State-Level Marriage Equality and the Health of Same-Sex Couples

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Objectives. We assessed the association between the health of people in same-sex relationships and the degree and nature of the legal recognition of same-sex relationships offered in the states in which they resided.

Methods. We conducted secondary data analyses on the 2010 to 2013 Current Population Survey and publicly available data from Freedom to Marry, Inc. We estimated ordered logistic regression models in a 4-level framework to assess the impact of states' legal stances toward same-sex marriage on self-assessed health.

Results. Our findings indicated, relative to states with antigay constitutional amendments, that same-sex couples living in states with legally sanctioned marriage reported higher levels of self-assessed health.

Conclusions. Our findings suggested that full legal recognition of same-sex relationships through marriage might be an important legal and policy strategy for improving the health of same-sex couples. (*Am J Public Health.* 2015;105: 1101–1105. doi:10.2105/AJPH.2015.302589)

Legal recognition and sanctioning of same-sex relationships has occurred in various fits and starts across the United States. The legal battle over the status of same-sex relationships began with a 1993 Hawaii State Supreme Court decision that publicly suggested discrimination against same-sex couples from marrying might constitute sex discrimination.[1,2] In the subsequent decade, Hawaii and other states moved to enact new laws that explicitly limited the legal institution of marriage to heterosexual couples. The US Congress followed with the Defense-of-Marriage Act of 1996 (Pub. L. No. 104–199, 110 Stat. 2419), which allowed states to ignore same-sex marriages performed in other states, and defined marriage as "a legal union between one man and one woman."

Over the past 3 decades, however, public opinion has shifted. Attitudes toward homosexuality have generally become more liberal, and public support for same-sex couples' legal right to marry has grown.[3–6] Driven by changing opinion and coordinated political advocacy, several states enacted new laws or implemented court orders granting varying types and degrees of legal recognition and protection of same-sex couples.[1,2] In 2004, Massachusetts was the first state to fully legalize same-sex marriage, and, as of October 2014, 32 states have also legalized same-sex marriage. Other states have taken more intermediate steps, offering varying degrees of legal protections for partners involved in domestic partnerships or legally recognized civil unions. Nevertheless, many states still prohibit, either through a constitutional amendment or other state statute, same-sex marriage or the legal recognition or protection of same-sex relationships. Recent state-level court cases and the 2013 US Supreme Court's *United States v. Windsor* (570 U.S. 12) decision that overturned the Defense-of-Marriage Act definition of marriage appear to be fueling new momentum to reconsider existing state bans against same-sex marriage.

The dynamic legal environment and changing public attitudes have motivated careful research on the association between relationship status and health for same-sex couples. Early on, in the absence of large population-level studies of individual lesbians and gay men in general and in those in same-sex relationships specifically, researchers relied on smaller convenience samples and qualitative methods to document the importance of same-sex romantic partnerships on the health status of lesbians and gay men (see Patterson[7] for a review). More recent research used data sets from large general population surveys to compare and contrast same- and opposite-sex relationships. Denney et al.,[8] who used pooled data from the National Health Interview Survey (NHIS), found that both men and women in same- and opposite-sex co-habiting relationships had similarly high odds of reporting poor individual health, and were significantly more likely to report poor health than were married heterosexual couples. In another study that also used the NHIS, another research group reached similar conclusions, but this study also revealed important racial/ethnic, gender, and socioeconomic disparities both within and between same- and opposite-sex couples.[9] Nevertheless, Denney et al., who summarized their own research and the findings from earlier research, concluded "same-sex cohabitation, much like different-sex cohabitation, is not equivalent to marriage in terms of the health protections it affords."[8(p13)]

