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When Love Meets Hate: The Relationship Between State Policies on Gay and Lesbian Rights and Hate Crime Incidence

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Abstract

Do public policies on gay and lesbian rights affect the incidence of hate crimes based on sexual orientation? We propose that legal inequalities increase hate crimes because they provide discursive opportunities for bias, discrimination, and violence. Legal equality, however, will reduce violence. Using annual panel data from 2000 to 2012, a period of substantial policy change, we analyze how three state policies affect reported hate crimes: same-sex partnerships, employment non-discrimination, and hate crime laws. Hate crime and employment non-discrimination laws that include sexual orientation reduce hate crime incidence. Partnership recognition increases reported hate crimes, though it may not increase actual crime incidence. Because incidence is spatially correlated, policy changes in one state yield spillover benefits in other states. These results provide some of the first quantitative evidence that public policies affect hate crimes based on sexual orientation. Findings confirm the roles of institutional heterosexism and discursive opportunities in producing hate crimes.

Keywords

hate crimes; same-sex rights; marriage equality; externalities

American debates balancing individual liberty against majority will are as old as the formation of the country. What started as a slow march toward equal rights for several subjugated demographic groups during the nation's first 100 years became substantial progress toward equality in the twentieth century. Women and racial minorities won the right to vote, achieved greater economic empowerment, and successfully argued for integration of

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a host of social institutions. In stark contrast, rights for gay and lesbian individuals have lagged behind – in some ways becoming worse toward the end of the twentieth century. This lag has a far-reaching impact on the health and well-being on the gay and lesbian population. In fact, following political campaigns against same-sex marriage and other anti-equality initiatives, gay and lesbian individuals and their families report stress, anxiety, fear, and health changes (Arm et al 2009; Rostosky et al 2010) as well as risky sexual behaviors, mental illness, and suicide (Amadio 2006; Baiocco et al 2010; Hughes and Eliason 2002; Meyer 2003; Ryan et al. 2009; Substance Abuse and Mental Health Services Administration 2012).

The twenty-first century, however, has seen rapid changes in gay and lesbian rights. The federal government rescinded the Don't Ask Don't Tell ban on being openly gay in the military, President Obama added sexual orientation to the federal hate crime law by signing the Matthew Shepard and James Byrd, Jr. Hate Crimes Prevention Act, and the U.S. Supreme Court recently ruled bans on same-sex marriages unconstitutional. At the regional and state level, since the start of 2013 over thirty states had their bans on same-sex marriage overturned by district or circuit courts. The ability of legislatures and courts to produce sweeping social change is the subject of a long line of sociological inquiry (e.g., Burstein 1998; Burstein and Monaghan 1986; Dobbin et al 1993; Korpi and Palme 1998; Rosenberg 2008). The practical consequences of these policies are clear, and gay and lesbian individuals who live in states with pro-equality policies report fewer psychiatric disorders and lower psychiatric comorbidity (Hatzenbuehler et al 2009). In addition to these individual impacts, externalities have long accompanied policy changes and other types of organized social action (Merton 1936). For example, pro-equality policies might not only promote equality in access to individual benefits, but they also could foster a more tolerant social climate.

One indicator of increased social tolerance would be a reduction in hate crimes. Scholarship on anti-gay and lesbian violence identifies heterosexist ideology (Herek 1992) and cultural stereotypes (Franklin 1998) as potential drivers of individual biases and, in extreme cases, violence. Among these societal drivers, the law stands out as a particularly salient institution (Herek 2009b). As far as we are aware, however, extant sociological research has yet to investigate the effect of public policy – or broader sociocultural environment – on hate crimes based on sexual orientation. Research on racially-motivated hate crimes is comparatively well-developed. Blalock (1967) identifies power threat as a key driver of discrimination. Likewise, lynchings and racial hate crimes may be motivated by discursive opportunities (Koopmans 1996; Koopmans and Olzak 2004) or defense of a neighborhood against in-migration of racial minorities (Grattet 2009; Green et al 1998; Lyons 2007). We bridge the literature on cultural heterosexism and racially-motivated hate crimes to examine how changes in public policies related to sexual orientation create or restrict discursive opportunities for hate crimes, conditions for defended marriage, and crimes motivated by economic competition.

This article examines the relationship between laws and hate crimes by analyzing the impact of changes in a particularly salient social policy issue: public policies related to sexual orientation. Specifically, we ask whether policy changes affect the incidence of reported hate

crimes based on sexual orientation[1]. We begin by discussing the literature on anti-gay and lesbian attitudes, the impact of attitudes and policies on hate crimes, and prominent theories of hate crimes. Next, we present the data and our method of analysis. We leverage the recent, rapid changes in policies regarding gay and lesbian rights by using a Prais-Winsten panel regression model with state fixed effects to analyze the impact of policies on annual reported hate crimes over a period of 13 years. This research also includes a spatially lagged dependent variable to capture the artificial nature of state borders and diffusion of hate crime production across space. Then, we present and discuss our results, which generally find positive externalities (reductions in reported hate crimes) from pro-equality policies. These findings, which are consistent with theories of institutional heterosexism and the law as a driver of discursive opportunities for bias crimes, provide some of the first quantitative evidence regarding the impact of public policies on hate crimes based on sexual orientation and demonstrate that social externalities like hate crimes should be included in pro-equality arguments.

1. Background and Literature

1.1 Policy Changes

Passed in 1996, the Defense of Marriage Act is just one prominent example of a recent spate of federal and state policymaking limiting same-sex partnerships during the late 1990s and 2000s. Over the past fifteen years, twenty-eight states have implemented constitutional amendments restricting marriage to one man and one woman (Human Rights Campaign 2014). Eleven of these amendments were passed in the 2004 general election, when activists and state legislators may have placed them on the ballots to increase conservative turnout (Smith et al 2006). Earlier bans arose, in part, as a backlash against progressive policy gains (Soule 2004). Recently, however, state and federal appellate courts have overturned state bans on same sex marriage. Before the Supreme Court ruled state bans unconstitutional, nearly forty states plus the District of Columbia issued same-sex marriage licenses, and several others provided recognition or rights to same-sex couples (Human Rights Campaign 2014). Moreover, in the 2012 general election, Maine, Maryland, and Washington became the first states to pass (or affirm) same-sex marriage at the ballot box, and Minnesota became the first state to reject a marriage ban by popular vote.

As same-sex marriage policies have changed over time, so have policies on hate crimes based on sexual orientation. Sexual orientation was only recently added to the federal hate crime law with the Matthew Shepard and James Byrd, Jr. Hate Crimes Prevention Act of 2009, but states have addressed the issue for over twenty years with some passing their own laws prior to 2009. Although the federal law allows for the provision of resources to state and local authorities, 20 states do not cover sexual orientation as part of their hate crime laws (Anti-Defamation League 2011). Conversely, a number of states took action before the federal policy change in 2009, with the District of Columbia passing its law in 1989, a

[1]Although this article focuses on gay and lesbian individuals, other populations, such as bisexual, transgender and queer individuals, are often impacted by same-sex partnership, employment nondiscrimination, and hate crime policies. Scholars may wish to expand this research to include these additional populations in the future.

handful of states passing laws in the 1990s, and many states passing laws in the early 2000s (Human Rights Campaign 2014).

Nondiscrimination policies have received less public attention recently despite some significant policy actions. A 1998 executive order signed by President Clinton prohibits federal employment discrimination based on sexual orientation in the executive branch (Office of Personnel Management, n.d.). In addition, 21 states plus the District of Columbia prohibit employment discrimination based on sexual orientation, with 10 states enacting their first nondiscrimination policies in the past 10 years and an additional 5 states in the past 20 years (Human Rights Campaign 2014).

1.2 Changes in Social Attitudes

As public policies have liberalized, so too have people become more accepting of homosexuality – though most of the decline in stigmatization did not begin until the 1990s (Hicks and Lee 2006; Keleher and Smith 2008; Loftus 2001). The majority of research suggests that there is a relationship between public policy and approval of homosexuality (Anderson and Fetner 2008; Hooghe and Meeusen 2013; Lewis and Oh 2008). Nevertheless, to date there exists “no systematic analysis of the relation between public attitudes toward homosexuality and the legal recognition of same-sex marriage and registered partnership” (Hooghe and Meeusen 2013, p. 258), particularly the causal direction of any relationship.

