	[-.030, .010]
IHa → VMa → RSp	-.004	[-.081, .070]	-.027	[-.109, .070]
IHa → VMp → RSp	-.048	[-.032, .009]	-.012	[-.040, .002]

- 1 Note: IH=Internalized Homonegativity. VM=visibility management. RS=Relationship
2 Satisfaction. a=actor. p=partner. * $p < 0.05$, ** $p < 0.01$.



- 3
4 Fig.1. Actor-Partner Interdependence Mediation Model for female same-gender couples.
5 Coefficients are standardized regression coefficients. * $p < .05$. ** $p < .01$.



1

2 Fig.2. Actor-Partner Interdependence Mediation Model for male same-gender couples.

3 Coefficients are standardized regression coefficients. * $p < .05$. ** $p < .01$.

4 **Discussion**

5 The aim of this study was to examine the association between IH and relationship satisfaction
6 within same-gender couples, to explore the role of visibility management as a mediator, and to
7 explore potential sex differences in these associations. The present study complemented and
8 extended prior research in important ways. Firstly, it is guided by a process perspective and utilizes
9 a more rigorous statistical strategy (i.e., the APIMeM with interchangeable dyads) to understand the
10 mechanisms that underlie relationship satisfaction in same-gender couples. Secondly, we tested sex
11 differences among these associations, since previous studies showed differences between GB men
12 and LB women in their experience of IH and relationship satisfaction (Guzmán-González et al.,
13 2019; Van et al., 2018). Our findings contribute to the understanding of the mechanisms related to
14 the impact of IH as a proximal sexual minority stressor. It also offers unique insights that might help
15 to develop interventions targeted at assisting same-gender couples with visibility management
16 strategies as a coping strategy.

17 **The association between IH and relationship satisfaction**

18 The lack of direct associations between IH and relationship satisfaction among female and
19 male LGBs in the mediation model is inconsistent with some earlier findings (Pepping et al., 2019;
20 Thies et al., 2016). This may, in part, reflect increased societal acceptance of LGB relationships. In
21 Belgium, civil marriage has been legal for same-gender couples since 2003, and in 2006 it became
22 possible for same-gender couples to adopt children (D’haese et al., 2016). This reflects a trend in
23 decreasing societal sexual stigma in recent years. This shift in public opinion and the changing social
24 landscape of sexual prejudice also highlights the need for ongoing research within this area to better

1 understand how current and ever-changing dynamics affect both individual and relationship
2 satisfaction among LGB individuals. The lack of direct associations between IH and relationship
3 satisfaction may also reflect the partnered status of individuals in this sample. Some research with
4 same-gender couples has found that, in comparison to single individuals, individuals who are
5 married or in committed relationships report lower levels of mental health problems, as well as
6 increased well-being and relationship satisfaction and decreased internalized homonegativity
7 (Parsons, Starks, DuBois, Grov et al., 2013; Riggle et al., 2010). Being in a committed relationship
8 potentially serves as a protective factor for LGB individuals with regard to the experience of stigma.
9 Therefore, findings based on the current sample may not be reflective of the larger LGB population,
10 particularly for those who are not in committed relationships. It should also be noted that there was
11 a significant association between IH and relationship satisfaction but that it disappeared when
12 controlled for visibility management. Previous research showed that visibility management
13 mediates the association between minority stressors and mental distress (Dewaele et al., 2014). This
14 study highlights that visibility management might also play a significant role in the association
15 between minority stressors and relationship satisfaction.

16 **The role of visibility management strategies and sex**

17 The present study confirms that individuals' visibility management strategies mediated the
18 associations between self-reported IH and relationship satisfaction among female same-gender
19 couples. In male same-gender couples, only IH and visibility management were associated. Previous
20 studies found that LGBs who experienced more minority stress maintained more restrictive
21 visibility management strategies (Dewaele, Van Houtte, & Vincke, 2014). Our study shows that this
22 also applies to managing visibility of the romantic relationship. Also, since lower IH scores were
23 associated with more less restrictive visibility management strategies, this might be explained by
24 the fact that these individuals have more access to gay-affirmative values and thus feel
25 psychologically more comfortable with same-gender sexual intimacy (Riggle, Rostosky, Black, &
26 Rosenkrantz, 2017).