In 2011, the Institute of Medicine[10] challenged the field to examine the added value of the formal legal recognition of same-sex relationships. However, few studies have directly examined the health effects of legal marriage versus cohabitation among same-sex couples. This is largely because, before June 2013, very few states granted full marriage equality to same-sex couples, making it impossible to use a nationally representative sample to explore this question. Existing studies have instead drawn samples from within the few marriage equality states or used online sampling to identify legally married same-sex couples. In 1 study in Massachusetts, legal recognition positively influenced the well-being of lesbian couples married in 2004, and lesbian couples who reported high levels of marital satisfaction also enjoyed better overall health than did those with low levels of marital satisfaction.[11] Another study in California found that legal marriage had offset the disparities in psychological distress observed between heterosexual and same-sex couples. However, married heterosexuals still reported lower psychological distress than did

legally married same-sex couples, and psychological distress was lower for same-sex married couples than it was for same-sex couples with no legal union.[12] Although they found no significant differences in psychological distress when they compared same-sex married couples to same-sex couples in registered domestic partnerships, there was evidence that marriage might afford unique benefits for individuals in same-sex couples that could not be obtained through registered domestic partnerships. Similar findings were reported in a large online survey of lesbians who were legally married compared with those who were in committed relationships, dating, or single.[13] Taken together, the expanding literature suggests the well-established "marriage benefit" is deeply intertwined with the legal recognition of relationships, regardless of the gender of the individuals involved.[14]

Related research also showed that state policies could negatively influence the mental health of individuals in same-sex couples. For example, lesbian, gay, and bisexual (LGB) people living in states with no policies that offered specific protections for LGB individuals against hate crimes and employment discrimination had higher rates of mood and anxiety disorders than LGB people living in states with more protective policies, net of the disparities observed between LGB and nongay individuals living in the same state.[15] Other studies of LGB people living in states with constitutional amendments banning marriage equality documented significant negative mental health effects of these policy changes.[16,17] Gonzales and Blewett[18] found that same-sex couples were more likely to have access to employer-sponsored health insurance if they lived in states that offered some form of same-sex partnership recognition. Thus, to the extent that access to health insurance improves self-rated health, state-level policies regarding marriage equality and partnership recognition may play an important role in the health of same-sex couples. The growing body of research seems to indicate that the higher rates of psychological distress and mental health disorders in same-sex couples may, in part, be attributed to living in more hostile environments created by these kinds of state policies.

The aforementioned studies helped advance our understanding of how marital equality, in general, and state policies regarding marital equality in particular, influenced the health of individuals in same-sex couples. We furthered this research by using a nationally representative data set to answer our research question: is the degree and nature of the legal recognition of same-sex relationships offered in the states associated with the self-assessed health of state residents in same-sex marriages and cohabiting partnerships? We hypothesized that people living in states with greater protection of same-sex relationships would report better self-assessed health.

METHODS

We used the repeated cross-sectional March Annual Demographic File and Income Supplement of the US Current Population Survey (CPS), which is a nationally representative sample of the civilian noninstitutionalized population living in 60 000 households.[19] We used this data set to assess the impact of state legal contexts toward same-sex marriages on the self-assessed health among people in same-sex marriages or partnerships between 2010 and 2013.

We limited the sample to individuals older than 18 years who were living in households with their same-sex partner. We identified individuals as being in a same-sex marriage or cohabitating partnership when they (1) listed a "spouse" or "unmarried partner" living in the household with them, and (2) the sex of the partner was the same as their own. We limited our range of years to between 2010 and 2013 because (1) before 2010, the CPS recoded any same-sex partners to opposite-sex partners,[20] so it was not possible to identify same-sex partners before 2010 in the CPS data, and (2) 2013 was the most recent year of data available. The resulting sample included 2899 individuals, nested within 1500 households, nested within 193 state-years, and nested within 50 states. There were only 2899 people because 111 were missing data on key variables, and there were only 193 state-years because there were no same-sex couples identified in 7 states-years during the 4 years of observation.

Measurement

Our outcome variable was a 5-point Likert-scale item of individual self-assessed health, ranging from 1 for poor health to 5 for excellent health, with larger numbers indicating better self-assessed health. This specific measure is quite commonly used in large epidemiological surveys of health[8,9] and is correlated with other more objective measures of health status.[21]

