Coming Out in America:

Thirty Years of Cultural Change[*]

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Abstract

The last few decades witnessed a dramatic change in public opinion towards gay people. We show that this process was initiated by a sharp increase in the approval of same-sex relationships in 1992-'93, following the debate on whether gay people could serve openly in the military. Using a difference-in-difference empirical strategy, we study the hypothesis that the greater salience of gay-related issues during this period initiated a process of cultural change. We show that greater exposure to the gay population, measured in a variety of ways, led to a greater increase in approval. These results, we demonstrate, cannot be explained by the popular view that the increased acceptance of same-sex relationships reflected expanding liberalism and civil liberties.

Most people think they don't know anyone gay or lesbian, and in fact, everybody does. It is imperative that we come out and let people know who we are and disabuse them of their fears and stereotypes.

—Robert Eichberg, 1993 *NYT, 8/15/95*

1   Introduction

The last few decades witnessed a striking change in public opinion towards gay people.[1] As shown in Figure 1, the share of individuals in the US who approve of same-sex relationships has increased dramatically.[2] While in 1973 on average only 20% of individuals thought that it was "not wrong at all" or only "sometimes wrong" for same-sex adults to have sexual relations, by 2016 this proportion had increased to 59%.

Why did attitudes change so radically? A popular hypothesis is that they are part of a more general process of increasing liberalism as reflected in the evolution of opinion towards civil liberties and greater tolerance. Brooks (2000), for example, states "Arguably the most dramatic trend in U.S. public opinion during the past 30 years has been Americans' liberalizing attitudes toward the civil rights of African Americans, women, and more recently, gays and lesbians." Inglehart and Baker (2000) attribute the overall liberalizing trend in opinion to living in post-industrial societies in which people need to operate in a world in which "the freedom to exercise individual judgment are essential...Self- expression becomes central."

It is important to note, however, that opinions did not evolve smoothly. As can be seen in Figure 1, after remaining fairly constant for two decades, the share that approved of same-sex relationships increased sharply between 1991 and 1993 and thereafter continued on an upward trajectory. We contend that in order to understand why culture changed, it is important to understand what occurred in 1991-'93. Note that 1992 was a Presidential election year. This was a key year that saw, for the first time in a presidential campaign, gay-related issues being raised and fought over. The Republican and Democratic parties

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[1] We use the term "gay" to refer to both gays and lesbians unless we explicitly refer to a "gay man."

[2] The General Social Survey asked "Is it wrong for same-sex adults to have sexual relations?" This question could be answered in four different ways: "not wrong at all," "sometimes wrong," "almost always wrong," and "always wrong." The figure graphs the share that answered "Not wrong at all" or "sometimes wrong."
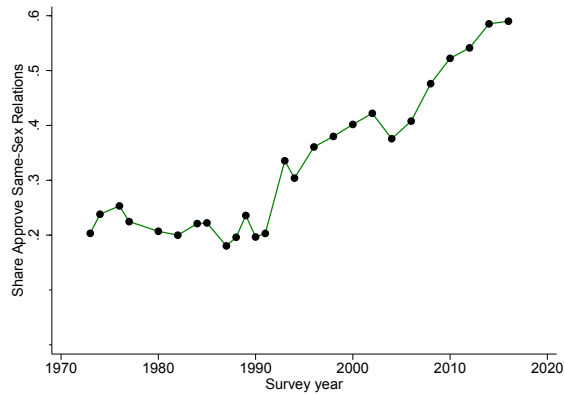
The share that answered "not wrong at all," or only "sometimes wrong" for same-sex adults to have sexual relations (which we denote as the share who approve) as opposed to answering "almost always wrong" or "always wrong." Source: GSS

Figure 1: Approval of Same-Sex Relations

took openly opposing positions over the ban of gays in the military and the debate intensified once Bill Clinton assumed the presidency in 1993, culminating in the "compromise" solution of "don't ask, don't tell" at the end of that year. Mainstream media coverage of gay-related issues also markedly increased, with the share of news stories in the evening news and in newspapers concerning the gay community reaching unprecedented heights in those years.

The far greater salience of issues concerning the appropriate role for gay individuals in society, we hypothesize, led many people to reconsider their opinions regarding same-sex relationships. As J. Schmalz wrote in a New York Times Magazine article just a few weeks prior to the 1992 election, "Strictly speaking, this is a battle about specific issues, like whether homosexuals have a right to equal job opportunities or to serve in the military...but it is really a bigger and more complex fight over whether America can accept homosexuality, over whether it is O.K. to be gay."[3] Those years saw a public debate about the place of gay people in society and this, we believe, led people to reconsider their positions and initiated a process of cultural change.