27 We only found a relatively small significant association between visibility management and
28 relationship satisfaction among female participants. This could be due to women's self-
29 representations being more dependent on social relationships with significant others, and their self-
30 esteem, self-enhancement, and well-being depending more than those of men on thoughts, feelings,
31 and behaviors that express a connectedness to others (Cross & Madson, 1997). In other words, less
32 restrictive visibility management strategies among lesbian women could contribute to the creation
33 of a helpful and supportive network and therefore lead to more satisfaction in romantic relationships.
34 However, given the fact that the association is rather small and that there are no significant sex
35 differences in all direct paths, we should refrain from overinterpreting this result. Given the
36 relatively small same-gender male and females couples sample in our study, we cannot rule out the
37 possibility that sampling error may have affected the pattern of results observed in this study.

38 **Conclusion, limitations and future outlook**

39 Unlike previous studies aimed at demonstrating a partner effect of stress on relationship

1 satisfaction (Randall, & Bodenmann, 2017), this was not the case in our study. A plausible reason
2 is that the levels of experienced IH by LGBs in our sample was rather moderate and therefore does
3 not lead to psychological shock and behavioral change. Since Belgium is ranked in the top five of
4 most LGB friendly countries in Europe (Roelandt, Dewaele, Buysse, & Van Houtte, 2016), minority
5 stress might not explain relationship outcomes in same-gender couples well. Also, visibility
6 management is not the only mechanism to explain the association between IH and relationship
7 satisfaction. Other mediator variables, such as family support and confidant support, could also
8 explain the aforementioned association. Furthermore, since relationship satisfaction changes over a
9 longer period of time (Berscheid & Lopes, 1997), a longitudinal study is required.

10 In conclusion, the results of this study show that lower levels of IH are associated with higher
11 levels of relationship satisfaction through less restrictive visibility management strategies for female
12 same-gender couples. Results of the present study call for interventions to increase acceptance of
13 sexual diversity on a social level or reduce the level of IH among LGBs. Psychologists can use their
14 professional resources to negotiate visibility management strategies with LGB clients that are in a
15 romantic relationship to improve relationship satisfaction. In addition, although gender might play
16 an important role in relationship dynamics (Jackson et al., 2014; Van et al., 2018), our study showed
17 the evidence that the variation between male and female couples in terms of associations between
18 IH, visibility management, and relationship satisfaction, is rather limited.

19 **Conflict of Interest**

20 The authors declare that they have no conflict of interest.

21 **References**

- 22 Alferes, V. R., & Kenny, D. A. (2009). SPSS programs for the measurement of nonindependence
23 in standard dyadic designs. *Behavior Research Methods, 41*(1), 47–54.
- 24 Baraldi, A. N., & Enders, C. K. (2010). An introduction to modern missing data analyses. *Journal*
25 *of School Psychology, 48*(1), 5–37.
- 26 Bariola, E., Lyons, A., & Leonard, W. (2016). Gender-specific health implications of minority stress
27 among lesbians and gay men. *Australian and New Zealand Journal of Public Health, 40*(6),
28 506–512.
- 29 Barnett, V., & Lewis, T. (1994). *Outliers in statistical data (3rd ed.)*. Chichester: John Wiley &
30 Sons.
- 31 Berscheid, E., & Lopes, J. (1997). A temporal model of relationship satisfaction and stability. In R.
32 J. Sternberg & M. Hojjat (Eds.), *Satisfaction in Close Relationships* (pp. 129–159). New York:
33 Guilford.
- 34 Breitenstein, C. J., Milek, A., Nussbeck, F. W., Davila, J., & Bodenmann, G. (2018). Stress, dyadic
35 coping, and relationship satisfaction in late adolescent couples. *Journal of Social and Personal*
36 *Relationships, 35*(5), 770–790.