The key study variables in our study were a set of 4 mutually exclusive and exhaustive dichotomously coded variables that indicated states' legal stances toward same-sex marriages and civil unions. We created these variables using data made publicly available by Freedom to Marry, Inc. (New York, NY), which is a political advocacy group that tracks state-level changes in same-sex marriage laws.[22] Following Freedom to Marry's classification, we assigned states to 1 of the following categories: (1) sanctioned legal marriage, (2) legal recognition of domestic partnerships or civil unions, (3) an antigay marriage constitutional amendment, or (4) none of the previous 3 categories. The domestic partnership or civil union category included states that enacted domestic partnership or civil union protections and an antigay marriage constitutional amendment simultaneously. We experimented with models in which these states were coded in the antigay marriage category, and our results were consistent with those presented here. Because some states enacted new marriage equality laws during the years of our study, we allowed the coding of the legal context to vary over time, and accordingly, we measured these variables at the state-year level. Because we used the March 2013 CPS data file for these analyses, we coded the states as having enacted the given legislation only if the law was passed before March of the year of the interview (data available as a supplement to the online version of this article at http://www.ajph.org).

We used several additional control variables in the following analyses. First, we used 7 individual-level variables. We measured age in years. We used working as a dichotomous variable of whether the respondent was currently in the labor force. Men was used as an indicator of gender. We used Hispanic ethnicity if the individual was of Hispanic origin. We trichotomized race into 3 dummy coded variables: White, Black, and other. We measured education using 4 dichotomous variables that indicated the highest degree attained: less than high school, high school, bachelor's

degree, or graduate degree. Second, we used 2 household-level variables. We measured family income as the natural log of family income. We used children in the house as a dichotomous indicator of whether there were children in the house. Finally, our models included 1 state-year level control variable, which was an indicator of the current year.

Statistical Analysis

Because of the nesting structure of the data, we used a 4-level model to predict self-assessed health, which was estimated using mixed effects modeling in Stata version 13 (StataCorp, College Station, TX). This 4-level nesting structure allowed us to (1) overcome the violation of independence of error terms associated with nested models, and (2) account for unmeasured heterogeneity by including fixed-effects for each of the upper 3 levels (households, state-years, and states).[21] In other words, this 4-level nesting structure allowed us to account for the fact that individuals were nested within households, households were nested within state-years (i.e., state characteristics that changed during our window of observation), and state-years were nested within states (i.e., state characteristics that did not vary over time during the period of observation). Moreover, for the lowest 3 levels, we measured variables at each of these different levels (e.g., the legal context variables were the same for everyone in a given state during a particular year, and so we measured this at the state-year variable). In addition, because of the categorical nature of our dependent variable, we estimated ordered logistic regression models that are appropriate for an ordinal level outcome variable.

RESULTS

Table 1 shows the descriptive statistics of our sample. Three percent of the individuals in the sample reported being in poor health, 9% reported fair health, 22% reported good health, 35% reported very good health, and 31% reported being in excellent health. In terms of the legal context, there was sanctioned legal marriage in 17% of the state-years, either civil unions or domestic partnerships in 15% of the state-years, neither relationship recognition, marriage nor an antigay marriage constitutional amendment in 19% of the state-years, and an antigay marriage constitutional amendment in 49% of the state-years.

Table 2 shows results from the 4-level mixed effect model. In this model, several of the control variables were significantly associated with odds of being in better health. Each year of age was associated with 0.04 factor decrease in the odds of being in better health. Being in the labor force was associated with a 7.88 factor increase in the odds of being in better health. Relative to those with a high school education, having a bachelor's degree was associated with a 2.10 factor increase in the odds of being in better health, and having a graduate degree was associated with a 2.23 factor increase in the odds of being in better

TABLE 1—Means and Proportions of Variables by Level of Measurement: State-Level Marriage Equality and the Health of Same-Sex Couples, 2010–2013

Variables	Among Individuals (n = 2899)	Among Households[a] (n = 1500)	Among State Years[a] (n = 193)
Level I: individual variables			
Health (ordinal variable), proportion			
Poor	0.03	–	–
Fair	0.09	–	–
Good	0.22	–	–
Very good	0.35	–	–
Excellent	0.31	–	–
Age,[b] y, mean	43.94	–	–
Working, proportion	0.83	–	–
Men, proportion	0.45	–	–
Race/ethnicity, proportion			
Hispanic	0.15	–	–
White	0.85	–	–
Black	0.07	–	–
Other	0.08	–	–
Education, proportion			
< high school	0.05	–	–
High school	0.46	–	–
Bachelor's degree	0.27	–	–
Graduate degree	0.22	–	–
Level II: household variables			
Family income (logged),[c] mean	10.41	10.40	–
Children in the house, proportion	0.11	0.11	–
Level III: state-year variables			
Legal context variables, proportion			
Sanctioned marriage	0.30	0.30	0.17
Civil unions/domestic partnerships	0.17	0.17	0.15
No law	0.17	0.17	0.19
Antigay amendment	0.36	0.36	0.49
Year,[d] mean	2011.58	2011.58	2011.51
Level IV: state (n = 50)[e]			