Although the Presidential election and the Congressional debates were national events, their impact is likely to have been greater in places with greater exposure to the gay community. This could occur, as hypothesized by contact theory (Allport, Clark and

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[3]Schmalz (1992).

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Pettigrew (1954) and Herek and Glunt (1993)), as a result of greater contact between groups reducing prejudice or because the salience of these national events and the impetus to discuss them would be greater in places with larger gay communities.[4] Individuals in these places would be bound to witness greater local political action, view more local media dedicated to these issues, and have more gay acquaintances, all amplifying the effects of the national debate and leading more of them to reconsider their original opinion.

This paper investigates the hypothesis that the greater salience of gay-related issues and the attendant national debate about the appropriate role of gay individuals in society launched a process of cultural change. Opinions changed discreetly in '92-'93 and, as is the case for any process of cultural change, these changes were amplified over time in a process of diffusion.[5] We test this hypothesis using a difference-in-difference empirical strategy. We show that places with greater exposure to the gay community responded to the greater national salience of gay-related issues by becoming more positive towards same-sex relationships. We differentiate across three time periods: prior to AIDS epidemic, during the AIDS epidemic but before the 1992 presidential election, and after the presidential election. The middle period, during the AIDS epidemic but before the 1992 presidential election, accounts for the negative backlash towards the gay community as a result of the AIDS epidemic.[6] The public debate about the place of gay people in society, after all, did not arise in a vacuum. 1981 saw the start of the AIDS epidemic in the US which over time unified and galvanized the gay community behind a common cause. The political system responded to the increased organizational presence of the gay community, leading to the opposing positions taken by the principal party candidates in the 1992 elections.

It is very difficult to obtain measures of exposure to the gay community as there is no national poll evidence on this subject. We rely therefore on two proxies: the cumulative

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[4]Garretson (2018) stresses that greater contact of gay individuals with others produced a change in people's emotions towards gay people, in accordance with the theory of "affective liberalization."

[5]Changes in opinion, like technology adoption, tend to continue to diffuse over time. In this process neighbors, relatives, and friends engage in further discussions, institutions such as schools change the way that gay people are discussed, and the portrayal of gay people in the media changes. The latter happened in the late '90s with the character of Ellen coming out as a lesbian in 1997. This was the first prime-time sitcom to feature a gay leading character. It was followed by several others such as "Will & Grace" and "Sex and the City." See Fernández (2013) for a model of cultural diffusion.

[6]Indeed, as can be seen in Figure 1, if anything, there is a drop in approval of same-sex relationships over this period.

AIDS rate in 1992 using data from the Center for Disease Control and the share of households that are in cohabiting same-sex relationships from the 1990 Census – the first Census to ask individuals if they resided with an unmarried partner. We show that in the period following the heightened attention to gay-related issues in 1992-'93, states with greater exposure to the gay community increased their approval of same-sex relationships by an additional 5.5 to 7.7 percentage points over states with low exposure, relative to the seventies.[7] Using data on attitudes from the American National Election Studies (ANES), we show that similar results hold at the county level. Counties with greater exposure to the gay community increased their "tolerance" of gay individuals by more than counties with low exposure. This result holds both using county fixed effects and using variation in exposure across counties within the same state (i.e., using state fixed effects). Lastly, we present suggestive evidence that the national debates of 1992-'93 affected real outcomes, in particular the suicide rates of young people.

We explore the alternative hypothesis that the change in attitudes was part of an evolving liberalism with its ever-broadening view towards civil liberties. Distinguishing between views concerning the *rights* of gay individuals and those concerning the *morality* of same-sex relationships (as reflected in the GSS question about whether the latter are "right" or "wrong,"), we show that, indeed, attitudes towards the civil liberties of gay individuals follow the evolution of attitudes towards the civil liberties of other groups. The degree of exposure to the gay community did not affect these attitudes differentially in the ''90s. On the other hand, although the approval of same-sex relationships responds to the evolution of attitudes towards civil liberties, the effect of greater exposure to the gay community in the '90s remains just as large as before and statistically significant.