Besides public policy, other cultural and political forces are related to an individual’s odds of approving of homosexuality. State and national ideological affiliations, especially religious and political orientations, are related to public opinion on same-sex relationships (Adamczyk and Pitt 2009; Lewis and Oh 2008). Nations emphasizing self-expression over a survivalist orientation tend to be more accepting of homosexuality (Adamczyk and Pitt 2009). In the United States, counties with high community cohesion are less approving of same-sex marriage bans, whereas counties with traditional values and gendered employment patterns are more approving of a ban (McVeigh and Maria-Elena 2009). Other factors associated with increased tolerance over time include a reduction in right-wing authoritarianism, increased awareness of research suggesting that homosexuality is innate, the de-linking of AIDS with sexual orientation, and increased acceptance by public, religious, and political authorities (Altemeyer 2001). These findings suggest that despite the need for additional research on the impact of public policy, broad cultural and political forces are related to acceptance of homosexuality at the individual level.

A logical question follows: if public policies are related to attitudes, could they encourage or prevent hate crimes? Given that prejudice is the “basic underlying factor” for all individuals committing hate crimes based on sexual orientation (McDevitt et al 2002, p. 306), societal forces also seem a likely influence on hate crime incidence. We now turn to the literature exploring public policy and the sociocultural environment as distal causes for hate crimes.

1.3 Hate Crimes Based on Sexual Orientation

There is a dearth of theory and research as to why hate crimes based on sexual orientation occur, perhaps because most research on hate crimes focuses on experiences of survivors (Roxell 2011). Studies that explore the motivations behind these hate crimes tend to examine

the characteristics and attitudes of individual perpetrators. For instance, perpetrators of anti-gay actions are more likely to be young, male, Black, religious, conservative, and heterosexual (Franklin 2000; Jewel and Morrison 2010; Roxell 2011). In addition, McDevitt and colleagues (2002) have developed a typology of offenders that identifies four distinct motivations for hate crimes: thrill, defense, retaliation, and mission.

Although individual attitudes and situational contexts certainly play key roles in motivating anti-gay behaviors and hate crimes, societal attitudes and normative ideologies are factors as well (Parrott and Peterson 2008; Willis 2004). This is not surprising, considering that individuals' attitudes are often grounded in societal norms that stigmatize gay and lesbian individuals and privilege heterosexuals (Willis 2004). Homophobia and institutionalized heterosexism can cultivate an environment in which anti-gay behaviors and hate crimes are accepted (Willis 2004). In fact, research identifies the enforcement of societal gender norms as motivation for anti-gay behaviors (Franklin 1998; Franklin 2000; Jewel and Morrison 2010) and broader approval of hate speech and hate crimes (Cowan et al 2005). Many perpetrators believe that violence and harassment are necessary forms of punishment for those who do not adhere to societal gender norms (Franklin 1998; Franklin 2000) and a way to accentuate their own normative identities (Franklin 2000; Jewel and Morrison 2010; Parrott and Peterson 2008; Roxell 2011).

The inverse may be true as well; whereas heterosexist and homophobic societal norms can motivate hate crimes and anti-gay behaviors, pro-equality norms may curb these behaviors. Individuals in Canada are less likely to engage in anti-gay behaviors than those in the United States due to the differences in cultural norms and pressures (Jewel and Morrison 2010). Even individuals identified as more homophobic were mindful of how others would perceive their attitudes and behaviors, and were "motivated to monitor their prejudicial expression to control how they would be perceived by others" (p. 2102). In sum, socialization and cultural norms may play a role in hate crimes and anti-gay behaviors.

1.4 Theories of Hate Crimes

Whereas extant research suggests a link between sociocultural context and hate crimes based on sexual orientation, it has yet to offer a guiding theory for why hate crimes occur. In this regard, research on racially-motivated hate crimes is relatively well-developed. Specifically, when legal conflicts or discrimination become salient, they create discursive opportunities for racially-motivated bias crimes[2] (Finkelman 1992; Koopmans 1996; Koopmans and Olzak 2004). Joining the institutional heterosexism literature with research on racially-motivated hate crimes, we examine the law as a key social institution of bias motivating violence based on sexual orientation (Herek 2009b). In fact, research shows a moderate relationship between negative stereotypes and prejudice toward gay and lesbian individuals (Simon 1998), and "antigay violence can be seen primarily as an extreme manifestation of

[2]In Europe, for instance, political tensions over immigration instigate anti-immigrant violence (Koopmans 1996), and mass media coverage of discord and violence raises the salience and further facilitates this process (Koopmans and Olzak 2004). In the United States, historical examinations of lynchings implicate the explicit or implicit approval of public officials who refused to indict lynching participants as contributors to the racist mob violence (Finkelman 1992).

pervasive cultural norms rather than as a manifestation of individual hatred" (Franklin 1998, p. 20). Thus, we test the following hypothesis:

H1 Constitutional amendments banning same-sex marriage will increase the incidence of sexual orientation-motivated hate crimes over several years.

Inversely, legal policies that de-stigmatize homosexuality, such as hate crime laws and well-publicized commitment by law enforcement to pursuing anti-gay and lesbian crimes, can be expected to reduce individual biases and the incidence of hate crimes based on sexual orientation (Hamner 1992).

H2 Pro-equality policies – those promoting equality – will decrease the incidence of sexual orientation-motivated hate crimes over several years.

Along with the long-term impacts, it is important to consider short-term impacts of policy changes. Contrary to the long-term prediction in H2, there are two reasons why one might expect a short-term increase in hate crimes following pro-equality policies: 1) increased incidence due to perceived threat and 2) increased reporting. Research on racially-motivated hate crimes informs our expectations regarding short-term increases in incidence. The defended neighborhoods model of racially-motivated hate crimes posits that (primarily white) residents of racially homogenous neighborhoods that experience greater in-migration of racially diverse individuals will commit more hate crimes as they perceive an increased threat to their neighborhood (Grattet 2009; Green et al 1998; Lyons 2007). Similarly, historical research on lynchings finds a positive relationship between the percentage of black residents in a location and the number of lynchings (Beck and Tolnay 1990; Corzine et al 1983; Reed 1972; Soule 1992; Tolnay et al 1989). Blalock's (1967) work developing a theory of majority/minority relations highlights threat to power as a primary explanations for increased violence. Pro-equality policies represent a clear threat to institutional heterosexism and heterosexist power. In fact, homophobic individuals might commit hate crimes to defend their marriage or the institution of marriage (a defended marriage model). Although a short-term increase in hate crimes could accompany any pro-equality policy, partnership recognition seems as especially likely candidate. Glaser et al (2002) find that although employment competition and neighborhood in-migration of racial minorities produces little change in violent discourse of white racists in internet chat rooms, interracial marriage prompts significant increases in support for racially-motivated violence.

In addition to increased incidence due to perceived threat, pro-equality policies might lead victims of hate crimes to report those crimes at increased rates because they perceive greater social acceptance – without any increase in actual hate crimes. In her study of sexual orientation-based hate crimes on college campuses, Stotzer (2010) found that schools with pro-equality policies at the state and campus level reported higher rates of hate crimes. However, when compared to the low number of crimes reported to the FBI in the same locales, Stotzer concluded that higher rates of reporting on campuses were due to the supportive environment rather than higher incidence of crime.

Some pro-equality policy victories are associated with an increase in social movement organizations (Kane 2010), themselves associated with greater rates of reporting (McVeigh et al 2003). Such changes in reporting would yield a statistical increase in incidence when an

actual increase may not exist. We consider both increased incidence and increased reporting in our third hypothesis:

H3 The introduction of pro-equality policies, especially partnership recognition, may produce a short-term increase in hate crime incidence via greater violence or increased reporting.

1.5 Impact of Changing Public Policies

Existing research on other topics highlights the impact of policies and laws by state. For instance, in Maurelli and Ronan's (2013) analysis of sex offender notification laws and sex crime data between 1960 and 2008, they found that 17 of 50 states had a significant reduction in forcible rapes following the passing of sex offender notification laws. On the other hand, 32 other states had no significant changes following laws. In addition to sex offender notification laws, state regulation of firearms impacts crime rates. Research on state firearm legislation found that stricter laws were associated with fewer suicides, homicides, and non-fatal injuries using firearms (Anestis et al 2015; Irvin et al 2014; Simonetti et al 2015).

Despite the number of studies on state laws and crime rates, there is scant research investigating the link between public policies and hate crimes. The effect of hate crime reforms has not been evaluated (Shively 2005), and in most states, partnership recognition policies have not been in place long enough to allow for evaluation. Evidence from Massachusetts, where the state's Supreme Judicial Court legalized same-sex marriage, suggests that there may be a relationship between same-sex marriage legalization and reductions in hate crimes. In 2003, when the Court legalized same-sex marriage, reported hate crimes dropped by roughly thirty percent (Bantley 2008). Similarly, in 1996 when the Defense of Marriage Act was passed, hate crimes in Massachusetts were rising. These statistics are hardly definitive, and additional investigation using more rigorous analysis is necessary. Still, the suggestion that "actions or inactions by the government have had a tremendous impact on this group of citizens" is worth exploring (Bantley 2008, p. 564).