[a]Means and proportions are not shown for variables that were measured at a lower level than the column header indicates.
[b]Individual-level age had a SD 13.43 that ranged from 18 to 85.
[c]Median household-level household income in this sample was $39 000, and the log of family income had a SD of 0.96 that ranged from 0 to 13.89.
[d]State-year–level year had a SD of 1.11 that ranged from 2010 to 2013.
[e]The multivariable regression models also included a fourth level (state). However, no time invariant state-level characteristics were used; rather, the models just accounted for state-level fixed effects.

TABLE 2—Ordered Logistic Regression of Reporting Self-Assessed Health: State-Level Marriage Equality and the Health of Same-Sex Couples, 2010–2013

Variables	OR (SE)	95% CI[a]
Level I: individual variables (n = 2899)		
Age	0.961 (0.005)	(–0.050, –0.029)
Working	7.888 (1.274)	(1.749, 2.382)
Men	1.422 (0.213)	(0.059, 0.645)
Hispanic ethnicity	0.903 (0.145)	(–0.417, 0.212)
Race (Ref = White)		
Black	0.736 (0.171)	(–0.761, 0.148)
Other	0.805 (0.163)	(–0.613, 0.181)
Education (Ref = high school)		
> high school	0.727 (0.178)	(–0.797, 0.161)
Bachelor's degree	2.098 (0.281)	(0.478, 1.004)
Graduate degree	2.232 (0.348)	(0.497, 1.109)
Level II: household variables (n = 1500)		
Family income (logged)	1.000 (0.000)	(0.000, 0.000)
Children in the house	0.905 (0.146)	(–0.415, 0.215)
Level III: state-year variables (n = 193)		
Legal context variables (Ref = antigay amendment)		
Sanctioned marriage	1.705 (0.403)	(0.070, 0.997)
Civil unions/domestic partnerships	1.002 (0.249)	(–0.279, 0.736)
No law	1.002 (0.249)	(–0.484, 0.488)
Year	0.975 (0.064)	(–0.155, 0.104)

Note. CI = confidence interval; OR = odds ratio.
[a]Confidence intervals are presented as logit coefficients.

health. At the household level, although family income was associated with higher odds of being in better health, having 1 or more children in the house was associated with 0.01 factor decreased odds of being in better health.

In terms of the policy context, relative to living in states during years with an antigay amendment, living in a state with legally sanctioned marriage was associated with a 1.71 factor increase in the odds of being in better health. However, living in states during years that allowed for civil unions or domestic partnerships and states during years with no legal stance toward gay marriage did not vary significantly from states-years with an antigay amendment. Notably, this finding persisted net of both state-year fixed effects and state-fixed effects; thus, it was unlikely that these differences arose because of unmeasured state-level characteristics. We also experimented with models that included a covariate of whether the respondents moved to a new state in the last year, and the results were consistent with those presented here.

In additional analyses, we tested whether the effects of the policy context variables were moderated by gender or education. All of these interactions, however, were nonsignificant.

DISCUSSION

In this study, we used data from the 2010 to 2013 CPS and publicly available data from Freedom to Marry, Inc, to assess whether the health of people in same-sex marriages and cohabiting partnerships was associated with the legal recognition of same-sex relationships offered in the states in which they resided. Results indicated, relative to states with antigay marriage constitutional amendments, that same-sex couples living in states with legally sanctioned marriage had higher levels of self-assessed health. No other policy configuration differed significantly from states with antigay marriage constitutional amendments. Not only did these findings provide important insight into the role of state marital equality and the health of same-sex couples, they also represented the first national-level analysis of state marital equality laws on health over time.