In addition to investigating an important and understudied topic, our paper's contribution is twofold. First, it shows that the change in attitudes towards same-sex relationships was initiated by a sharp increase in the approval of these relationships in 1992-'93, following the

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[7]In this sense, the analysis follows a strategy similar to that of Alsan and Wanamaker (2017) that uses the timing of the public revelation of the unethical Tuskegee (syphilis) experiment conducted by the US Public Health Service between 1932 and 1972, as a treatment on Black men's trust of the medical system. It is also related to the work Kuziemko and Washington (2018) that shows that the Democratic party's alignment with the civil rights movement in the early '60s initiated a process of Southern flight from that party.

debate over the place of gay individuals in society during the presidential election. Second, it suggests that the impact of a debate depends on the degree of exposure individuals have to the subject, in our case the degree of exposure to the gay community. This is complementary to the literature that has shown that exposure to roommates of other races increases tolerance as measured in variety of ways (see, e.g., Boisjoly et al. (2006) and Corno and Burns (2018)).

The paper proceeds as follows. The next subsection provides a brief overview of the literature. Section 2 sets the stage, presenting evidence that over time more people came out and that the the political system and media gave greater salience to gay-related issues in '92-'93. Section 3 formally shows the discontinuity in public opinion. Section 4 presents the main empirical strategy and results. Section 5 examines the alternative hypothesis of evolving liberalism and Section 6 concludes. The Appendix contains further details on the data and the methodology as well as additional results.

1.1 A Brief Literature Review

Our paper contributes to a small but growing literature on cultural change. In general, starting from a steady state, change requires a "shock" to technology or institutions or policies, or in the form of new information that affects beliefs and/or that changes incentives. The effect of information in the form of different role models is studied by La Ferrara, Chong and Duryea (2012) and Jensen and Oster (2009). These papers show that the introduction of certain television programs (soap operas) affected attitudes and outcomes in Brazil and India, respectively. Fernández (2013) develops a model of intergenerational learning about the true cost (to marriage, psyche, children's outcomes) of women working that generates endogenous changes in social beliefs. She shows that the calibrated model does a good job in replicating 120 years of US women's labor force participation as well as the evolution of beliefs. Furthermore, simply introducing greater information about the beliefs of one's neighbors can change individual actions as shown by Bursztyn, González and Yanagizawa-Drott (2020) in the context of husbands encouraging their wives to work in Saudi Arabia when given information about their neighbors' beliefs.

Changes in environment, from policies, technology, or the sex ratio, can change incentives

and over time lead to changes in attitudes. In the arena of policies, this is shown by Bastian (2020) for the effects of EITC on attitudes towards women's work, by Bau (2021) for how the introduction of pensions affected the practice of matrilocality and patrilocality in Ghana and Indonesia, and by Beaman et al. (2009) for political quotas in West Bengal and the willingness of women to run for political offices and for the electorate to vote for them once the quotas are removed. Changes in technology can also create incentives for change as shown by Fernández-Villaverde, Greenwood and Guner (2014), for modern contraception and attitudes towards premarital sex. A growing literature examines how accidental variation in sex ratios is correlated with attitudes, showing that culture adapts to a different environment (see, e.g., Grosjean and Khattar (2018) for settlements in Australia, Gay (2018) for France after WWI, Teso (2014) for the effect of the slave trade in Sub-Saharan Africa, and Bazzi, Fiszbein and Gebresilasse (2020) for the frontier culture in the US).

There is a very small recent literature that studies why attitudes towards gay individuals differs across space. Brodeur and Haddad (2018) trace the prevalence of same-sex couples and positive attitudes towards same-sex relationships to a historical event, namely the gold rush and the related high male to female ratio. Interestingly, in the Australian context Baranov, De Haas and Grosjean (2018) come to the opposite conclusion: they show that in areas that were heavily male-biased in the 18th and 19th century, more Australians voted against same-sex marriage. The introduction of recent legislation concerned with same-sex partnership and marriage has given rise to a few papers that exploit temporal variation in these policies. Adams and Waddell (2018) use variation in the timing of the legalization of same-sex marriage across US states to study its impact on support for same-sex marriage. They find that these events are associated with greater polarization of public opinion towards gay marriage and same-sex relationships, but not with greater overall support. Aksoy et al. (2020) investigate the impact of same-sex recognition relationship policies across European countries. They find, by way of contrast with the US results, that these policies are associated with improvements in attitudes towards same-sex relationships.[8] The study of pro and anti-gay sentiment in US newspapers by Manning and Masella (2018) complements this work by showing that the year gay marriages are introduced, there is a

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[8]See also Kenny and Patel (2017) for a cross-country analysis.

large increase in coverage of both pro- and anti-gay sentiment that persists for several years. None of these papers are concerned with the large discontinuity in attitudes that we note for the early nineties that launched a process of cultural change.