- 1 Brewer, P. R. (2003). The shifting foundations of public opinion about gay rights. *The Journal of*
2 *Politics*, 65(4), 1208–1220.
- 3 Cao, H., Zhou, N., Fine, M., Liang, Y., Li, J., & Mills-Koonce, W. R. (2017). Sexual minority stress
4 and same-sex relationship well-being: A meta-analysis of research prior to the U.S. nationwide
5 legalization of same-sex marriage. *Journal of Marriage and Family*, 79(5), 1258–1277.
- 6 Caska-Wallace, C. M., Katon, J. G., Lehavot, K., McGinn, M. M., & Simpson, T. L. (2016).
7 Posttraumatic stress disorder symptom severity and relationship functioning among partnered
8 heterosexual and lesbian women veterans. *LGBT Health*, 3(3), 186–192.
- 9 Cox, N., Dewaele, A., Van Houtte, M., & Vincke, J. (2010). Stress-related growth, coming out, and
10 internalized homonegativity in lesbian, gay, and bisexual youth. An examination of stress-
11 related growth within the minority stress model. *Journal of Homosexuality*, 58(1), 117–137.
- 12 Cross, S. E., & Madson, L. (1997). Models of the self: Self-construals and gender. *Psychological*
13 *Bulletin*, 122(1), 5–37.
- 14 Dewaele, A., Van Houtte, M., & Vincke, J. (2014). Visibility and coping with minority stress: A
15 gender-specific analysis among lesbians, gay men, and bisexuals in Flanders. *Archives of*
16 *Sexual Behavior*, 43(8), 1601–1614.
- 17 D’haese, L., Dewaele, A., & Houtte, M. V. (2016). Homophobic violence, coping styles, visibility
18 management, and mental health: A survey of Flemish lesbian, gay, and bisexual
19 individuals. *Journal of Homosexuality*, 63(9), 1211–1235.
- 20 Dewaele, A., Van Houtte, M., Cox, N., & Vincke, J. (2013). From coming out to visibility
21 management—A new perspective on coping with minority stressors in LGB youth in
22 Flanders. *Journal of Homosexuality*, 60(5), 685–710.
- 23 Edlund, J. E., & Sagarin, B. J. (2017). Sex differences in jealousy: A 25-year retrospective.
24 *Advances in Experimental Social Psychology*, 55, 259–302.
- 25 Frost, D. M., & Meyer, I. H. (2009). Internalized homophobia and relationship quality among
26 lesbians, gay men, and bisexuals. *Journal of Counseling Psychology*, 56(1), 97–109.
- 27 Goffman, E. (1963). *Stigma. Notes on the Management of Spoiled Identity*. Englewood Cliffs, NJ:
28 Prentice Hall.
- 29 Gonçalves, J. A. R., Costa, P. A., & Leal, I. (2019). Minority Stress in Older Portuguese Gay and
30 Bisexual Men and Its Impact on Sexual and Relationship Satisfaction. *Sexuality Research and*
31 *Social Policy*, 17, 209–218.
- 32 Guschlbauer, A., Smith, N. G., DeStefano, J., & Soltis, D. E. (2019). Minority stress and emotional
33 intimacy among individuals in lesbian and gay couples: Implications for relationship
34 satisfaction and health. *Journal of Social and Personal Relationships*, 36(3), 855–878.
- 35 Guzmán-González, M., Barrientos, J., Gómez, F., Meyer, I. H., Bahamondes, J., & Cárdenas, M.
36 (2019). Romantic Attachment and Relationship Satisfaction in Gay Men and Lesbians in
37 Chile. *The Journal of Sex Research*, in press.