Because of the sociopolitical process, it was difficult to systematically study the legal recognition of same-sex relationships until very recently. Nevertheless, previous research documented significant positive outcomes with regard to mental health and reducing psychological distress associated with legal marriage.[13,16,17] Our study expanded this body of evidence in suggesting these benefits might extend to self-assessed health as well.

This research has significant implications for the ongoing public policy debate regarding same-sex marriage. Our findings suggest that not all policy models for granting legal recognition to same-sex couples are equal. Moreover, policy options that stop short of granting full equality in civil marriage to same-sex couples might contribute to health disparities among same-sex couples based on the state of residence. State political efforts to recognize same-sex relationships through alternative legal policies and strategies do not appear to be equivalent, and might, more correctly, represent separate and unequal forms of legal recognition and protection.

Limitations

Our study had several important limitations. First, the public debate and legal battle is far from over. Our findings represented a conservative estimate of the effects that full marriage equality might have on the health of same-sex couples. Only 10 states passed marriage equality legislation before March 2013. Of these, 4 states passed marriage equality during our target year range (2010–2013). Arguably, it might take several more years to see the full impact that the marriage benefit might have on the health of same-sex couples in these states with new marriage-equality laws. Furthermore, in the months following the 2013 CPS, 9 more states achieved marriage equality. In October 2014, an additional 11 states had their marriage bans overturned when the US Supreme Court refused to hear several appeals to the high court. Because of the rapidity with which policy changes are occurring, the impact of marriage equality on the health of same-sex couples will likely become more apparent in future research.

Second, the politics in most states are complex and dynamic, and our coding scheme might have oversimplified the important nuances of this process. We could not, for instance, assess whether the mechanism used to overturn marriage bans in individual states affected the health of same-sex couples. It is possible that in states where marriage equality was achieved by majority vote, the intense political climate that led up to those decisions created undue negative health effects for same-sex couples. For example, research in California documented that the campaign associated with Proposition 8 had both negative and positive impacts on same-sex couples.[22] More research is needed to explore how the political efforts leading up to the overturning of marriage bans in states affect the health of same-sex couples. In addition, because of the dynamic legal battle, there might be other unobserved similarities among states that we did not account for; however, our use of multilevel modeling, including state-years and state fixed effects, was an effort to control for this potentiality. Nevertheless, there could be important person-level confounders for which these 2 fixed effects did not account. We hope future research will explore these possibilities.

Third, the couples identified in the census data probably represented a biased sample of same-sex couples. Because of the tense political climate, some same-sex couples might not have been sufficiently comfortable to describe their relationship on the US Census form as a "spouse or unmarried partner."

Finally, we used a subjective measure of self-assessed health. Future research would need to examine how, when, and under what conditions these types of social determinants shape same-sex couples' physical and mental health. However, for future research to effectively address these questions, national and state data collection efforts would need to include more culturally sensitive measures of LGB self-identity, relationship status, and related life conditions.

Conclusions

As government and the American people continue to debate the morality and politics of same-sex marriage,[23] we should also consider the potential health and mental health effects of different policy options. Although the history of same-sex marriage is still relatively recent in the United States, our research suggests that state-level same-sex marriage laws that fall short of full equality may not improve the health of same-sex couples any better than in states that have endorsed antigay marriage amendments. The variation of health in same-sex couples observed across different states might, as others have suggested,[15,16] be a function of varying levels and degrees of institutional discrimination across states. In this regard, our analysis suggested that a federal-level response establishing full-marriage equality for same-sex couples across the country could serve as an important public health intervention to improve the health status of and reduce the health disparities among same-sex couples, regardless of state of residence. ■

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Contributors

All of the authors contributed to the study design and article preparation. B. L. Kail conducted the analyses.

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Human Participant Protection

Data collected by the US Bureau of the Census and the US Bureau of Labor Statistics are preapproved for use by the Georgia State University institutional review board, and are considered an exempt 4 designation under §46.101 of Title 45 of the Code of Federal Regulations.

References

1. National Council of State Legislatures. *Same Sex Marriage Laws.* Washington, DC: National Council of State Legislatures; 2014.

