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**Sexuality Research and Social Policy**

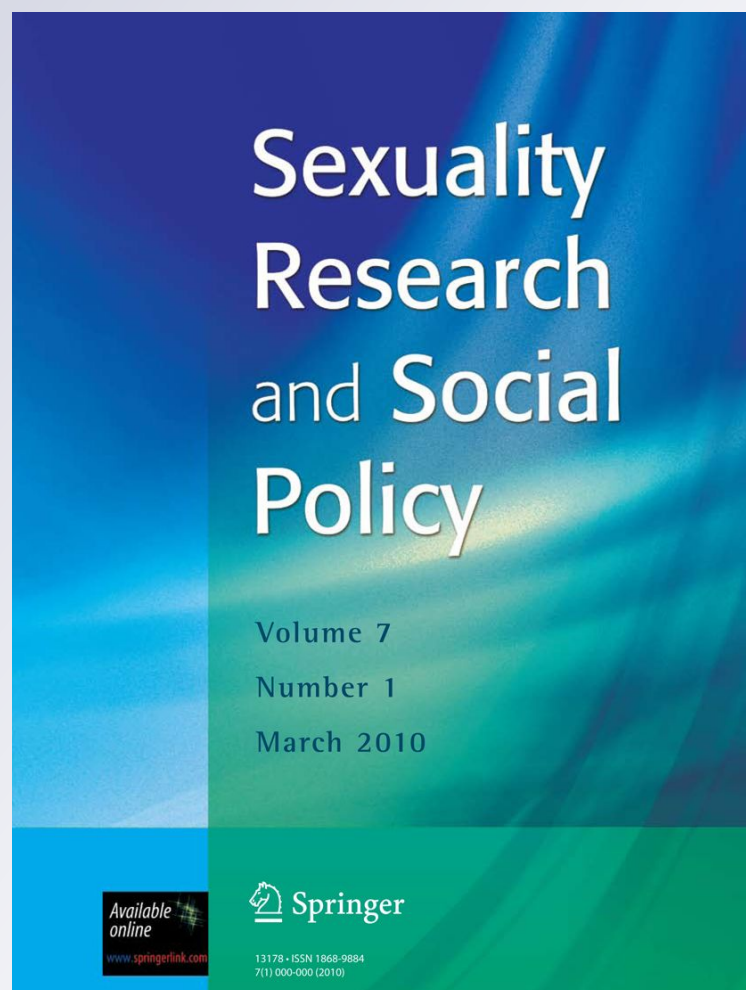
ISSN 1868-9884

Volume 9

Number 2

Sex Res Soc Policy (2012) 9:99-112

DOI 10.1007/s13178-012-0081-6



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# Social Climate for Sexual Minorities Predicts Well-Being Among Heterosexual Offspring of Lesbian and Gay Parents

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Published online: 7 March 2012  
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**Abstract** Social climate—specifically, the level of support for sexual minorities in a given locale—helps to explain well-being among lesbian, gay, and bisexual (LGB) individuals. No published reports have examined whether well-being also varies as a function of social climate for family members of LGB individuals. We present results from two studies (Study 1,  $n=69$ ; Study 2,  $n=70$ ) demonstrating that social climate predicts well-being among adults reared by LGB parents, regardless of their own sexual orientation. Across both studies, population characteristics (e.g., density of same-sex couples in an area) emerged as the strongest and most consistent predictors of well-being. Some variables assessing local politics (e.g., LGB hate crime policy) also predicted well-being, though these associations were less robust. Overall, findings suggest that the social environment for sexual minorities is an important correlate of psychological adjustment for many Americans, regardless of their sexual orientation.

**Keywords** Lesbian- and gay-parent families · Social climate · Social policy · Minority stress

**Electronic supplementary material** The online version of this article (doi:10.1007/s13178-012-0081-6) contains supplementary material, which is available to authorized users.

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In recent years, social climates for lesbian, gay, and bisexual (LGB) people in the USA have been in flux. At the community level, parents and teachers have questioned whether gay–straight alliances should be allowed in schools (Lee, 2002). State legislators continue to discuss whether to allow same-sex couples to marry (Baird & Rosenbaum, 2004). During the preparation of this manuscript, the U.S. Congress was debating at least 19 LGB-relevant social policies, including nationwide protections for students who face bullying about their perceived sexual orientation (Human Rights Campaign, n.d.). Such policy decisions affect and are affected by social climate, defined as the level of support for LGB people in a locale (Oswald, Cuthbertson, Lazarevic, & Goldberg, 2010).

Recent studies have demonstrated that social climate is associated with well-being among members of sexual minorities. Specifically, LGB individuals living in supportive social environments report lower rates of psychopathology, fewer suicide attempts, and lower distress relative to those living in less supportive environments (Goldberg & Smith, 2011; Hatzenbuehler, 2011). Social climate might also influence family members of LGB individuals, who may face stigma based on their relatives' sexual orientations (Gartrell, Deck, Rodas, Peyser, & Banks, 2005; Lick, Schmidt, & Patterson, 2011). To our knowledge, however, researchers have not investigated this possibility. In the current studies, we sought to clarify whether social climate for sexual minorities predicts psychological adjustment among family members of LGB people, regardless of their sexual orientation.

## Mental Health and Minority Stress in LGB Populations

In general, sexual minority individuals report higher rates of psychopathology than do their heterosexual peers (Institute

of Medicine, 2011). For example, LGB adults are at risk for higher rates of substance abuse (Burgard, Cochran, & Mays, 2009; Cochran, Keenan, Schober, & Mays, 2000), suicide attempts (Cochran & Mays, 2000), and psychiatric morbidity (Gilman et al., 2001) across the lifespan. These findings have emerged from both convenience and population-based samples, providing strong evidence of mental health disparities in sexual minority communities (reviewed in Institute of Medicine, 2011). However, while some LGB individuals face mental health difficulties, many others show positive adjustment (Cochran & Mays, 2009), indicating that sexual orientation itself is not the sole predictor of well-being.

What accounts for the disparate outcomes observed in LGB communities? Minority stress theory provides one plausible explanation (Meyer, 2003a). According to this framework, identifying as LGB does not cause distress in and of itself. Rather, LGB people face harassment and discrimination due to their minority status. These events lead to psychological distress, which may overwhelm coping resources and lead to maladjustment. In this way, minority stress theory pinpoints interpersonal relations regarding one's sexuality, rather than sexual orientation per se, as the primary cause of mental health difficulties among some LGB individuals.

Research has provided considerable support for minority stress theory. In one study, gay men who reported greater minority stress were two to three times more likely to report elevated psychological symptoms compared to peers who reported less minority stress (Meyer, 1995). In a nationally representative sample, LGB individuals reported more frequent day-to-day and lifetime experiences with discrimination than did heterosexual individuals; reports of discrimination fully mediated the association between sexual orientation and psychological distress (Mays & Cochran, 2001). More recently, LGB individuals' reports of verbal heterosexism have been linked to diminished mood on a day-to-day basis (Swim, Pearson, & Johnston 2004). In short, minority stress theory has received considerable empirical support across diverse methodologies.