Among the most severe stressors that are prevalent in the gay and lesbian community are violence, harassment, and fear for safety (Berrill 1992). Research suggests that roughly 20 percent of gay and lesbian adults experience crimes based on their sexual orientation (Herek 2009a), and over half experience some form of harassment or victimization – a rate that is moderately higher than their heterosexual counterparts (Katz-Wise and Hyde 2012). Moreover, 8 out of 10 gay, lesbian, bisexual, and transgender individuals between the ages of 13 and 20 experience harassment at school, including verbal harassment (81.9%) and physical harassment (38.3%) (Gay, Lesbian & Straight Education Network (GLSEN) 2011). Victimization of gay and lesbian youth and adults tends to occur in public with perpetrators who are strangers (Herek, Cogan, and Gillis 2002) and is related to increased absenteeism, academic difficulties, problems functioning, depression, low self-esteem, stress, anger, and crime-related fears (Dunbar 2006; GLSEN 2011; Herek et al 1999). Ultimately, the prevalence of violence and harassment against gay and lesbian individuals coupled with the observed impacts of policies on other measures of well-being suggests that policies could affect hate crime incidence.

2. Data and Methods

This research estimates a Prais-Winsten autocorrelation-coefficient-weighted first difference panel regression model with state fixed effects (specified later) to analyze the impact of public policies regarding gay and lesbian rights on the incidence of hate crimes based on sexual orientation. We use annual data from 49 states (including Washington, DC)[3] over 13 years (2000 to 2012) and rely on variation in timing of changes to state policies to identify their relationship with hate crime incidence. This is a common strategy to analyze the impact of specific policies. For example, Hatzenbuehler et al (2012) uses the "quasi-natural experiment" (p. 286) of the 2003 Massachusetts court decision to gauge the impact of same-sex marriage on health care usage, and Dee (2008) uses variation in the timing of same-sex partnership legalization in Europe to assess its impact on sexually transmitted infections.

2.1 Dependent Variable

State-level data on sexual orientation-motivated hate crimes are available from the Federal Bureau of Investigation's (FBI's) Uniform Crime Reporting Program (Federal Bureau of Investigation 2012)[4]. The Hate Crime Statistics Act of 1990 mandates the collection of data on reported crimes which display manifest evidence of prejudice, including prejudice based on sexual orientation[5] even though sexual orientation is not included in hate crime laws in every state. The official reports filed with the FBI are regarded as the "best source of national hate crime data" (McDevitt et al 2000, p. 3), and they are used commonly by researchers analyzing hate crimes (e.g., Alden and Parker 2005; Grattet 2009; Medoff 1999). Hate crimes include murder, non-negligent manslaughter, rape, aggravated assault, simple assault, intimidation, robbery, burglary, larceny-theft, motor vehicle theft, arson, destruction, damage, vandalism, and crimes against society (Federal Bureau of Investigation 2012).

The number of reported hate crimes based on sexual orientation has remained quite steady recently, declining only slightly from 1,331 crimes in 2000 to 1,302 crimes in 2012. By dividing sexual orientation motivated hate crimes by annual state population (U.S. Census Bureau, n.d.—b), we analyze the incidence of reported hate crimes in a state. Due mostly to U.S. population growth, reported crimes declined by slightly more than one crime per two million individuals over the period. A Dickey-Pantula (1987) test for first-, second-, and third-degree unit roots in state-level reported hate crimes barely fails to reject the null hypothesis that a first-degree unit root may exist. Levin-Lin-Chu (2002) and Harris-Tzavalis (1999) tests, however, confirm that the dependent variable is stationary.

[3]Hawaii is missing data for all observations, and Mississippi has missing or sporadic reports prior to 2008.

[4]There are some potential limitations to using the FBI hate crime data. Like many administrative data, hate crimes data are subject to underreporting and heterogeneity in reporting. Nevertheless, state fixed effects and first-differencing both help to account for any bias in this study. Moreover, to the extent that pro-equality policies would be accompanied by an increase in reporting – at both the individual and jurisdictional levels – any bias in the data would operate in the opposite direction of the hypothesized long-term relationships between policies and hate crimes. Thus, our parameter estimates could be considered lower bounds. This research proceeds cautiously while considering the possibility of underreporting.

[5]Included in this category of hate crime are crimes against individuals based on heterosexual orientations. This introduces some level of bias in the outcome measure, but it is likely to be minimal for two reasons. First, unlike attitudes toward and hate crimes against gay and lesbian individuals, attitudes toward and hate crimes against heterosexuals would not seem to vary across states. Second, hate crimes against heterosexuals plausibly can be expected to be quite rare.

2.2 Focal Independent Variables

We will be testing the relationship between hate crimes based on sexual orientation and four different policy measures. We operationalize state marriage policies as a series of dummy variables. Although data are available regarding the type of same-sex partnerships and benefits offered by a state (i.e., full marriage equality for same-sex couples, a marriage-like union that is not marriage for same-sex couples, or some spousal rights for same-sex couples), these various policies sum to be present in a total of 90 observations – leaving insufficient cases to model the three types separately. As a result, these are collapsed into a single partnership recognition dummy variable. Another dummy variable identifies states with a constitutional amendment banning same-sex marriage. These variables are mutually exclusive from each other and from the base category of a general statewide ban on same-sex marriage with no legal recognition of spousal rights.[6] Data for these variables are available from the Human Rights Campaign's (HRC's) and National Gay and Lesbian Task Force's (NFLTF's) websites.

State hate crime policy is a dummy variable indicating whether or not a state's hate crime law includes crimes motivated by bias against sexual orientation. Although it is possible to further distinguish between states whose laws address gender identity and those whose laws do not, this research does not incorporate this variation because the outcome variable measures only hate crimes based on sexual orientation and not those based on gender identity. Finally, we operationalize state nondiscrimination policy as a dummy variable indicating whether or not a state bans discrimination based on sexual orientation. Data for both variables are available from the HRC's and NGLTF's websites. Appendix A provides a table of state-level policies and when they were enacted.

To assess how state policies might be causally related to reported crimes over time, we test several lagging and leading variable specifications of marriage, hate crime, and nondiscrimination policies. This follows the logic of a Granger causality test, which suggests that if one time series is useful in forecasting future values of another time series, the former can be considered predictively causal of the latter. The timing of these relationships is important given the possibility that increased public tolerance might be expected to cause a reduction in hate crimes and then passage of pro-equality policies along the lines of a dynamic representation model (Stimson et al 1995). We determine the appropriate number of lags or leads for each variable by beginning with two lags and leads, using a Wald test for groups of lags or leads, and removing the longest lags or leads one-by-one if insignificant. Appendix B presents the progression of stepwise models using the Wald test to eliminate lags and leads.

2.3 Control Variables

This analysis includes several control variables: two measures of the incidence of general crime in states, three measures of incidence of other reported hate crimes, citizen and state political ideology measures, two measures of state party governance, state unemployment,

[6]It is possible for states to have a constitutional amendment banning same-sex marriage and while also offering a marriage-like union or some spousal rights. In the few situations where this occurred, we coded the state as having the pro-equality policy and not the constitutional ban.

and state fixed effects. Crime incidence data are available from the FBI's Uniform Crime Reporting Program and cover both violent crime and property crime, as well as reported hate crimes based on race/ethnicity, religion, and disability status. We calculate these general crime and hate crime incidence measures in the same manner as the dependent variable. To the extent that reported hate crime fluctuations are due to changes in state-specific general crime trends, the general crime measures should capture that. If, on the other hand, any relationships between public policies and hate crimes based on sexual orientation are spurious and capturing broad social trends in hate crimes, our other hate crime measures should capture that.

We include several measures of the sociopolitical climate of a state because cultural context can foster or discourage hate crimes based on sexual orientation (Parrott and Peterson 2008; Willis 2004), and conservatism is associated with antigay behavior (Franklin 2000; Herek 2009b). Citizen political ideology is a measure of how liberal or conservative the state's electorate is in terms of its policy preferences; we use the revised 1960–2010 citizen ideology series[7] first described by Berry et al (1998). State government ideology[8] measures how liberal/conservative elected official's policy preferences are; we use the nominate measure of government ideology, which uses common-space congressional ideology preferences (Poole 1998) and has somewhat stronger validity than a similar measure (Berry et al 2010). Citizen and state government ideology measures range from 0 (most conservative) to 100 (most liberal). State party governance includes a dummy variable capturing whether or not the governor is a Democrat[9] and a variable averaging the shares of the state representatives and senators that are Democrats[10] (University of Kentucky Center for Poverty Research, n.d.).