2. Freedom to Marry Inc. States. 2014. Available at: http://www.freedomtomarry.org/states. Accessed March 15, 2014.

3. Loftus J. America's liberalization in attitudes toward homosexuality, 1973 to1998. *Am Sociol Rev.* 2001; 66(5):762–782.

4. Brewer PR, Wilcox C. Same-sex marriage and civil unions. *Public Opin Q.* 2005;69(4):599–616.

5. Baunach DM. Decomposing trends in attitudes toward gay marriage, 1988–2006. *Soc Sci Q.* 2011; 92(2):346–363.

6. Baunach DM. Changing same-sex marriage attitudes in America from 1988 through 2010. *Public Opin Q.* 2012;76(2):364–378.

7. Patterson CJ. Family relationships of lesbians and gay men. *J Marriage Fam.* 2000;62(4):1052–1069.

8. Denney JT, Gorman BK, Barrera CB. Families, resources, and adult health: where do sexual minorities fit? *J Health Soc Behav.* 2013;54(1):46–63.

9. Liu H, Reczek C, Brown D. Same-sex cohabitors and health: the role of race-ethnicity, gender, and socioeconomic status. *J Health Soc Behav.* 2013;54(1):25–45.

10. Institute of Medicine. *The Health of Lesbian, Gay, Bisexual, and Transgender People: Building a Foundation for Better Understanding.* Washington, DC: National Academies Press; 2011.

11. Ducharme JK, Kollar MM. Does the "marriage benefit" extend to same-sex union? Evidence from a sample of married lesbian couples in Massachusetts. *J Homosex.* 2012;59(4):580–591.

12. Wight RG, LeBlanc AJ, Badgett MVL. Same-sex legal marriage and psychological well-being: findings from the California Health Interview Survey. *Am J Public Health.* 2013;103(2):339–346.

13. Riggle ED, Rostosky SS, Horne SG. Psychological distress, well-being, and legal recognition in same-sex couple relationships. *J Fam Psychol.* 2010;24(1):82–86.

14. Wienke C, Hill GJ. Does the "marriage benefit" extend to partners in gay and lesbian relationships? Evidence from a random sample of sexually active adults. *J Fam Issues.* 2008;30(2):259–289.

15. Hatzenbuehler ML, Keyes KM, Hasin DS. State-level policies and psychiatric morbidity in lesbian, gay, and bisexual populations. *Am J Public Health.* 2009;99 (12):2275–2281.

16. Hatzenbuehler ML, McLaughlin KA, Keyes KM, Hasin DS. The impact of institutional discrimination on psychiatric disorders in lesbian, gay, and bisexual populations: a prospective study. *Am J Public Health.* 2010;100(3):452–459.

17. Rostosky SS, Riggle EDB, Horne SG, Miller AD. Marriage amendments and psychological distress in lesbian, gay, and bisexual (LGB) adults. *J Couns Psychol.* 2009;56(1):56–66.

18. Gonzales G, Blewett LA. National and state-specific health insurance disparities for adults in same-sex relationships. *Am J Public Health.* 2014;104(2):e95–e104.

19. King M, Ruggles S, Alexander JT, et al. *Integrated Public Use Microdata Series, Current Population Survey: Version 3.0.* Minneapolis: University of Minnesota; 2010. [Machine-readable database].

20. Lofquist D, Ellis R. Comparison of estimates of same-sex couple households from the ACS and CPS. Presented at the Annual Meeting of the Population Association of America; March 31–April 2, 2011; Washington, DC.

21. Raudenbush SW, Bryk AS, Cheong AS, Congdon R, du Toit M. *HLM 7: Hierarchical Linear and Nonlinear Modeling.* Lincolnwood, IL: Scientific Software International, Inc.; 2011.

22. Maisel NC, Fingerhut AW. California's ban on same-sex marriage: the campaign and its effects on gay, lesbian, and bisexual individuals. *J Soc Issues.* 2011;67(2):242–263.

23. National Council of State Legislatures. Defining marriage: state defense of marriage laws and same-sex marriage. 2014. Available at: http://www.ncsl.org/research/human-services/same-sex-marriage-overview.aspx. Accessed May 4, 2014.