### Social Climate and Well-Being

Although minority stress theory has proven useful in understanding how individual encounters with prejudice and stigma might affect mental health among LGB individuals, it provides little information about socio-cultural determinants of well-being. Still, psychologists have long recognized that people live within specific socio-cultural contexts that influence their development. For example, Lewin (1951) famously articulated that human behavior is a function of both the person and the environment (i.e.,  $B=f(P, E)$ ). Ecological theorists (e.g., Bronfenbrenner, 1977) further posited that five levels of social structure affect human

development: (1) Microsystem (family and peer groups that involve direct social interactions), (2) Mesosystem (relations between Microsystems, e.g., connections between family and school experiences), (3) Exosystem (social settings that have an immediate influence on daily life, but in which an individual has no active role, e.g., mass media), (4) Macrosystem (attitudes and ideologies of the culture in which an individual lives), and (5) Chronosystem (overall pattern of ecological events over the life span).

Broader levels of the ecological structure (i.e., Exosystem, Macrosystem) remain understudied relative to more immediate social contexts (Bronfenbrenner, 1977). Recognizing this ongoing research limitation, Oswald and colleagues (2010) recently developed the concept of *community climate*. According to their framework, five socio-cultural factors may influence LGB well-being in the USA: (1) *religion*, wherein LGB-affirming religious messages enhance empowerment among sexual minorities; (2) *public policy*, wherein legal protections provide concrete benefits for LGB people and make them feel valued as worthy members of a community; (3) *political affiliation*, wherein higher proportions of Democratic voters predict more favorable local attitudes toward sexual minorities; (4) *employment*, wherein the presence of LGB-friendly workplaces in a community decreases expectations of stigma and discrimination among LGB residents; and (5) *LGB presence*, wherein a greater presence of LGB people predicts a sense of community and support for sexual minorities. These factors operate at the level of institutions, laws, and policies to “encode the social environment with messages of support or rejection” for sexual minorities (Oswald et al., 2010, p. 216). LGB individuals who live in areas with more positive social climate are expected to enjoy a greater sense of belonging, less discrimination, and greater access to support networks in the event that discrimination does occur, leading to enhanced well-being compared to those in areas with more negative social climates.

Several recent studies have confirmed that social climate effectively predicts well-being. Oswald and colleagues (2010) found that each of the five climate indices described above were associated with LGB participants' ratings of tolerance in their Illinois communities. Hatzenbuehler (2011) created a composite index of social climate from proportions of (1) local households headed by same-sex couples, (2) local voters registered as Democrats, (3) local schools with gay-straight alliances, (4) local schools with anti-bullying policies, and (5) local schools with antidiscrimination policies. In a representative sample of Oregon high school students, he found that supportive social environments predicted fewer suicide attempts among LGB youth, even after controlling for relevant demographics (e.g., previous suicide attempts). Positive social climate for sexual minorities also predicted fewer suicide attempts among heterosexual youth, though the effect was weaker than for LGB

youth (Hatzenbuehler, 2011). Thus, objective features of the social environment, such as the visibility of LGB individuals, have been linked to well-being among both LGB and heterosexual individuals.

Other studies have examined links between social climate and LGB mental health as a function of social policy. For example, Hatzenbuehler, Keyes, & Hasin (2009) examined associations between rates of psychiatric disorder and state-level policies protecting LGB people from hate crimes and employment discrimination. Using nationally representative data from the National Epidemiologic Survey on Alcohol and Related Condition, they observed that LGB individuals living in states without protective policies reported higher rates of maladjustment compared to those living in states that banned discrimination against sexual minorities. Similarly, Goldberg and Smith (2011) examined associations between local politics and parenting stress among same-sex couples. They found that non-heterosexual parents living in states with unfavorable policies toward LGB people reported more dramatic increases in depressive symptoms over the transition to parenthood relative to those in states with more favorable policies.

### Social Climate and Well-Being for Family Members of LGB Individuals

While a number of recent studies have demonstrated that social climate predicts well-being among LGB people, considerably less is known about their family members' experiences. These family members, although often identified as heterosexual, may face stigma related to their relatives' sexual orientation. For example, some children of LGB parents report being teased about their parents' sexual orientations (Gartrell et al., 2005). As adults, offspring of LGB parents recall encountering stigma about their parents' sexual orientations throughout their lives (Lick, Schmidt, & Patterson, 2011). Researchers have yet to examine whether these experiences or their psychological correlates vary in relation to social climate.

Most previous studies have used composite measures of social climate. Still, it is possible that some aspects of social climate predict well-being better than others. For example, a visible LGB presence in a community may improve life satisfaction by increasing the pool of supportive social contacts available to LGB people and their relatives. On the other hand, social policy banning hate crimes based on sexual orientation may not affect all people, as some of them may not experience harassment related to sexual orientation. Also, while the anti-LGB discourse characterizing some political campaigns may lead to anger, stress, and feelings of isolation among LGB individuals and their relatives (Arm, Horne, & Levitt, 2009; Rostosky, Riggle, &

Horne, 2009; Rostosky, Riggle, Horne, Denton, & Huellemeier, 2010), national media exposes people across the nation to this rhetoric. Thus, we believe that population characteristics such as the presence of sexual minorities in a region might be more predictive of well-being than are politics surrounding LGB people and their relatives. Systematic comparisons of various aspects of social climate would contribute to our understanding of social environments and their associations with mental health in sexual minority communities.

In summary, recent studies have expanded our knowledge of sexual minority health by examining ecological predictors of LGB well-being. In particular, researchers have found associations between social climate and mental health among sexual minority individuals. However, no published quantitative research has explored these associations among family members of LGB people. Moreover, information about the construct of social climate is limited at best. We have scant knowledge about the utility of various aspects of the social environment in predicting psychological adjustment for sexual minority individuals and their family members.

In order to address these limitations in the literature, we conducted two studies of adults reared by non-heterosexual parents. We had two aims: (1) to determine whether social climate predicts well-being among offspring of sexual minority parents, and if so (2) to determine whether some aspects of social climate predict well-being better than others. Overall, we expected that social climate would predict well-being among offspring of LGB parents, and that characteristics of the population (e.g., number of same-sex couples in an area) would predict well-being better than would politics (e.g., LGB employment discrimination policy).

### Study 1

In Study 1, we examined survey data from adult offspring of non-heterosexual parents. Participants responded to measures of psychological adjustment and provided their ZIP codes, allowing us to merge their data with several indices of social climate. We used hierarchical linear regressions to analyze whether and to what extent various aspects of social climate predicted well-being after controlling for relevant demographic characteristics.

### Method

*Participants* The original sample consisted of 91 adults reared by non-heterosexual parents, of whom 69 provided

valid U.S. ZIP codes. Results refer only to the subsample with valid ZIP codes.