- 1 Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis*. New
2 York: The Guilford Press.
- 3 IBM Corp. Released. (2012). IBM SPSS statistics for windows, version 21.0.
- 4 Jackson, J. B., Miller, R. B., Oka, M., & Henry, R. G. (2014). Gender differences in marital
5 satisfaction: A meta-analysis. *Journal of Marriage and Family*, 76(1), 105–129.
- 6 Jordan, K. M., & Deluty, R. H. (2000). Social support, coming out, and relationship satisfaction in
7 lesbian couples. *Journal of Lesbian Studies*, 4(1), 145–164.
- 8 Kenny, D. A., Kashy, D. A., & Cook, W. L. (2006). *Dyadic Data Analysis*. New York: Guilford
9 Press.
- 10 Kline, R. B. (2005). *Principles and practice of structural equation modeling*. New York: Guilford
11 Press.
- 12 Kuhle, B. X., Smedley, K. D., & Schmitt, D. P. (2009). Sex differences in the motivation and
13 mitigation of jealousy-induced interrogations. *Personality and Individual Differences*, 46(4),
14 499–502.
- 15 Lasser, J., & Tharinger, D. (2003). Visibility management in school and beyond: A qualitative study
16 of gay, lesbian, bisexual youth. *Journal of Adolescence*, 26(2), 233–244.
- 17 Lasser, J., Ryser, G. R., & Price, L. R. (2010). Development of a lesbian, gay, bisexual visibility
18 management scale. *Journal of Homosexuality*, 57(3), 415–428.
- 19 Ledermann, T., Macho, S., & Kenny, D. A. (2011). Assessing mediation in dyadic data using the
20 actor-partner interdependence model. *Structural Equation Modeling: A Multidisciplinary*
21 *Journal*, 18(4), 595–612.
- 22 Li, X., Cao, H., Zhou, N., & Mills-Koonce, R. (2019). Internalized homophobia and relationship
23 quality among same-gender couples: the mediating role of intimate partner violence. *Journal*
24 *of Homosexuality*, in press.
- 25 Little, R., & Rubin, D. (2002). *Statistical analysis with missing data*. New York: Wiley.
- 26 Mayfield, W. (2001). The development of an internalized homonegativity inventory for gay
27 men. *Journal of Homosexuality*, 41(2), 53–76.
- 28 Meyer, I. H., & Dean, L. (1998). Internalized homophobia, intimacy, and sexual behavior among
29 gay and bisexual men. In G. M. Herek (Ed.), *Stigma and Sexual Orientation: Understanding*
30 *Prejudice Against Lesbians, Gay Men, and Bisexuals* (pp. 160–186). Thousand Oaks, CA: Sage.
- 31 Mohr, J. J., & Daly, C. A. (2008). Sexual minority stress and changes in relationship quality in
32 same-gender couples. *Journal of Social and Personal Relationships*, 25(6), 989–1007.
- 33 Muthén, L. K., & Muthén, B. O. (2015). *Using Mplus. In Mplus user's guide (7th ed.)*. Los Angeles:
34 Muthén & Muthén.
- 35 Neter, J., Wasserman, W., & Kutner, M. H. (1989). *Applied linear regression models (2nd ed.)*.
36 Homewood: Irwin.