We also include the unemployment rate as a control for economic conditions because although the literature is mixed, some research finds a relationship between economic downturns and racially-motivated hate crimes (e.g., Beck and Tolnay 1990; Hovland and Sears 1940; Soule 1992). The Bureau of Labor Statistics calculates state-level unemployment rates (University of Kentucky Center for Poverty Research, n.d.). Finally, state fixed effects[11] control for time-consistent omitted variables causing across-state variation in hate crimes. For example, the share of a state's population identifying as gay, lesbian, bisexual, transgender, or queer might affect the incidence of hate crimes. Although there are no annual data available to quantify this for our study window, the within-state share of the population is plausibly time-invariant and controlled using state fixed effects. Summary statistics for our variables appear in Table 1.

After identifying the appropriate number of lags or leads for the policy variables, we test several theoretically-informed interactions of our policy variables with social context control variables. Previous research suggests that the sociocultural climate of a state can affect how

[7]Data are not available for 2011–2012; we code this variable as missing for those years.
[8]Data are not available for 2011–2012; we code this variable as missing for those years.
[9]We code the District of Columbia as having a Democratic governor because the mayor of the District is a Democrat in each year.
[10]We code observations from Nebraska and the District of Columbia as missing for this variable. Nebraska's state legislators do not identify with a party. The District of Columbia's councilmembers do identify with a specific party, but there is a quota for non-majority party members on the City Council.
[11]A Wald test recommends the inclusion of the general crime incidence parameters and state fixed effects.

states implement policies regarding gay, lesbian, and bisexual rights, as well as the externalities that result (Bernstein 2003; Eskridge 1999). For instance, Bernstein (2003) utilizes a multidimensional framework for understanding political movements and activists. She explains that cultural factors, defined as social norms, behaviors, and discourse, often impact the strategies of lesbian and gay activists and the outcomes of their efforts. In the case of sodomy laws, cultural changes often occurred even without changes in law. Further, cultural differences by state impacted activism and policy implementation, with some efforts prominently displayed via town meetings or judicial challenges and some occurring behind the scenes (Bernstein, 2003).

The literature on racially-motivated hate crimes also suggests economic downturns or resource deprivation might increase lynchings and bias crimes due to increased competition for resources (Beck and Tolnay 1990; Green et al 2001b; Hepworth and West 1988; Hovland and Sears 1940; Soule 1992). In other words, whites frustrated by economic hardships and lack of resources blamed and attacked African Americans for their difficulties. Recent findings on racially-motivated hate crimes, however, do not necessarily show such clear connections with economics (Grattet 2009; Green et al 1998; Lyons 2007; Medoff 1999). We test interactions of unemployment with nondiscrimination laws and citizen ideology with all policy variables, and they prove statistically and substantively insignificant. We do not discuss the results here (available upon request).

A robust Lagrange Multiplier test (Pisati 2001) indicates spatial autocorrelation in the dependent variable across the states. We account for the spatial autocorrelation by including a spatial effect term. The spatial effect for a state in a given year is the weighted average of the dependent variable for all other states in that year, where states are weighted using the number of individuals migrating to the state for which a lag is calculated. Migration data for creating the spatial weights are average annual migration flows between states as measured by the pooled 2005–2007 American Community Surveys (U.S. Census Bureau, n.d.—a). Thus, the spatial lag captures the impact of population flows, including the attitudes and ideologies people carry with them, between states.

In addition, tests for serial correlation (Drukker 2003) and heteroskedasticity indicate that both violations of linear regression assumptions are present. Thus, we estimate a Prais-Winsten autocorrelation-coefficient-weighted first difference model (*xtpcse* in Stata) with heteroskedastic panel corrected standard errors. Given the moderately large cross-sectional size, the clustered errors are unlikely to be biased, and concerns of finite sample properties should not apply (Kezdi 2004). The assumption of strict exogeneity of the regressors for feasible generalized least squares should not be violated by the spatial effect term because it excludes hate crime incidence of the estimated observation (state). The model is reflected by the following equations:

$$Y_{st}^{*}=\beta_0(1-\hat{\rho})+\beta_x X_{st}^{*}+\delta_s+\varepsilon_{st}^{*}$$

where

$$Y^*_{st} = Y_{st} - \hat{\rho} Y_{st-1}$$
$$X^*_{st} = \left(\sum_k P^k_{st} - \hat{\rho} \sum_k P^k_{st-1} \right) + (w_s Y_{\sim st} - \hat{\rho} w_s Y_{\sim st-1}) + (z_{st} - \hat{\rho} Z_{st-1})$$
$$\varepsilon^*_{st} = \varepsilon_{st} - \hat{\rho} \varepsilon_{st-1}$$

Hate crime incidence (Y) in state s during year t is explained by k lags/leads of state policy variables (P), a weighted (w) spatial effect term ($Y_{\sim s}$), several controls (Z), state fixed effects (δ)[12], and a heteroskedastic panel corrected error (ε_{st}). We obtain the autocorrelation coefficient ($\hat{\rho}$) by using OLS to estimate the model without weighted differencing and regressing the residuals on the one-year lagged residuals. By taking an autocorrelation-coefficient-weighted first difference, we remove the portions of each year's independent and dependent variables that are due to serial correlation. This is not the same as a complete first difference, which would subtract the full previous year value from the present year value for all variables. As a result, although the model is not estimating year-to-year changes, significant policy variables do have an impact both for the year that they take place[13] and in the following year(s) at a reduced rate ($\hat{\rho}$). To account for missing data on the citizen and government ideology variables, the Democratic governorship and legislature variables, we use multiple imputation with chained equations (*mi ice* in Stata) and 50 imputed data sets. We calculate mean coefficients and standard errors using Rubin's (1987) formula. Finally, we scale all coefficients – except the spatial lag – to represent the number of additional hate crimes per one million individuals per year that can be expected given a one-unit change in the independent variable.

This modeling strategy departs from research on hate crimes using negative binomial models for three reasons. First, although hate crimes are relatively rare, there is not an overabundance of zeros in the present data (less than 5 percent of observations are zero); Poisson and negative binomial models are especially superior to linear regression models when there are a substantial number of zeros. Second, in our base Prais-Winsten model, neither the dependent variable nor the residuals are heavily skewed, though the residuals do display significantly more kurtosis than a normal distribution. Third – and most importantly – we anticipate that the functional form of the relationship between public policies, citizen attitudes, and hate crimes is linear as opposed to log-linear. For example, we expect similar impacts when the liberalness of a citizenry increases from 5 to 10 and from 10 to 15. To test the sensitivity of our results to our choice of estimator, we estimate a fixed effects negative binomial panel regression of our preferred model, and the results are largely consistent with the present findings[14].

[12]Because the fixed effects option is not available following xtpcse in Stata, we calculate fixed effects manually using the xtdata command prior to estimating the model.
[13]Or the following year(s) in the case of a lagged policy.
[14]The constitutional marriage ban is statistically insignificant. One partnership recognition variable is significant and positively related to reported crimes, and one employment nondiscrimination variable is negatively and significantly associated with reported crimes. Only the coefficient on lagged hate crimes laws varies in its relationship, becoming statistically insignificant (but still negative) in the negative bimonial regression. The magnitudes of the coefficients are not directly comparable because the negative binomial model takes a log-linear form. Results are not presented here but available upon request.

3. Results and Discussion

We begin our analysis by plotting national incidence of reported hate crimes motivated by sexual orientation against the share of the population covered by each of the four public policies we consider from 2000–2012. In this section, we will integrate these descriptive results with our multivariate models and proceed by considering each of our hypotheses in succession.

3.1 Hypotheses 1 & 2

Our initial two hypotheses posit that pro-equality policies will be associated with reductions in incidence of reported hate crimes, whereas anti-equality policies will be related to increased reported incidence. Figure 1 presents trends for the shares of the American population living in states with employment nondiscrimination laws (dashed line) and hate crime laws that include crimes motivated by sexual orientation (dotted line) from 2000 to 2012. These percentages change over time as states enact new laws. We compare the trends with the annual incidence of reported hate crimes (solid line) over the same period. The dramatic rise in the share of the population covered by hate crime laws in the early 2000s slightly precedes an equally dramatic decline in hate crimes. In 2000, only one in six Americans lived in a state with hate crime laws including sexual orientation; in 2005, the number had risen to seven in ten Americans. In 2000, there were 4.8 hate crimes motivated by sexual orientation per million people; by 2005, that rate was cut by 27 percent to 3.5 hate crimes per million people. The time ordering of this relationship is consistent with the implementation of hate crime laws Granger causing a drop in hate crimes, though a definitive determination of causality would require more rigorous controls.