Participants ranged from 18–45 years old ( $M=27.29$  years) and they were predominantly female (72%) and Caucasian (93%; see Table 1). Most had non-heterosexual mothers (73%) as opposed to fathers, and most (80%) grew up with coupled as opposed to single non-heterosexual parents. On average, participants reported learning that their parent or parents identified as non-heterosexual at a young age ( $M=7.59$  years). Roughly half (55%) of the participants identified themselves as heterosexual. This percentage is lower than previous research would suggest, and it is likely due to sampling procedures (see below). Participants were highly educated, with more than half (65%) holding a college degree and many (32%) reporting a partial college education. They currently lived in 17 states, with 52% of the sample residing in three states in

particular (California, Virginia, and New York). The majority of participants lived in the Pacific Coast (31.9%), Tri-State (23.2%), Mid-Atlantic (18.8%), or Upper Midwest (14.5%) regions of the USA.

*Procedure* Participants were recruited between September 2008 and August 2009 via four methods: (1) snowball sampling of personal acquaintances, (2) advertisements to lesbian and gay family support groups, (3) community advertisements in restaurants and coffee shops, and (4) a pool of introductory psychology students. Interested individuals contacted a researcher via email and described their families. Those over 18 years of age with at least 1 non-heterosexual parent were provided with the Internet link and access code to the study. Eligibility was unrelated to mental health status; prospective participants did not provide any information about history of psychiatric illness or treatment.

**Table 1** Demographics for Study 1 and Study 2

Variable	Study 1	Study 2
Gender	72% Female 25% Male 3% Transgender	70% Female 30% Male
Ethnicity	93% Caucasian 3% Hispanic/Latino 4% Other racial heritage	89% Caucasian 6% Hispanic/Latino 5% Other racial heritage
Family Type	78% Divorced parents 16% Donor insemination 6% Adoption	83% Divorced parents 13% Donor insemination 5% Adoption
Sexual Orientation	55% Heterosexual 46% LGB	77% Heterosexual 23% LGB
Highest Level of Education	4% High school diploma 32% Some college 3% Associate's degree 25% Bachelor's degree 15% Some graduate school 22% Graduate degree	17% High school diploma 19% Some college 4% Vocational/trade school 3% Associate's degree 29% Bachelor's degree 14% Some graduate school 13% Graduate degree
Relationship Status	36% Single 29% Married 35% Committed relationship	40% Single 11% Dating 14% Committed relationship 27% Married 2% Other (e.g., civil union)
Gender of LGB Parent	73% Female 28% Male	0% Female 100% Male
Parent Relationship Status	81% Coupled parents 19% Single parents	79% Coupled parents 21% Single parents
Age	M (SD) 27.29 (6.49)	M (SD) 27.03 (7.34)
Age learned parent was LGB	7.59 (5.26)	11.52 (11.43)
Number of siblings	2.28 (1.23)	1.38 (1.32)

We rounded valid percentages to the nearest whole number

Participants read instructions, gave consent, and responded to surveys assessing well-being in their own time and without compensation ( $Mdn_{duration}=29$  min). Upon completion, they were thanked and debriefed. The University of Virginia Institutional Review Board for the Social and Behavioral Sciences approved this research.

*Measures* Surveys assessed demographics, several aspects of psychological well-being, and possible social desirability in responses.

*Demographics* Participants provided information about their age, ethnicity, gender, family type (adoption, donor insemination, divorced parents), sexual orientation, education level, relationship status, number of siblings, age when they learned that a parent identified as non-heterosexual, parent gender, and parent sexual orientation.

*Depressive Symptoms* We assessed depressive symptoms during the previous week with the Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977). The CES-D consisted of 20 statements (e.g., “I felt that everything I did was an effort”) that participants endorsed using a four-point rating scale (0=*Rarely or none of the time* to 3=*Most or all of the time*). Positively worded items were reverse-coded, such that a high score corresponded to more depressive symptoms. Prior researchers suggested that a score of 17 indicates “possible depressive symptoms,” while a score of 24 or greater indicates “probable depressive symptoms” (Husaini et al., 1980; Myers & Weissman, 1980). In the current study, Cronbach’s alpha was .90.

*Life Satisfaction* The Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) assessed overall life satisfaction. It consisted of five statements (e.g., “In most ways my life is close to my ideal”) that participants endorsed on a seven-point rating scale (1=*Strongly Disagree* to 7=*Strongly Agree*). Previous researchers offered the following guidelines for interpretation: 30–35=high satisfaction, 25–29=average satisfaction, 20–24=neutral, 15–19=below average satisfaction, 10–14=dissatisfaction, and 5–9=extreme dissatisfaction (Diener et al., 1985). In the current study, Cronbach’s alpha was .90.

*Social Desirability* To assess potential social desirability in responses, we drew eight “unlikely virtue” items from L. Goldberg’s personality item database (Goldberg et al., 2006; [www.ipip.ori.org/ipip](http://www.ipip.ori.org/ipip)) that presented overly positive statements about one’s self (e.g., “I always follow the rules”). Participants responded to each statement using a five-point rating scale (1=*Strongly Disagree* to 5=*Strongly Agree*). Large correlations between social desirability scores and

other scales could indicate response bias. In the current study, Cronbach’s alpha was .66.

*Social Climate* Participants provided their current ZIP codes, allowing us to merge the data with several indices of social climate. Since we were interested in well-being at the time of testing, ZIP codes may have differed from those where participants grew up.

County-level indices of social climate were drawn from 2000 U.S. Census data, and they included population size, number of households headed by same-sex couples, proportion of households headed by same-sex couples, and voting patterns in the 2008 presidential election (see Liep’s (2008) U.S. Election Atlas; 0 = majority Democrat, 1 = majority Republican). We included both the number and proportion of households with same-sex parents because they provide different indices of LGB presence in a community. For example, while the number of LGB couples in an area could indicate its popularity among sexual minorities, proportions indicate the visibility of LGB people in the area by comparing the number of same-sex couples to the number of heterosexual couples who live there.

We compiled data from the Human Rights Campaign ([www.hrc.org](http://www.hrc.org)) about state-level policies regarding LGB adoption (0=joint-parent adoption banned, 1=joint-parent adoption not banned), hate crimes (0=hate crimes not banned, 1=hate crimes banned), and employment discrimination (0=employment discrimination not banned, 1=employment discrimination banned). Policy information was based on laws effective in July 2009, when data were being collected.

*Plan of Analysis* Participants’ responses to the CES-D and SWLS were highly correlated ( $r=-.72$ ,  $p<.001$ ), so we combined them in a composite score. To do so, we reverse-coded the CES-D items so that higher scores indicated relatively few depressive symptoms. We summed unit-weighted  $z$  scores for each measure to adjust for differences in scaling, yielding a composite measure of well-being (Min=-7.20, Max=2.69,  $M=-0.01$ ,  $SD=1.83$ ). This composite served as the dependent variable in regression models.<sup>1</sup>

Next, we conducted an exploratory factor analysis on the social climate variables. The initial model did not converge, but we noted positive skew in the number and percentage of households headed by same-sex couples, which we

<sup>1</sup> We realize that life satisfaction and depressive symptoms are fundamentally different, even though they were highly correlated in this study. Therefore, we have provided separate regression analyses for each outcome in an online supplement. Overall trends are similar across outcomes, so we use the composite score here for the sake of parsimony.

corrected with square root transformations. Upon transforming these variables, the model converged.