- 1 Olsen, J. A., & Kenny, D. A. (2006). Structural equation modeling with interchangeable
2 dyads. *Psychological Methods*, *11*(2), 127–141.
- 3 Parsons, J. T., Starks, T. J., DuBois, S., Grov, C., & Golub, S. A. (2013). Alternatives to monogamy
4 among gay male couples in a community survey: Implications for mental health and sexual
5 risk. *Archives of Sexual Behavior*, *42*(2), 303–312.
- 6 Péloquin, K., & Lafontaine, M. F. (2010). Measuring empathy in couples: Validity and reliability
7 of the interpersonal reactivity index for couples. *Journal of Personality Assessment*, *92*(2),
8 146–157.
- 9 Pepping, C. A., Cronin, T. J., Halford, W. K., & Lyons, A. (2019). Minority Stress and Same-Sex
10 Relationship Satisfaction: The Role of Concealment Motivation. *Family Process*, *58*(2), 496–
11 508.
- 12 Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases
13 in behavioral research: a critical review of the literature and recommended remedies. *Journal*
14 *of Applied Psychology*, *88*(5), 879–903.
- 15 Randall, A. K., & Bodenmann, G. (2017). Stress and its associations with relationship satisfaction.
16 *Current Opinion in Psychology*, *13*(2), 96–106.
- 17 Riggle, E. D., Rostosky, S. S., & Horne, S. G. (2010). Psychological distress, well-being, and legal
18 recognition in same-gender couple relationships. *Journal of Family Psychology*, *24*(1), 82–86.
- 19 Riggle, E. D., Rostosky, S. S., Black, W. W., & Rosenkrantz, D. E. (2017). Outness, concealment,
20 and authenticity: Associations with LGB individuals' psychological distress and well-
21 being. *Psychology of Sexual Orientation and Gender Diversity*, *4*(1), 54–62.
- 22 Roelandt, H., Dewaele, A., Buysse, A., & Van Houtte, M. (2016). *The SOGIE minorities' societal*
23 *positioning index. In search of a European composite index*. Ghent: Ghent University in
24 association with the Ministry of Education, Culture and Science of the Netherlands.
- 25 Ross, M. W., & Rosser, B. S. (1996). Measurement and correlates of internalized homophobia: A
26 factor analytic study. *Journal of Clinical Psychology*, *52*(1), 15–21.
- 27 Rostosky, S. S., & Riggle, E. D. (2017). same-gender relationships and minority stress. *Current*
28 *Opinion in Psychology*, *13*(2), 29–38.
- 29 Rostosky, S. S., Riggle, E. D., Gray, B. E., & Hatton, R. L. (2007). Minority stress experiences in
30 committed same-gender couple relationships. *Professional Psychology: Research and*
31 *Practice*, *38*(4), 392–400.
- 32 Sabourin, S., Valois, P., & Lussier, Y. (2005). Development and validation of a brief version of the
33 dyadic adjustment scale with a nonparametric item analysis model. *Psychological Assessment*,
34 *17*(1), 15–27.
- 35 Sadler, P., Ethier, N., & Woody, E. (2011). Tracing the interpersonal web of psychopathology:
36 Dyadic data analysis methods for clinical researchers. *Journal of Experimental*
37 *Psychopathology*, *2*(2), 95–138.

- 1 Scherer, C. R., Akers, E. G., & Kolbe, K. L. (2013). Bisexuals and the sex differences in jealousy
2 hypothesis. *Journal of Social and Personal Relationships*, 30(8), 1064–1071.
- 3 Sommantico, M., De Rosa, B., & Parrello, S. (2018). Internalized sexual stigma in Italian lesbians
4 and gay men: The roles of outness, connectedness to the LGBT community, and relationship
5 satisfaction. *Journal of Sex & Marital Therapy*, 44(7), 641–656.
- 6 Symons, K., Dewaele, A., Van Houtte, M. and Buysse, A. (2019). Technical Report ‘Elke Relatie
7 Telt’ (Every Relationship Counts). Coping with minority stress in the intimate relationships of
8 lesbian women, gay men, and bisexuals. Retrieved from
9 <https://www.ugent.be/pp/ekgp/en/research/research-groups/family-lab/research-projects>.
- 10 Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics (4th ed.)*. Needham Heights:
11 Allyn & Bacon.
- 12 Thies, K. E., Starks, T. J., Denmark, F. L., & Rosenthal, L. (2016). Internalized homonegativity and
13 relationship quality in same-gender romantic couples: A test of mental health mechanisms and
14 gender as a moderator. *Psychology of Sexual Orientation and Gender Diversity*, 3(3), 325–335.
- 15 Totenhagen, C. J., Randall, A. K., & Lloyd, K. (2018). Stress and relationship functioning in same-
16 sex couples: The vulnerabilities of internalized homophobia and outness. *Family*
17 *Relations*, 67(3), 399–413.
- 18 Uysal, A., Lin, H. L., Knee, C. R., & Bush, A. L. (2012). The association between self-concealment
19 from one’s partner and relationship well-being. *Personality and Social Psychology*
20 *Bulletin*, 38(1), 39–51.
- 21 Van Beusekom, G., Bos, H. M., Kuyper, L., Overbeek, G., & Sandfort, T. G. (2018). Gender
22 nonconformity and mental health among lesbian, gay, and bisexual adults: Homophobic
23 stigmatization and internalized homophobia as mediators. *Journal of Health Psychology*, 23(9),
24 1211–1222.
- 25 Williamson, H. C., Karney, B. R., & Bradbury, T. N. (2013). Financial strain and stressful events
26 predict newlyweds' negative communication independent of relationship satisfaction. *Journal*
27 *of Family Psychology*, 27(1), 65–75.
- 28