Similarly, the substantive, yet less dramatic, increase of employment nondiscrimination policies that include sexual orientation in the early 2000s also coincides with the decline in reported hate crimes. In 2000, one in four Americans lived in states with employment nondiscrimination laws; in 2005, roughly four in ten Americans lived in such a state. Rather than preceding the drop in hate crimes by a year like the hate crime law increase, the rise in nondiscrimination laws seemed to occur simultaneously with the decline.

Figure 2 is analogous to Figure 1, except that it presents trends for the share of people living in states with constitutional amendments banning same-sex marriage (dashed line) and partnership recognition policies that offer marriage, a marriage-like union, or some spousal rights (dotted line). As the wave of states implementing constitutional bans on same-sex marriage began in 2004, hate crimes were in decline. The decline, however, reversed course after 2005 and rose to its post-2005 peak of 4.3 hate crimes per million people in 2008 – the same year that coverage of constitutional bans peaked in their coverage of the population. It is plausible, though again hardly definitive, that the discriminatory nature of constitutional bans, as well as the heated political environment that they produced (Smith et al 2006), broke the momentum of the decline and incited a new wave of anti-gay and lesbian violence.

Of the four policies we examine, partnership rights is by far the last to see substantial change. Marriage and partnership policy coverage hardly increased until 2007, and it saw only small growth until 2010. During the period of significant growth from 26 percent

coverage in 2010 to 41 percent coverage in 2012, hate crime incidence remained flat. It is possible that the potential reductions in reported hate crimes achieved through pro-equality policies had already been realized through hate crime and nondiscrimination laws, and partnership recognition thus did not yield the same positive externality. Alternatively, this pattern may be confirmatory of H3 and a short-term increase in hate crime reporting that counteracts the reduction associated with pro-equality policies, and we discuss this further in section 3.2.

Although the bivariate relationships we observe suggest an impact of public policies regarding gay and lesbian rights on hate crime incidence, disentangling the unique effects of four policies changing at different times across different states is a complex task. We turn to multivariate analyses to test these initial findings more rigorously. Table 2 presents the results of Prais-Winsten fixed effects panel regression models analyzing hate crime incidence. Model 1 is our initial model, which includes one-year lags of constitutional bans, partnership recognition laws, hate crime laws, and employment nondiscrimination laws. Additionally, we include present year partnership recognition and employment nondiscrimination laws, as well as a two-year lag of partnership recognition. Hate crime laws that include sexual orientation are negatively related to hate crime incidence, whereas constitutional bans on same-sex marriage are positively associated with hate crimes. For example, states instituting a constitutional ban on same-sex marriage are associated with one additional hate crime per million people than states that have neither a ban nor partnership recognition policies in the year following enactment. These policies have significant one-year lags, which is consistent with policy changes Granger causing changes in reported hate crimes. Employment discrimination policies also are negatively related to reported hate crime incidence, but the parameters fail to meet traditional thresholds for statistical significance using a joint Wald test.

Model 2 adds a spatial lag to the base model. The spatial lag misses significance thresholds, but the coefficient is positive, substantive, and suggestive of an increase of roughly one hate crime per every three hate crimes in ‘nearby’ states. Moreover, recall that a robust Lagrange Multiplier test indicated significant spatial autocorrelation in the dependent variable ($p < 0.001$). The potential influence of nearby states is not surprising given that individuals tend to cluster geographically along dimensions like political ideology and values (Bishop 2009; Tam Cho et al 2013), and thus states where the societal forces are more conducive to hate crimes based on sexual orientation are likely to ‘neighbor’ each other (or at least have residents that migrate between each other). The substantive importance of neighboring states suggests that there may be spillover effects – in the positive or negative direction depending on the policy – of a state’s policies regarding gay and lesbian rights. The policy variables significant in Model 1 remain significant at a substantively similar magnitude, indicating that the relationship between policy changes and hate crime incidence is unlikely to be endogenous to sociopolitical changes occurring in nearby areas.

Model 3 includes controls for general forms of crime, reported incidence of other types of hate crimes, economic condition, citizen ideology, and political structure and ideology. Among these, only the reported incidence of hate crimes based on race/ethnicity is significant. In addition, the liberalness of a state’s citizens barely misses the $p<0.05$

threshold for significance, but it is substantively and positively correlated with reported hate crime incidence. Although such a relationship may seem counterintuitive, it is consistent with research reporting greater reporting of hate crimes with increases in gay movement organizations (McVeigh et al 2003); liberal citizenries also likely foster a social culture that encourages reporting of hate crimes.

Hate crime laws continue to be negatively related to reported hate crime incidence, and employment nondiscrimination laws are now significantly and negatively related to incidence. States instituting a nondiscrimination law are associated with one fewer reported hate crime per 900 thousand people during the year the policy is adopted and an additional one fewer reported crime per 1.2 million people in the year following enactment. Constitutional bans on same-sex marriage are no longer related to reported hate crime incidence, indicating that the relationship between the two is correlational but not causal. Finally, partnership recognition policies are positively related to reported hate crime incidence, and we discuss this further in section 3.2.

Over all, our findings thus far are generally supportive of H2. We predict that pro-equality policies will reduce reported incidence of hate crimes based on sexual orientation, and this seems to be the case with hate crime and employment nondiscrimination laws including sexual orientation. Both policies Granger cause reductions in reported hate crimes, indicative of potential positive externalities. In contrast, we reject H1 – at least in its causal form. Constitutional bans are positively correlated with reported hate crimes, but this relationship is explained by the many controls we include in our model.

3.2. Hypothesis 3

Our final hypothesis (H3) posits a short-term increase in hate crime incidence following enactment of pro-equality policies, especially partnership recognition, via greater violence or increased reporting. Recall from Figure 2 that we observe no change in reported hate crimes associated with the rise in partnership recognition policies nationwide. In our multivariate models in Table 2, however, we find that state partnership recognition laws Granger increase reported hate crimes. Specifically, a partnership recognition law is associated with one additional hate crime per 1.2 million people in both the implementation year and the year following implementation, as well as an additional hate crime per one million people two years following implementation.

This finding is confirmatory of H3, but the cause of the increase remains unclear. We cannot determine definitively if the increase in reported crimes results from an actual increase in violence or an increase in reporting only. Given the particularly contested nature of marriage policy (Glaser et al 2002), it is not inconceivable that partnership recognition might incite retaliatory violence. If the increase is due to retaliatory hate crimes, we would expect the effect to be stronger in conservative locations given the relationship between an individual's conservative ideology and propensity to commit a hate crime (Franklin 2000; Jewel and Morrison 2010; Roxell 2011). When testing interactions between citizen ideology and partnership recognition policies (despite their statistical insignificance), however, there is little difference in the marginal effect of partnership recognition between liberal and conservative citizenries. Alternatively, because hate crime laws and employment

nondiscrimination laws tend to be adopted before partnership recognition, the former policies may yield the bulk of the gains in hate crime reductions. Such a scenario could leave increases in reporting as the primary impact of the later-enacted partnership recognition policies. Thus, it is possible that the time ordering of policy implementation, as opposed to the specific type of policy, determines a policy's impact. We address this possibility now.

3.3 Policy Order Effects

We re-estimate our model of hate crime incidence using timing variables and lags for pro-equality policy implementation instead of indicator variables for specific pro-equality policies. For example, if a state implements a hate crime law including sexual orientation in 2005 and an employment nondiscrimination law in 2008, the state would be coded as implementing their first pro-equality policy in 2005 and their second in 2008. In this timing specification, this hypothetical state would look exactly like a state that implemented an employment nondiscrimination law in 2005 and partnership rights in 2008 (but had no hate crime law) from a modeling perspective. We again begin by testing two years of lags and leads for each policy timing variable and eliminating lags or leads based on significance tests and joint Wald tests. Table 3 presents the results of our policy timing model, which includes the present value of the first pro-equality policy, a one-year lag of the second pro-equality policy, and the present value, a one-year lag, and a two-year lag of the third pro-equality policy.

Most of the benefits of pro-equality policies appear to arise from the second policy that is implemented. The second pro-equality policy reduces reported hate crime incidence in the year following implementation by one hate crime per 600 thousand people, again indicating Granger causality. The first pro-equality policy has a muted, statistically insignificant negative relationship with hate crime incidence. It is worth noting that we are unable to capture a sizeable share of the change in reported hate crimes that may be due to the first pro-equality policy because 12 states implemented such a policy in 2000 or before – meaning its impact would be captured entirely by the state fixed effects.[15] As a result, we may simply be unable to estimate the impact of an initial policy with our data.