We then entered social climate variables hierarchically into a linear regression. We entered three potentially confounding variables in the first block: participant age, gender (1=male, 2=female), and education (0=no college degree, 1=college degree). We entered social climate variables in the second block and assessed whether they explained a significant proportion of the variance in well-being after accounting for demographics. We entered interactions between demographic and social climate variables in the third block. When forming interactions, we dummy-coded categorical predictors and centered continuous predictors (as recommended in Aiken & West, 1991). In particular, we tested nine interactions of theoretical interest: Age×Population Size, Age×Voting Patterns, Age×Sex, Age×Hate Crime Policy, Sex×Adoption Policy, Sex×Hate Crime Policy, Sex×Employment Discrimination Policy, and Education×Population Size. We then conducted each regression analysis twice: once with the full sample (Model 1) and once with a subsample of only heterosexual participants (Model 2).

We screened results to ensure that statistical assumptions were met. As described above, we uncovered positive skew in population size as well as the number and percentage of households headed by same-sex couples, which we corrected with square root transformations. Using the transformed data, standardized residuals approximated a normal distribution. We weighted skewness and kurtosis statistics by their standard errors to yield  $t$  values, which indicated that our transformed distributions were not significantly different from normal distributions (Model 1,  $t_{\text{skewness}}=-0.33$ ,  $t_{\text{kurtosis}}=-1.54$ ; Model 2,  $t_{\text{skewness}}=-0.26$ ,  $t_{\text{kurtosis}}=-0.91$ ). We examined multicollinearity on the basis of VIF ( $X>10$ ), and noted that the inclusion of interaction terms in the third block led to marked multicollinearity. Further, interactions did not explain reliable proportions of variance in well-being, so we removed them from the analysis to ensure that findings were not artifacts of inflated  $R^2$  values. Even after removing interactions, LGB Adoption Policy showed multicollinearity in Model 2, so we removed it from the model to ensure accurate parameter estimates. Finally, we examined three indices of data influence: Cook's distance ( $X<4/N$ ), leverage ( $X<[2k+2]/N$ ), and standardized residuals ( $-2.5<X<2.5$ ). Cases that fell outside the cutoff values for two or more of these statistics were considered outliers. On the basis of these criteria, one case was deemed an outlier and excluded from regressions.

## Results

*Psychological Adjustment* Overall, participants reported positive psychological adjustment. Twenty-two percent

scored at or above 17 on the CES-D ( $M=11.92$ ,  $SD=8.88$ ), indicating possible depressive symptoms. This proportion is consistent with previous literature, which reported that 20–45% of adults report depressive symptoms on this measure (Roberts, Lewinsohn, & Seeley, 1991). A majority (66%) of participants reported average-to-high life satisfaction, and the mean life satisfaction score ( $M=25.79$ ) was notably higher than the mean reported for Diener et al.'s (1985) student sample ( $M=23.5$ ),  $t(67)=2.65$ ,  $p=.01$ . Social desirability scores were not correlated with depressive symptoms ( $r=-0.10$ ,  $p=.45$ ) or with life satisfaction ( $r=.09$ ,  $p=.46$ ), indicating that extreme responding was not a concern in the data.

*Social Climate* We used exploratory factor analysis with maximum likelihood estimation and varimax rotation to explore the factor structure of social climate variables. The Kaiser–Meyer–Olkin statistic indicated adequate sample size for the test ( $KMO=.57$ ), and Bartlett's test of sphericity indicated acceptable correlations among items,  $\chi^2(21)=275.02$ ,  $p<.001$  (Field, 2009). Two factors emerged with eigenvalues  $>1$ . Variables were placed on the factor onto which they loaded most strongly in the rotated solution. These placements were unequivocal; all items had loadings over 0.32 on their respective factor (most above 0.64), with no cross-loadings greater than 0.19.

Voting patterns (rotated factor loading =  $-0.32$ ) and local policies regarding LGB adoption (0.81), hate crimes (0.85), and employment discrimination (0.99) loaded onto the first factor (initial eigenvalue = 3.01), which we called "Local Politics." Population size (0.78), number of households headed by same-sex couples (1.00), and percentage of households headed by same-sex couples (0.64) loaded onto the second factor (initial eigenvalue = 1.89), which we called "Population Characteristics." Together, these two factors explained 64.57% of the variance in social climate.

The goodness-of-fit statistic was significant, indicating that the model did not fit the data especially well,  $\chi^2(8)=28.77$ ,  $p=.01$ . However, this statistic is biased toward Type I error. Some researchers advocate using the ratio of chi-square to degrees of freedom instead, with values between 2 and 5 indicating acceptable model fit (Marsh & Hocevar, 1985). Our model's chi-square ratio fell within this range ( $\chi^2/df=3.60$ ), indicating acceptable fit.

*Social Climate and Well-Being* We entered predictor variables hierarchically into a linear regression. Specifically, we entered three control variables (age, gender, education) in the first block, which explained a significant proportion of the variance in well-being for our sample,  $R^2=.13$ ,  $F(3, 54)=2.77$ ,  $p=.05$ . In Block 2, we included social climate variables, which resulted in a large and significant improvement in model fit,  $\Delta R^2=.23$ ,  $\Delta F(7, 47)=2.43$ ,  $p=.03$ . The



overall model reliably explained 36% of the variance in well-being,  $F(10, 47)=2.69, p=.01$ . Participant education level ( $\beta=0.36$ ), county-level voting patterns ( $\beta=-0.35$ ), and policy protecting LGB individuals from hate crimes ( $\beta=-0.24$ ) emerged as reliable individual predictors of well-being in the full model; population size was a marginally significant predictor well-being ( $\beta=.38, p=.11$ ; see Table 2). These findings indicate that social climate variables provide a notable improvement in predictions of well-being among offspring of LGB parents above and beyond the effects of demographics alone.