The third pro-equality policy is associated with an increase in reported hate crimes in the implementation year and the two years following implementation. This result is unsurprising as, with only one exception, when a state enacts a third pro-equality policy it is establishing some type of partnership recognition, which also is associated with an increase in reported hate crime incidence (see Table 2). Although the results are hardly definitive, we are inclined to interpret this increase as a rise in reporting rather than a spike in hate crimes committed by individuals retaliating against same-sex partnerships. We would expect retaliatory violence to be strongest when the policy discourse is at its peak – the period surrounding implementation. In contrast, the increase in reported crime is strongest in the two years following implementation.

[15]An additional 19 states had yet to institute a pro-equality policy by 2012. Thus, 12 of the 30 states (40 percent) with pro-equality policies have their first pro-equality policy completely controlled with state fixed effects.

Finally, we attempted to gauge the relative importance of policy type versus implementation order by pooling both sets of variables into a single Prais-Winsten model. Unfortunately, it is difficult to distinguish which is driving the changes in hate crimes due to the high degree of multicollinearity between the two types of variables. We then compare the explanatory power of the base models from Tables 2 and 3 that estimate the relationships of policy type and policy order with hate crime incidence. These models provide little evidence to adjudicate the issue as they have comparable explanatory power[16] and similar parameter estimates. Although we cannot settle the debate, it is instructive that the implementation order model performs essentially as well as the policy type model. This indicates that at least some of the positive externalities of pro-equality policies are due to their adoption in states that previously had one or no such policies.

Ultimately, we find significant effects of most policies despite including a strong control for across-state variance with state fixed effects and examining only within-state, over-time variation in policies and hate crime incidence. For at least the twelve states that had implemented their first pro-equality policy by 2000, three of which also had implemented their second by 2000, the fixed effects completely absorb the (immediate) impact of these policies. Most likely, the fixed effects also capture some of the additional observed variance in hate crimes that might be attributable to policy changes during the window of analysis. Thus, we consider our estimates potential lower bounds of the true relationships.

4. Conclusion

The substantial changes in state policies on gay and lesbian rights over the past 15 years, as well as the persistent heterogeneity across states, have important consequences for the well-being of gays and lesbians. Already established are the implications of public policies for mental and physical health, as well as a host of individual benefits. We examine the potential for policy externalities in the form of hate crimes. Previous research on racially-motivated violence suggests perceived threats of integration (Grattet 2009; Green et al 1998; Lyons 2007) and discursive opportunities (Koopmans 1996; Koopmans and Olzak 2004) are potential drivers of hate crimes. The present findings provide the first rigorous quantitative evidence that public policies on gay and lesbian rights affect the incidence of hate crimes based on sexual orientation. Our results are consistent with institutional heterosexism theory, wherein the law provides or restricts discursive opportunities for bias-based violence.

Employment nondiscrimination and hate crime laws are associated with reduced reports of hate crimes, providing evidence confirmatory of H2. Although it is unclear whether it is the implementation order or type of policy that drives changes in incidence, these relationships are clear, in the expected direction, and consistent with policy changes Granger causing changes in incidence. Along with potential benefits for gays and lesbians in a state implementing pro-equality policies, the positive spatial lag term that barely misses traditional significance thresholds indicates that pro-equality policies in one state may yield spillover benefits for individuals in other ‘nearby’ states.

[16]The model R^2 statistics are less than one percentage point different. The base model in Table 2 has an R^2 of 0.2852, whereas the base model in Table 3 has an R^2 of 0.2926.

Consistent with H3, partnership recognition laws yield increases in reported hate crime incidences in the implementation year and two years following. Whether the increase is due to retaliatory violence or greater reporting cannot be determined definitively with the present analyses, but the results are suggestive of increases in reported crimes as opposed to retaliatory violence. Under a defended marriage model, we would expect a spike in hate crimes coincident with implementation and the strongest increase in conservative states; in contrast, we see the strongest effect two years following implementation and roughly equivalent increases by across levels of citizen political ideology. This finding in particular would benefit from additional exploration.

These results build on existing arguments that anti-gay and lesbian violence is an extreme manifestation of social stigmatization and cultural norms that are fostered by social institutions, and future research should explore the potential mediating role of stigma in the production of hate crimes. According to both Goffman's (1963) and Link and Phelan's (2001) models, the process of stigmatization includes status loss and discrimination that subsequently legitimize stigma. Laws and public policies can be key sources of social stigmatization by codifying and perpetuating differences in status and institutionalizing heterosexism (Herek 2011; Herek 2009b). Public referenda and ballot initiatives in particular may crystalize attitudes and behaviors towards gay and lesbian individuals (VanHorn 2008). It is through these individual attitudes and behaviors, of course, that public policies and stigmatization would have an effect on hate crimes. Not only are individuals' attitudes related to their pro-gay and lesbian activism (Wilkinson and Sagarin 2010), their attitudes also are associated with behavior in cases of hate crimes (Parrott and Peterson 2008). Accordingly, to better understand the impact of pro-equality policies on hate crime incidence, it will be important to examine the role of stigmatization and its impact on social attitudes.

The present research also is not without its limitations. Hate crimes are notoriously difficult to count accurately (Cramer 1999; Herek et al 1999; Jenness and Grattet 2005). Although the Uniform Crime Reports are commonly used (e.g., Alden and Parker 2005; Grattet 2009; Medoff 1999) and regarded as the best available data source (McDevitt et al 2000), our estimates of hate crime incidence still likely suffer from significant undercount. In the future, representative surveys or experimentally testing reports of hate crimes would be beneficial to better quantify the extent of the problem. Fortunately for the present research, however, the various sources of hate crimes data tend to be in agreement regarding how hate crimes are distributed across communities despite reporting different totals (Green et al 2001a). Thus, though counts of incidence may be inaccurate, disparities and trends between states are plausibly correct. Moreover, given that underreporting is the primary challenge – and underreporting can be expected to decrease with the institution of pro-equality policies – the effect of reporting biases should run counter to the expected policy effects in H1 and H2. Based on this and Stotzer's (2010) findings, the data challenges accompanying hate crimes research should *suppress, rather than inflate,* our estimated effects.

These findings add to the newly forming literature on the social production of hate crimes. The small body of quantitative research focuses on racially-motivated bias crimes and explores economic and neighborhood transition models of causation. We extend this

literature to hate crimes committed against gays and lesbians, individuals for whom civil rights advances are relatively recent and ongoing. Additionally, we test the applicability of the defended neighborhood and discursive opportunity models to hate crimes based on sexual orientation. We find evidence consistent with a discursive opportunity model (Koopmans 1996; Koopmans and Olzak 2004) in which the law is a key social institution that induces or discourages bias-motivated violence.

This research also has implications for current social policy. In addition to the individual-level benefits that characterize current pro-equality arguments in the gay and lesbian rights debate, there are positive social externalities, such as a reduction in hate crimes, associated with pro-equality laws. Although public opinion on marriage equality remains fairly closely divided, the general public is, for the most part, not divided in its opposition to hate crimes. Thus, the potential for state policies to influence, if not serve as, societal forces in the production of hate crimes will be an important consideration for legislatures and courts deliberating marriage equality, hate crime, and employment nondiscrimination laws.

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Highlights

- Pro-equality policies reduce reported hate crimes based on sexual orientation.
- Spatial correlation suggests spillover effects from policy changes in one state.
- Institutional heterosexism and discursive opportunities drive the policy impacts.