Because some participants identified as LGB, we recomputed the model using a subsample of only heterosexual participants ( $n=33$ ). Here, demographics alone explained 22% of the variance in well-being,  $F(3, 29)=2.65, p=.07$ . Including social climate variables in Block 2 led to a large and statistically significant improvement in model fit,  $\Delta R^2=.35, \Delta F(6, 23)=3.06, p=.02$ . In fact, the overall model reliably explained 56% of the variance in well-being,  $F(9, 23)=3.30, p=.01$ . Population size ( $\beta=0.74$ ), number of same-sex households ( $\beta=-0.94$ ), proportion of same-sex households ( $\beta=0.53$ ), voting patterns ( $\beta=-0.53$ ), and local policy regarding hate crimes ( $\beta=-0.62$ ) each emerged as significant predictors of well-being in the overall model (see Table 3). In other words, social climate variables provide a notable improvement in predictions of well-being among

**Table 2** Study 1: hierarchical regression parameters predicting well-being from social climate for full sample

	<i>b</i>	SE	<i>t</i>
Block 1			
Constant	-1.34	1.43	-0.94
Age	0.00	0.04	-0.10
Gender	0.28	0.54	0.53
Education	1.42	0.60	2.37*
Block 2			
Constant	-0.50	1.90	-0.26
Age	0.00	0.04	-0.05
Gender	0.25	0.51	0.49
Education	0.62	0.67	0.92
Population size	0.01	0.01	1.64
# Same-sex households	-0.11	0.09	-1.24
% Same-sex households	7.84	7.77	1.01
Voting patterns	-1.98	0.82	-2.42*
LGB adoption policy	-1.09	0.85	-1.28
Hate crime policy	-0.97	0.93	-1.04
Employment disc policy	2.45	1.09	2.24*

$R^2=.13, p=.05$  for Block 1;  $R^2=.36, p=.01$  for Block 2;  $\Delta R^2=.23, p=.03$

\* $p<.05$ ; \*\* $p<.01$

**Table 3** Study 1: hierarchical regression parameters predicting well-being from social climate among only heterosexual participants

	<i>b</i>	SE	<i>t</i>
Block 1			
Constant	-2.07	1.78	-1.16
Age	0.03	0.06	0.55
Gender	0.03	0.73	0.05
Education	1.64	0.80	2.05*
Block 2			
Constant	-1.37	2.16	-0.63
Age	0.04	0.05	0.78
Gender	0.32	0.65	0.50
Education	1.01	0.88	1.14
Population size	0.03	0.01	2.43*
# Same-sex households	-0.31	0.12	-2.58*
% Same-sex households	23.78	10.92	2.18*
Voting patterns	-2.87	1.06	-2.73*
LGB adoption policy	-	-	-
Hate crime policy	-2.81	1.06	-2.64*
Employment disc policy	1.76	0.94	1.88

$R^2=.22, p=.07$  for Block 1;  $R^2=.56, p=.01$  for Block 2;  $\Delta R^2=.35, p=.02$ . Adoption policy showed multicollinearity, so it was removed from the analysis

\* $p<.05$ ; \*\* $p<.01$

heterosexual offspring of LGB parents above and beyond the effects of demographics alone.<sup>2</sup>

### Discussion

Results supported our hypothesis that the social climate surrounding sexuality predicts psychological adjustment among adult offspring of non-heterosexual parents. Factor

<sup>2</sup> Of course, many variables related to participants' family backgrounds might affect their reported well-being. In an additional analysis, we examined six of these potential confounds: (1) family type (adoption, donor insemination, divorced heterosexual parents), (2) age when the participant learned a parent was not heterosexual, (3) number of siblings, (4) sex of non-heterosexual parent, (5) relationship status of non-heterosexual parent while participant was growing up, and (6) parent the participant lived with while growing up (non-heterosexual vs. heterosexual). When entered simultaneously into a linear regression, these variables did not reliably predict well-being ( $R^2=.12, p=0.38$ ), and they did not explain a notable proportion of the variance in well-being above and beyond the original predictors for the full sample ( $\Delta R^2=.06, p=.65$ ) or for the subsample of heterosexual participants ( $\Delta R^2=.21, p=.10$ ). Thus, additional variables pertaining to participants' family backgrounds did not have a notable influence on reports of well-being in this study, providing additional confidence that social climate was a strong predictor of well-being above and beyond the effects of demographics.

analysis revealed two dimensions underlying social climate: Population Characteristics and Local Politics. Both of these factors were associated with well-being in our sample. Indeed, findings from regression models indicated that, overall, social climate was a strong and significant predictor of well-being even after controlling for demographic characteristics. Perhaps most intriguing was the fact that social climate predicted well-being among offspring of non-heterosexual parents even when the offspring identified as heterosexual.

## Study 2

In Study 1, social climate significantly predicted well-being among adult offspring of non-heterosexual parents, regardless of offspring sexual orientation. However, the sample was relatively small and geographically homogenous, and few participants had gay fathers, limiting generalizability. Therefore, we sought to retest our hypotheses in a second sample. Again, we conducted hierarchical linear regressions to understand whether and to what extent various aspects of social climate predict well-being for adult offspring of gay fathers.

## Method

**Participants** The sample consisted of 86 adults from the USA who had gay fathers; 83 participants provided valid ZIP codes. Furthermore, some participants ( $n=13$ ) were nested within families. To ensure that responses were independent, we analyzed data only from the first participant from each family who provided a valid ZIP code ( $n=70$ ).

Participants ranged from 18 to 47 years of age ( $M=27.03$ ). Most were female (70%), heterosexual (77%), Caucasian (89%), and well educated (59% earned college degree and 19% reported some college education; see Table 1). Though all participants had gay fathers, their family situations varied: some were born to gay men via donor insemination (13%) and some were adopted (5%). Most participants (83%), however, were born to two heterosexual parents, with the father later identifying as gay. On average, participants reported learning that their father identified as gay when participants were children ( $M=11.52$  years). They resided in 27 states and the District of Columbia. The majority of participants lived in the Upper Midwest (21.7%), Pacific Coast (15.7%), Tri-State (12%), or Southern (12%) regions of the USA.

**Procedures** Participants were recruited from a longitudinal, web-based study of gay fathers conducted between April 2010 and November 2010 (Tornello & Patterson, 2012).

Fathers who participated in all waves of the study were asked at its completion to provide email addresses for adult offspring who might be interested in participating in a study about children of gay fathers. A researcher contacted these individuals via email, described eligibility criteria (i.e., individuals over the age of 18 with at least one openly gay father), and sent a link and password that allowed them to access the online survey. Eligibility was unrelated to mental health status; participants did not provide any information about history of psychiatric illness or treatment. Further, participation was voluntary, although we entered participants into a prize drawing. To encourage participation, follow-up emails were sent to potential participants who did not respond within 1 month of contact.

Upon visiting the study website, participants read and indicated their agreement with a consent form and responded to several surveys ( $Mdn_{duration}=40$  mins). Upon completion, participants were thanked and debriefed about the study's aims. The University of Virginia Institutional Review Board for the Social and Behavioral Sciences approved this project.

**Measures** We collected information about participant age, gender, ethnicity, family type (adoption, donor insemination, divorced parents), sexual orientation, education level, relationship status, parental gender, parental sexual orientation, current individual income, current household income, religiosity, and relationship status. We assessed depressive symptoms (CES-D; Radloff, 1977; Cronbach's  $\alpha=.91$ ), life satisfaction (SWLS, Diener et al., 1985; Cronbach's  $\alpha=.88$ ), and social climate as described in Study 1. Unlike Study 1, Study 2 did not include a measure of social desirability.

**Plan of Analysis** Participants' reports of depressive symptoms and life satisfaction were highly correlated ( $r=-.52$ ,  $p<.001$ ), so we combined them in a composite score.<sup>3</sup> To do so, we reverse-scored CES-D items so that higher scores indicated fewer depressive symptoms. Next, we summed unit-weighted  $z$  scores for both scales to yield a composite measure of well-being ( $Min=-5.26$ ,  $Max=2.33$ ,  $M=-0.08$ ,  $SD=1.69$ ). This composite served as the dependent variable in regression analyses.

We conducted exploratory factor analysis on the social climate variables. Results revealed the same factor structure as in Study 1, with two dimensions that we titled "Local Politics" and "Population Characteristics."

Next, we entered social climate variables hierarchically into a linear regression. In Block 1, we entered three

<sup>3</sup> Again, we have provided separate regression analyses for life satisfaction and depressive symptoms in an online supplement. The findings are similar across outcomes, so we report the composite analysis here for the sake of parsimony.

potentially confounding variables: participant age, gender (1=male, 2=female), and education (0=no college degree, 1=college degree). In Block 2, we entered social climate variables to determine whether they predicted well-being beyond what was explained by demographics alone. We entered interactions between demographic variables and social climate variables in Block 3. When forming interactions, we dummy-coded categorical predictors (0, 1) and centered continuous predictors. In particular, we tested nine interactions of theoretical interest: Age×Population Size, Age×Voting Patterns, Age×Employment Discrimination Policy, Age×Hate Crime Policy, Sex×Adoption Policy, Sex×Hate Crime Policy, Sex×Employment Discrimination Policy, Education×Population Size, and Age×Sex. We then ran each regression twice: once with the full sample (Model 1) and once with a subsample of heterosexual participants (Model 2).

Regression results were screened to ensure that statistical assumptions were met. We noted positive skew in the number and percentage of households headed by same-sex couples, which we corrected with log and square root transformations, respectively. Using the transformed data, standardized residuals approximated a normal distribution. We weighted skewness and kurtosis statistics by their standard errors to yield *t* scores, which indicated that our transformed distributions were not significantly different from a normal distribution (Model 1,  $t_{\text{skewness}}=-0.04$ ,  $t_{\text{kurtosis}}=-0.46$ ; Model 2,  $t_{\text{skewness}}=-0.56$ ,  $t_{\text{kurtosis}}=-0.69$ ). We examined multicollinearity on the basis of VIF ( $x > 10$ ), and noted that the inclusion of interaction terms in the third block led to marked multicollinearity. Furthermore, interactions did not explain reliable proportions of variance in well-being, so we removed them to ensure that findings were not artifacts of inflated  $R^2$  values. As in Study 1, we examined three common indices of data influence—Cook's distance ( $x < 4/N$ ), leverage ( $x < [2k+2]/N$ ), and standardized residuals ( $-2.5 < x < 2.5$ ). Cases that fell outside the cutoff values for two or more of these statistics were considered outliers. On the basis of these criteria, no data points were excluded from the analysis.

## Results

**Psychological Adjustment** Overall, participants reported positive psychological adjustment. Twenty-seven percent scored at or above 17 on the CES-D ( $M=11.18$ ,  $SD=9.48$ ), indicating possible depressive symptoms (Husaini et al., 1980). This proportion is consistent with previous literature, which suggested that 20% to 45% of the adult population report elevated depressive symptoms on this measure (Roberts et al., 1991). A majority of participants (72%)

reported average-to-high life satisfaction (Diener et al., 1985), and mean life satisfaction scores ( $M=26.66$ ) were significantly higher than those reported for Diener et al.'s (1985) student sample ( $M=23.5$ ),  $t(60)=3.92$ ,  $p < .001$ .

**Social Climate** We used exploratory factor analysis with maximum likelihood estimation and varimax rotation to determine the factor structure of social climate variables. The Kaiser–Meyer–Olkin statistic showed adequate sample size for the test ( $KMO=.62$ ), and Bartlett's test of sphericity indicated acceptable correlation sizes among items,  $\chi^2(21)=228.38$ ,  $p < .001$  (Field, 2009). As in Study 1, two factors with eigenvalues  $> 1$  emerged. Variables were placed on the factor onto which they loaded most strongly in the rotated solution. These placements were unequivocal; all items had loadings over 0.53 on their respective factor, with no cross-loadings greater than 0.18.

Voting patterns (rotated factor loading =  $-0.53$ ) and policies regarding LGB adoption (0.83), hate crimes (0.61), and employment discrimination (0.99) loaded onto the first factor (initial eigenvalue = 3.11), which we called "Local Politics." Population size (0.65), number of households headed by same-sex couples (0.99), and percentage of households headed by same-sex couples (0.66) loaded onto the second factor (initial eigenvalue = 1.62), which we called "Population Characteristics." Together, these two factors explained 61.16% of the variance in social climate.

The goodness-of-fit statistic was significant, indicating that the model did not fit the data especially well,  $\chi^2(8)=20.58$ ,  $p=.01$ . As explained above, however, the chi-square goodness-of-fit test is biased toward Type I error. Thus, we examined the ratio of chi-square to degrees of freedom, which indicated acceptable fit ( $\chi^2/df=2.57$ ; Marsh & Hocevar, 1985).

**Social Climate and Psychological Adjustment** We entered variables hierarchically into a linear regression. Specifically, we entered three potential confounds (age, gender, education) in Block 1, which did not reliably predict well-being in this sample,  $R^2=.12$ ,  $F(3, 47)=2.15$ ,  $p=.11$ . In Block 2, we included social climate variables, which strongly and significantly improved model fit,  $\Delta R^2=.33$ ,  $\Delta F(7, 40)=3.39$ ,  $p=.01$ . Thus, social climate strongly predicted well-being above and beyond the effects of demographics alone. The overall model reliably explained 45% of the variance in well-being,  $F(10, 40)=3.25$ ,  $p=.004$ . Education ( $\beta=0.48$ ), population size ( $\beta=0.91$ ), and number of households headed by same-sex couples ( $\beta=-1.07$ ) emerged as significant predictors of well-being (see Table 4). Hate crime policy was a marginally significant predictor of well-being ( $\beta=0.32$ ,  $p=.06$ ).

Among a subsample of heterosexual offspring of gay fathers ( $n=34$ ), demographic variables did not explain a significant proportion of the variance in well-being,  $R^2=.09$ ,  $F(3, 36)=1.24$ ,  $p=.31$ . Once again, however,

**Table 4** Study 2: hierarchical regression parameters predicting well-being from social climate for full sample

	<i>b</i>	SE	<i>t</i>
Block 1			
Constant	0.29	1.21	0.24
Age	-0.03	0.04	-0.86
Gender	-0.24	0.52	-0.45
Education	1.48	0.61	2.42*
Block 2			
Constant	1.67	1.82	0.92
Age	-0.06	0.04	-1.43
Gender	-0.05	0.48	-0.11
Education	1.64	0.58	2.84**
Population size	$7.86 \times 10^{-5}$	0.00	3.86**
# Same-sex households	-3.09	0.89	-3.47**
% Same-sex households	8.99	6.15	1.46
Voting patterns	0.29	0.65	0.44
LGB adoption policy	0.60	0.93	0.64
Hate crime policy	1.32	0.68	1.94
Employment disc policy	-0.81	1.07	-0.76