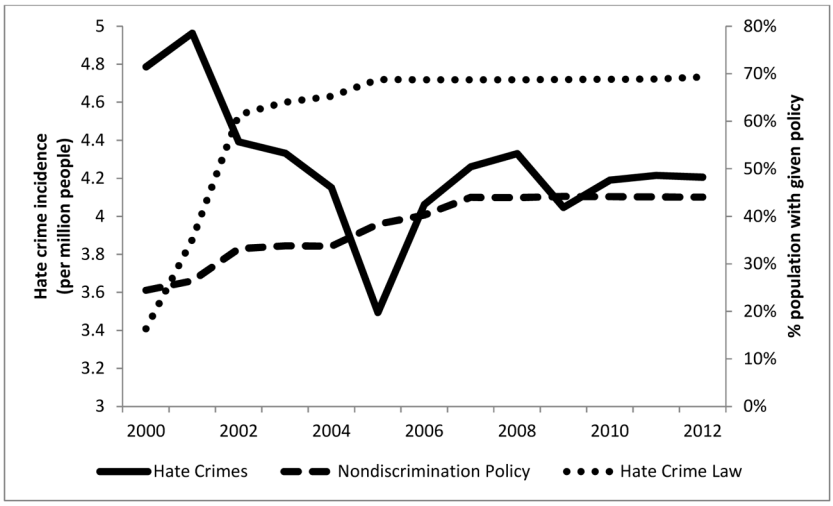

Figure 1.
Trends in Nondiscrimination and Hate Crime Policies with Hate Crime Incidence

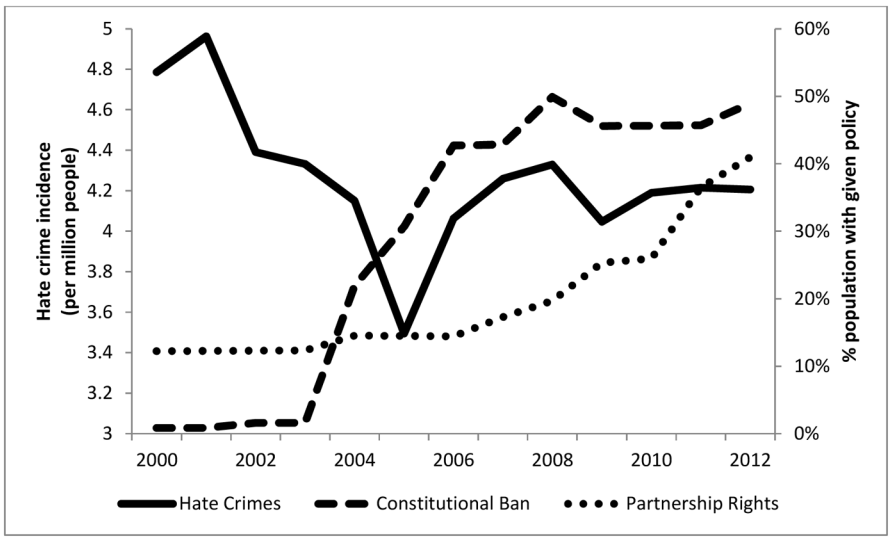

Figure 2.
Trends in Constitutional Bans and Partnership Rights with Hate Crime Incidence

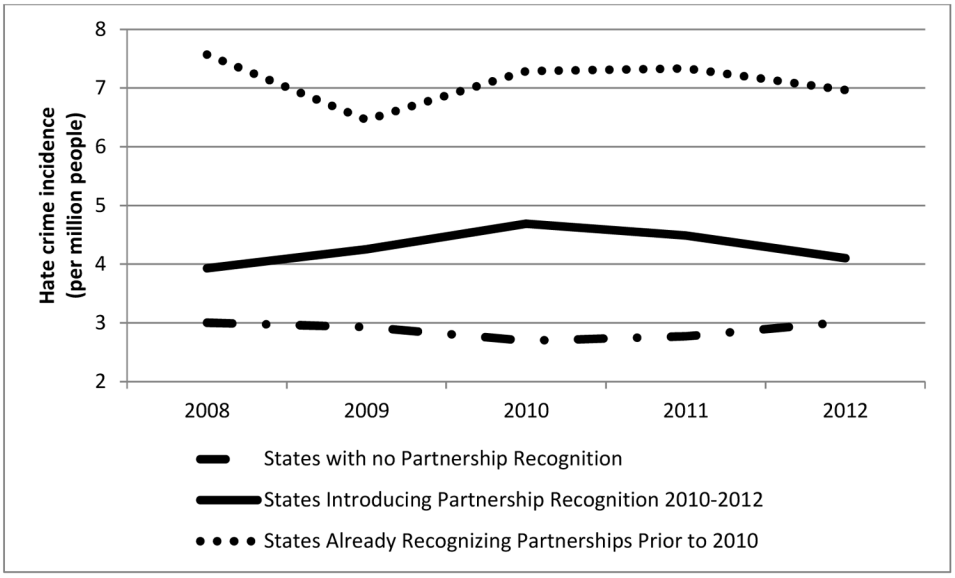

Figure 3.
2008–2012 Trends in Hate Crimes by States' Partnership Recognition Policies

Table 1

Summary Statistics[1]

	N	% Missing	Mean	SD
Reported hate crime incidence	637	0	5.2E-06	7.5E-06
Constitutional ban	637	0	0.33	0.47
Partnership recognition	637	0	0.14	0.35
Hate crime law	637	0	0.51	0.50
Employment nondiscrimination law	637	0	0.35	0.48
Spatial lag	637	0	4.5E-06	1.2E-06
Reported racial hate crime incidence	637	0	16.4E-06	11.8E-06
Reported religious hate crime incidence	637	0	4.2E-06	4.8E-06
Reported disability hate crime incidence	637	0	0.3E-06	0.7E-06
Reported violent crime incidence	637	0	4228.3E-06	2244.8E-06
Reported property crime incidence	637	0	0.03	0.01
Citizen ideology	528	17.1	51.98	15.71
Unemployment rate	637	0	5.85	2.12
Democratic governor	637	0	0.49	0.50
% Democratic legislature	611	4.1	0.50	0.15
Government ideology	528	17.1	48.52	23.36

[1]Public policies are current year value. For brevity, we do not include all of the lags and leads we test in this table.

Table 2

Prais-Winsten Fixed Effects Models of Reported Hate Crime Incidence (estimates per one million individuals, standard errors in brackets)[1]

	Base	Spatial Lag	Controls
Constitutional ban t-1	1.06 ***	1.11 ***	0.185
	[0.261]	[0.26]	[0.304]
Partner. reco.	0.278	0.317	0.812 a
	[0.861]	[0.857]	[0.838]
Partner. reco. t-1	0.913	0.899	0.826 a
	[1.1]	[1.1]	[1.09]
Partner. reco. t-2	0.881	0.874	1.01 a
	[1.13]	[1.13]	[1.05]
Hate crime t-1 (HC)	−0.994 **	−0.893 **	−0.907 *
	[0.344]	[0.342]	[0.376]
Emp. non-discrim.	−0.837	−0.675	−1.11 b
	[0.733]	[0.728]	[0.762]
Emp. non-discrim. t-1	−0.417	−0.5	−0.808 b
	[0.707]	[0.703]	[0.734]
Spatial lag		0.32	0.309
		[0.207]	[0.192]
Racial hate crime			128678.7 ***
			[24587.4]
Religion hate crime			153269.5
			[83652.1]
Disability hate crime			53361
			[224167]
Violent crime inc.			−1118
			[570.8]
Property crime inc.			−63.9
			[44.6]
Citizen ideology			0.026
			[0.017]
Unemployment rate			−0.069
			[0.083]
Democratic governor			0.325
			[0.524]
% Democratic legisl.			1.44
			[1.99]
Government ideology			−0.005
			[0.017]
Constant	5.63 ***	4.09 ***	7.05 **

	Base	Spatial Lag	Controls
	[0.272]	[1.02]	[2.94]
N	637	637	637
Multiple Imputation			x

[1] Spatial lag has a one-to-one relationship (not one-to-one million).

[a–b] These variables are jointly statistically significant using a Wald test. Because Prais-Winsten models (*xtpcse*) are not available using Stata's *mi ice* suite, we calculate the Wald test independently for each imputed data set and consider a result significant if it is statistically significant at the p<0.05 level in at least two-thirds of the imputed data sets.

* p<0.05,

** p<0.01,

*** p<0.001

Table 3

Prais-Winsten Fixed Effects Model of Implementation Order and Reported Hate Crime Incidence (estimates per one million individuals, standard errors in brackets)[1]

	Base	Spatial Lag	Controls
Constitutional ban t-1	0.828 **	0.979 ***	0.178
	[0.251]	[0.235]	[0.315]
Policy one	−0.253	−0.074	−0.386
	[0.381]	[0.365]	[0.423]
Policy two t-1	−1.23 ***	−0.967 **	−1.750 **
	[0.304]	[0.33]	[0.531]
Policy three	0.469	0.531	0.695 a
	[0.553]	[0.545]	[0.843]
Policy three t-1	0.697	0.752	0.950 a
	[0.738]	[0.723]	[1.090]
Policy three t-2	−1	−1.32	1.130 a
	[0.895]	[0.836]	[1.060]
Spatial lag		0.647 ***	0.339
		[0.180]	[0.197]
Racial hate crime			130534.8 ***
			[24531.3]
Religion hate crime			157151.1
			[84183.0]
Disability hate crime			50233.4
			[223641.2]
Violent crime inc			−1083.5
			[576.5]
Property crime inc			−43.3
			[45.3]
Citizen ideology (CI)			0.025
			[0.017]
Unemployment			−0.045
			[0.083]
Democratic governor			0.208
			[0.530]
% Democratic legisl.			1.880
			[2.590]
Government ideology			−0.003
			[0.018]
Constant	4.62 ***	1.48	5.31
	[0.229]	[0.891]	[3.00]
N	637	637	637

	Base	Spatial Lag	Controls
Multiple Imputation			x

[1] Spatial lag has a one-to-one relationship (not one-to-one million).

[a] These variables are jointly statistically significant using a Wald test. Because Prais-Winsten models (*xtpcse*) are not available using Stata's *mi ice* suite, we calculate the Wald test independently for each imputed data set and consider a result significant if it is statistically significant at the $p<0.05$ level in at least two-thirds of the imputed data sets.

* $p<0.05$,

** $p<0.01$,

*** $p<0.001$

Appendix A

State-Level Policies by Year of Enactment

State	Partnership Recognition or Constitutional Ban	Sexual Orientation in Nondiscrimination Policies	Sexual Orientation in Hate Crime Policies
Alabama	Constitutional ban, 2006	No	No
Alaska	Constitutional ban, 1998	No	No
Arizona	Constitutional ban, 2008	No	Yes, 2003
Arkansas	Constitutional ban, 2004	No	No
California	Marriage-like union, 1999	Yes, 1992	Yes, 1999
Colorado	Constitutional ban, 2006 Some spousal rights, 2009	Yes, 2007	Yes, 2005
Connecticut	Marriage equality, 2008	Yes, 1991	Yes, 2004
Delaware	Marriage-like union, 2011	Yes, 2009	Yes, 2001
District of Columbia	Marriage-like union, 2002	Yes, 1977	Yes, 1989
Florida	Constitutional ban, 2006	No	Yes, 2001
Georgia	Constitutional ban, 2004	No	No
Idaho	Constitutional ban, 2006	No	No
Illinois	Marriage-like union, 2011	Yes, 2005	Yes, 2001
Indiana	None	No	No
Iowa	Marriage equality, 2009	Yes, 2007	Yes, 2002
Kansas	Constitutional ban, 2005	No	Yes, 2002
Kentucky	Constitutional ban, 2004	No	Yes, 2001
Louisiana	Constitutional ban, 2004	No	Yes, 2002
Maine	Marriage equality, 2012	Yes, 2005	Yes, 2001
Maryland	Marriage equality, 2012	Yes, 2001	Yes, 2005
Massachusetts	Marriage equality, 2004	Yes, 1989	Yes, 2002
Michigan	Constitutional ban, 2004	No	No
Minnesota	None	Yes, 1993	Yes, 1993
Missouri	Constitutional ban, 2004	No	Yes, 2001
Montana	Constitutional ban, 2004	No	No
Nebraska	Constitutional ban, 2000	No	Yes, 2002
Nevada	Constitutional ban, 2002 Marriage-like union, 2009	Yes, 1999	Yes, 2001
New Hampshire	Marriage equality, 2010	Yes, 1997	Yes, 2002
New Jersey	Marriage-like union, 2007	Yes, 1992	Yes, 2002
New Mexico	None	Yes, 2003	Yes, 2003
New York	Marriage equality, 2011	Yes, 2002	Yes, 2002
North Carolina	Constitutional ban, 2012	No	No
North Dakota	Constitutional ban, 2004	No	No
Ohio	Constitutional ban, 2004	No	No
Oklahoma	Constitutional ban, 2004	No	No

State	Partnership Recognition or Constitutional Ban	Sexual Orientation in Nondiscrimination Policies	Sexual Orientation in Hate Crime Policies
Oregon	Constitutional ban, 2004 Marriage-like union, 2008	Yes, 2007	Yes, 2001
Pennsylvania	None	No	No
Rhode Island	None	Yes, 1995	Yes, 2012
South Carolina	Constitutional ban, 2006	No	No
South Dakota	Constitutional ban, 2006	No	No
Tennessee	Constitutional ban, 2006	No	Yes, 2001
Texas	Constitutional ban, 2005	No	Yes, 2002
Utah	Constitutional ban, 2004	No	No
Vermont	Marriage-like union, 2000	Yes, 1992	Yes, 2001
Virginia	Constitutional ban, 2006	No	No
Washington	Marriage equality, 2012	Yes, 2006	Yes, 1993
West Virginia	None	No	No
Wisconsin	Constitutional ban, 2006 Some spousal rights, 2009	Yes, 1982	Yes, 2002
Wyoming	None	No	No

Appendix B

Stepwise Models of Hate Crime Incidence to Determine the Number of Lags and Leads (estimates represent relationship per one million individuals, standard errors in brackets)[1]

	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**
Spatial Lag	0.3	0.32	0.3	0.31	0.31
	[0.2]	[0.2]	[0.2]	[0.19]	[0.19]
Const. amend.	0.03	0.08	0.15	0.02	
	[0.37]	[0.38]	[0.37]	[0.34]	
Const. amend. t-1	−0.12	0.19	0.17	0.15	0.19
	[0.4]	[0.35]	[0.35]	[0.35]	[0.3]
Const. amend. t-2	0.49				
	[0.35]				
Const. amend. t+1	−0.37	−0.4	−0.25		
	[0.28]	[0.28]	[0.24]		
Const. amend. t+2	0.41	0.4			
	[0.26]	[0.25]			
Partner. reco.	0.65	0.62	0.8	0.8 [a]	0.81 [a]
	[0.91]	[0.89]	[0.87]	[0.87]	[0.84]
Partner. reco. t-1	0.66	0.83	0.81	0.8 [a]	0.83 [a]
	[1.1]	[1.09]	[1.1]	[1.1]	[1.09]
Partner. reco. t-2	1.16	0.97	1	1.05 [a]	1.01 [a]
	[1.19]	[1.06]	[1.05]	[1.05]	[1.05]
Partner. reco. t+1	0.19	0.31			
	[0.7]	[0.65]			
Partner. reco. t+2	0.06				
	[0.68]				
Hate crime	−0.01	0.09	−0.1		
	[0.51]	[0.51]	[0.47]		
Hate crime t-1	−0.78	−0.89 *	−0.81	−0.92 *	−0.91 *
	[0.48]	[0.45]	[0.44]	[0.38]	[0.38]
Hate crime t-2	−0.17				

	Model 1	Model 2	Model 3	Model 4	Model 5
	[0.46]				
Hate crime t+1	−0.42	−0.54			
	[0.6]	[0.55]			
Hate crime t+2	−0.07				
	[1.08]				
Emp. Discrim.	−1.01	−1.06	−1.1 [a]	−1.09 [b]	−1.11 [b]
	[0.86]	[0.86]	[0.77]	[0.77]	[0.76]
Emp. Discrim. t-1	−0.6	−0.88	−0.81 [a]	−0.8 [b]	−0.81 [b]
	[0.85]	[0.73]	[0.74]	[0.74]	[0.73]
Emp. Discrim. t-2	−0.4				
	[0.72]				
Emp. Discrim. t+1	0.04	0.06			
	[0.93]	[0.81]			
Emp. Discrim. t+2	0.15				
	[0.89]				
Violent crime inc	−1161.5	−1118.3*	−1096.4	−1094.5	−1118
	[594.4]	[562.3]	[566.5]	[561.2]	[570.8]
Property crime inc	−57.4	−64.9	−60.1	−63	−63.9
	[47.4]	[45.8]	[46.1]	[45.5]	[44.6]
Citizen ideology	0.03	0.03	0.03	0.03	0.03
	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]
Unemployment	−0.06	−0.06	−0.06	−0.06	−0.07
	[0.09]	[0.08]	[0.08]	[0.08]	[0.08]
Democratic governor	0.3	0.32	0.35	0.3	0.33
	[0.52]	[0.55]	[0.48]	[0.52]	[0.52]
% Democratic legisl.	0.8	0.99	1.66	1.21	1.44
	[2.06]	[2.01]	[1.9]	[1.89]	[1.99]
Government ideology	0	−0.01	−0.01	0	−0.01
	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]
Racial hate crime	12857***	128043***	129172***	128788***	128679***
	[24657]	[24221]	[24717]	[24580]	[24587]

	Model 1	Model 2	Model 3	Model 4	Model 5
Religion hate crime	145979	155788	150616	153608	153270
	[85350]	[84381]	[84311]	[83620]	[83652]
Disability hate crime	47976	44828	40149	43725	53361
	[220981]	[222970]	[225289]	[224551]	[224167]
Constant	7.14*	7.24*	6.74*	6.87*	7.05*
	[3.22]	[3.01]	[3.02]	[2.94]	[2.94]
N	637	637	637	637	637
Multiple Imputation	x	x	x	x	x

[1] Spatial lag has a one-to-one relationship (not one-to-one million).

[a–b] Jointly statistically significant (Wald test)

* p<0.05,

** p<0.01,

*** p<0.001