$R^2 = .12$ ,  $p = .11$  for Block 1;  $R^2 = .45$ ,  $p = .004$  for Block 2;  $\Delta R^2 = .33$ ,  $p = .01$

\* $p < .05$ ; \*\* $p < .01$

including social climate variables in Block 2 significantly improved model fit, indicating that social climate predicted well-being above and beyond the effects of demographics alone,  $\Delta R^2 = .34$ ,  $\Delta F(7, 29) = 2.47$ ,  $p = .04$ . Remarkably, the overall model reliably explained 43% of the variance among heterosexual offspring of gay fathers,  $F(10, 29) = 2.20$ ,  $p = .047$ . Education ( $\beta = 0.54$ ), population size ( $\beta = 0.68$ ), number of same-sex households ( $\beta = -0.97$ ), and state-level policy protecting LGB individuals from hate crimes ( $\beta = 0.41$ ) emerged as significant predictors of well-being in the overall model (see Table 5).<sup>4</sup>

<sup>4</sup> Again, other demographic variables might have affected reports of well-being. To examine these potential confounds, we examined five additional predictors: (1) family type (adoption, donor insemination, separated heterosexual parents); (2) current individual income; (3) current household income; (4) participant relationship status (single vs. coupled / married / partnered); and (5) religiosity (religious faith vs. agnostic / atheist). Regressing well-being onto these five variables resulted in a non-significant model ( $R^2 = .08$ ,  $p = 0.77$ ). We also included the background variables as a post hoc third step in the regression models, which did not explain a notable proportion of the variance in well-being above and beyond the original predictors for the full sample ( $\Delta R^2 = .18$ ,  $p = .31$ ) or for the subsample of heterosexual participants ( $\Delta R^2 = .05$ ,  $p = .66$ ). Thus, additional variables pertaining to participants' family backgrounds did not have a notable influence on reports of well-being, providing additional confidence that social climate was a strong predictor of well-being after accounting for demographics.

**Table 5** Study 2: hierarchical regression parameters predicting well-being from social climate among only heterosexual participants

	<i>b</i>	SE	<i>t</i>
Block 1			
Constant	-0.22	1.13	-0.20
Age	-0.01	0.04	-0.13
Gender	-0.08	0.55	-0.15
Education	1.02	0.66	1.56
Block 2			
Constant	0.88	1.99	0.44
Age	-0.06	0.05	-1.25
Gender	0.03	0.51	0.06
Education	1.67	0.71	2.37
Population size	$5.67 \times 10^{-5}$	0.00	2.57*
# Same-sex households	-2.58	0.95	-2.72*
% Same-sex households	8.23	6.51	1.26
Voting patterns	0.59	0.65	0.90
LGB adoption policy	0.99	0.91	1.09
Hate crime policy	1.49	0.68	2.20*
Employment disc policy	-0.76	1.01	-0.75

$R^2 = .09$ ,  $p = .31$  for Block 1;  $R^2 = .43$ ,  $p = .047$  for Block 2;  $\Delta R^2 = .34$ ,  $p = .04$

\* $p < .05$ ; \*\* $p < .01$

## Discussion

Study 2 replicated findings from Study 1 in a geographically diverse sample of adults reared by gay fathers. We uncovered two dimensions underlying social climate: Population Characteristics and Local Politics. Population Characteristics predicted well-being more strongly and consistently than did Local Politics in regression models. Overall, these findings provide additional evidence that the social climate surrounding sexuality strongly predicts well-being among adult offspring of non-heterosexual parents, even when they identify as heterosexual.

## General Discussion

Socio-cultural environments may affect psychological adjustment (Bronfenbrenner, 1977; Lewin, 1951). Indeed, recent studies have demonstrated that the social climate for sexual minorities is associated with well-being for LGB individuals (Hatzenbuehler, 2011; Oswald et al., 2010). Across two studies, we found that the social climate for sexual minorities also predicts well-being among offspring of LGB people, regardless of offspring sexual orientation. In Study 1, social climate predicted psychological adjustment among both heterosexual and LGB adults with non-heterosexual parents. In particular, living in a highly populated community that voted predominantly for Democrats

and included a small number but a large proportion of same-sex couples was associated with greater participant well-being. Study 2 replicated these findings: living in a highly populated community with few same-sex couples was associated with well-being, even among heterosexual participants.

As suggested by ecological theory (Bronfenbrenner, 1977), we found that social climate was multidimensional. Specifically, our measure of social climate was comprised of two factors: Population Characteristics and Local Politics. Population Characteristics emerged as stronger and more consistent predictors of well-being than did Local Politics. These findings demonstrate that social climate generally predicts psychological adjustment among adults with non-heterosexual parents, though some aspects of the social environment (e.g., the presence of LGB people) were more strongly associated with well-being than were others (e.g., policy regarding same-sex adoption).

Results generally supported our hypotheses, though we were surprised to find that fewer same-sex couples in a locale predicted greater participant well-being in regression models. For example, in Model 1 of Study 1, Pearson correlations between number of same-sex households and well-being ( $r=.12$ ) and population size and well-being ( $r=.17$ ) were positive and of similar magnitude. However, the regression weights for population size and number of same-sex households were in opposite directions ( $\beta_{\text{NumberSameSex}}=-0.36$ ,  $\beta_{\text{PopulationSize}}=0.38$ ). One plausible explanation for the directional shift in association between number of same-sex households and well-being is that number of same-sex households and population size were highly correlated ( $r=.70$ ), even though they did not show unreasonably high VIF values (i.e.,  $x<10$ ) in regression analyses. After accounting for the effect of population size, the number of same-sex households may have explained a unique and unexpected proportion of the variance in well-being. Indeed, when we removed the population size predictor from the regression, the beta weight for number of same-sex households became positive, albeit non-significant ( $\beta_{\text{NumberSameSex}}=0.04$ ). Therefore, the unexpected negative association between number of same-sex households and participant well-being appears to have been a suppression effect caused by correlations among several predictors (Cohen & Cohen, 1975; Krus & Wilkinson, 1986). It is worth reiterating that the Pearson correlation between number of same-sex households and well-being was positive, indicating that a large number of same-sex couples in a region generally predicted better well-being among offspring of non-heterosexual parents.

Our findings make several important contributions to the literature. First, they fill a gap in psychological research about the impact of social structures on sexual minority health. More specifically, our findings extend previous research by demonstrating that the social climate for sexual

minorities predicts psychological adjustment not only for LGB people (e.g., Hatzenbuehler, 2011), but also for their children. It is particularly interesting that the social climate surrounding sexual orientation predicted well-being for *heterosexual* participants. Current estimates indicate that there are over eight million LGB people living in the USA, many of whom are rearing children (Gates, 2011). In light of the findings reported here, the social climate surrounding sexuality is an important correlate of well-being for many Americans, regardless of their sexual orientation.

Most previous studies in this area have utilized unidimensional measures of social climate. However, social contexts are comprised of multiple levels with distinct components (Bronfenbrenner, 1977). Indeed, when we explored the dimensionality of our measure of social climate, we uncovered two distinct factors: Population Characteristics and Local Politics. As we expected, Population Characteristics emerged as the strongest and most consistent predictors of psychological adjustment across studies. Local politics were less robust in their associations with well-being, although some social policies (e.g., those protecting LGB people from hate crimes) were associated with psychological adjustment. Thus, our studies add to knowledge about social climate by demonstrating that it is a multidimensional construct, and that some aspects of social climate are more strongly associated than others with well-being among children of non-heterosexual parents. Of course, numerous other aspects of social climate (e.g., media portrayals of LGB families) might be related to local politics, population characteristics, and well-being; exploring these factors will be an important avenue for future research.

Another direction for future research will be to understand why some aspects of social climate predict psychological adjustment among children of sexual minorities better than others. It is possible that population characteristics influence participants' daily lives: living in a region with a large proportion of same-sex couples may have provided many people with whom they could comfortably discuss their family situations, thereby improving participants' overall sense of belonging and support. On the other hand, LGB-focused politics may have seemed less relevant to our participants because many of them were heterosexual. The social policy that did consistently predict well-being in our studies (i.e., hate crime policy) might have decreased minority stress for children of lesbian and gay parents by sanctioning hate crime offenders. Thus, one reason for the inconsistent link between social policy and well-being in the current models may have been that most policies seemed more distal to participants than did person-focused aspects of their community. This possibility requires further empirical evaluation.

It will also be important for future studies to explore the mechanisms linking climate with well-being among LGB

people and their family members. One potential pathway involves minority stress. LGB individuals and their relatives who live in areas with more tolerant attitudes might face less stigma than those living in areas with negative social climate, resulting in less minority stress and, thus, enhanced well-being (Meyer, 2003a). However, the exact causal mechanisms remain unclear. It might be the case that adult offspring of LGB people are more likely to move to areas with tolerant attitudes about homosexuality. It is also possible that the presence of LGB individuals in an area changes community members' attitudes about homosexuality. For example, if a community has a large sexual minority population, its inhabitants are likely to have increased contact with LGB individuals. According to contact theory, this exposure might lead to more positive attitudes about homosexuality, increased group cohesion, and fewer instances of discrimination for LGB individuals and their family members (Pettigrew & Tropp, 2011). Prospective and longitudinal designs would be helpful in evaluating these hypotheses.

We suspect that social climate affected well-being for our participants because they were affiliated with the sexual minority community via their parents. It might also be the case that regional differences in population characteristics affect the well-being of all people (see Rentfrow, Gosling, & Potter, 2008), regardless of their affiliation with LGB individuals. Indeed, a recent population-based study found that, in general, U.S. citizens report greater well-being in states with larger proportions of same-sex couples (Rentfrow, Mellander, & Florida, 2009). However, the correlation between proportion of same-sex couples and well-being was non-significant when controlling for per capita income. Thus, while some studies suggest that individuals generally express greater well-being when living in states with large LGB populations, the trend appears to be driven by SES. In our study, the number and proportion of same-sex couples in an area strongly predicted well-being among heterosexual offspring of non-heterosexual parents even after controlling for SES. We believe that the links we found between social climate and well-being were due to participants' close relationships with LGB individuals. Social climate is not as likely to predict well-being among heterosexual individuals who are not affiliated with the LGB community.

### Strengths and Limitations

Aside from their unique contributions and implications for future research, our studies also had methodological strengths. First, we measured social climate using objective criteria gleaned from participants' ZIP codes rather than relying on self-report. Because self-report measures are confounded with well-being (Meyer, 2003b), this method

may have reduced bias and provided more valid estimates of the associations between social climate and well-being. In addition, we replicated our findings in two samples that were collected at different time points, despite frequent changes in policy surrounding LGB civil rights. This replication bolsters our conclusion that social climate predicts well-being among family members of lesbian and gay adults. Our samples also had notable demographic differences—for example, Study 1 included mostly children of lesbian mothers while Study 2 consisted of individuals with gay fathers. Findings replicated across samples and effect sizes were consistently large, indicating that our conclusions hold for several different family arrangements.

Despite their strengths, our studies also had limitations. First, the correlational nature of the data precluded causal inferences, and it is possible that social climate does not directly affect well-being among family members of LGB people. For example, individuals with LGB parents who display greater psychological adjustment might be more likely to move to areas with positive climates for LGB people, while those who are less well-adjusted could be less residentially mobile. Despite its appeal, this presumption is not borne out in empirical literature. In fact, residential mobility is negatively associated with well-being (Oishi, 2010). Alternatively, it is possible that a variable unrelated to sexual orientation (e.g., SES) explains the association between social climate and psychological adjustment. Indeed, we found that participants living in large urban areas reported greater well-being. It might be the case that individuals who live in large cities have higher incomes, which could explain their reports of positive adjustment. However, climate variables explained significant proportions of the variance in well-being when adjusting for the effect of education, and individual and household incomes did not provide a significant improvement in predictions of well-being above and beyond social climate variables. While we were able to control for these and several additional confounds, additional research is required to explore other potential explanations for our results.

Moreover, as in most studies of sexual orientation, stigma might have deterred some individuals from participating. Our samples were therefore limited to participants who felt comfortable disclosing their parents' sexual orientations, who may report more positive adjustment compared to those who are less open about their families. In addition, our results refer to predominantly white, well-educated adults who grew up during the last two decades of the twentieth century. Thus, our results are based on convenience samples of individuals who came of age during a unique historical moment in which the legal rights and public visibility of sexual minorities have changed dramatically. Future studies should seek more heterogeneous or representative samples to determine whether associations between social climate

and well-being vary for older and younger individuals and for those from diverse racial and ethnic backgrounds.

Finally, we assessed social climate using participants' current ZIP codes, which may have differed from the ZIP codes where they grew up. It is possible that characteristics of the area in which an individual grew up have a stronger bearing on overall well-being than one's current location. Also, it is likely that many aspects of community climate cannot be inferred from one's ZIP code (e.g., LGB presence in media), though such factors might certainly affect well-being. Additional research is warranted to explore these possibilities.

## Conclusion

In summary, the social environment for sexual minorities strongly predicts well-being among offspring of LGB parents, regardless of the offspring's sexual orientation. Across two studies, population characteristics (e.g., proportion of same-sex couples in an area, population size) emerged as the strongest and most consistent predictors of well-being. Some social policies also predicted well-being, though the associations were inconsistent. Overall, these results demonstrate that the social climate for sexual minorities is reliably associated with psychological adjustment for millions of Americans, regardless of their sexual orientations. The findings have implications for practitioners seeking to enhance well-being for LGB people and their family members, as well as for policymakers and researchers interested in the political and theoretical underpinnings of minority mental health.

**Acknowledgements** This research was supported in part by a Harrison Foundation Grant, University of Virginia Dean's Grant, and Reider-Otis Scholarship awarded to David J. Lick. Portions of these findings were presented at the 2011 annual meeting of the International Academy of Sex Researchers and the 2012 annual meeting of the Society for Personality and Social Psychology. We sincerely thank Anne "Bayly" Buck and Meredith Halliwell for their contributions.

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