2 Setting the Stage

In this section we place the 1992-93 debates on the role of gay individuals in society within its historical context and present evidence on the heightened salience of gay-related issues during those two years.

2.1 Coming Out and Mobilization

The seventies in the US had not been a period of gay activism, with some exceptions at the local level. The organizations formed in the wake of the Stonewall Riots in 1969 had mostly become inactive.[9] The AIDS epidemic, as is well known, galvanized the gay community, both male and female, around a common cause (see Andriote (1999) and Garretson (2018) for excellent accounts).[10] This period saw the growth of important national societies that worked to mobilize individuals and resources to find a cure for AIDS, provide health insurance to partners, and speed up the testing of new drugs.[11] The greater mobilization of the gay community is evident in the number of people who attended the National March on Washington for Lesbian and Gay Rights over the years. Whereas the first march on Washington in 1979 (i.e., prior to the AIDS epidemic) drew an estimated 75,000 people, the second march in 1987 attracted between 200,000-300,000 people, and the third march in April 1993 was estimated to be between 800,000 and 1 million.[12]

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[9]Garretson (2018) notes, "Although they,... provided a payoff for their members in terms of fostering positive identities and building communities, the extensive political involvement they required of their members was not sustainable."

[10]HIV cases were first reported in June 1981. The number of new cases increased rapidly over the next few years, reaching its maximum in 1992 (see Appendix Figure A1.)

[11]By the end of 1992, an estimated 93,000 Americans had died of AIDS Centers for Disease Control and Prevention (CDC) (1993). Azidothymidine was introduced in 1987 as the first treatment for HIV. In 1997, highly active antiretroviral therapy (HAART) became the new treatment standard. It caused a 47 percent decline in death rates. See `https://www.avert.org/professionals/history-hiv-aids/overview`.

[12]Source: "75,000 March in Capital in Drive To Support Homosexual Rights: 'Sharing' and 'Flaunting'," New York Times, Oct 15, 1979. "200,000 March in Capital to Seek Gay Rights and Money for AIDS," The New York Times, Oct. 12, 1987, and Ghaziani (2008).

The deaths of public figures such as Rock Hudson (1985), Liberace (1987), Robert Mapplethorpe (1989), Keith Haring (1990), and Freddie Mercury (1991) from AIDS made it clearer that being a gay person was not confined to a small group in society. Although there is no data prior to the mid-80s that would allow one to quantify how "out" individuals were to their friends, family, and community, we are fortunate in that Newsweek Magazine commissioned surveys from Gallup (1985, 1986) and Princeton Survey Research Associates (PSRA) (1994, 1996, 1997, 1998, and 2000) that asked individuals whether they had "a friend or acquaintance who is gay or lesbian."[13] Figure 2 shows the evolution of the proportion of individuals who state that they have a gay friend or acquaintance. On average, around 26% of the sample claimed to have a gay friend/acquaintance in the mid 1980s, this grew to 47% in 1994, and stabilized at around 60% by the end of the '90s.[14]

Regressing whether an individual has a gay friend/acquaintance on a set of individual characteristics (sex, race, education and ten-year age categories) yields the following estimated coefficients (with standard errors in parenthesis):[15]

$$\widehat{Friends}_{it} = \underset{0.150}{(.030)} + \underset{(0.016)}{0.250} \times Post_{it} + \underset{(0.015)}{0.100} \times Female_{it} - \underset{(0.026)}{0.018} \times Black_{it} + \underset{(0.029)}{0.001} \times Other_{it}$$

$$- \underset{(0.027)}{0.005} \times HSGrad_{it} + \underset{(0.028)}{0.137} \times SomeCol_{it} + \underset{(0.027)}{0.258} \times ColGrad +_{it} + \hat{\beta} \times Agecat_{it}$$

where $Post$ equals zero if the year is 1985 or 1986 and equals one if the year is 1994, '96, '97, or '98. Note that both women and more educated individuals are significantly more likely to have gay friends. The coefficient on Post shows that people were 25 percentage points more likely to acknowledge having a gay friend or acquaintance in the '90s than in the '80s and that this is not a consequence of age, sex, race, or education. This provides evidence that more people were coming out over time or, at the very least, that more people were willing to state that they were aware of their friends'/acquaintances' sexual preferences.

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[13]See the Appendix for a description of these data sets.

[14]In 2016, 87% of Americans claimed to know a gay person. Pew Center report: www.pewforum.org/2016/09/28/5-vast-majority-of-americans-know-someone-who-is-gay-fewer-know-someone-who-is-transgender/.

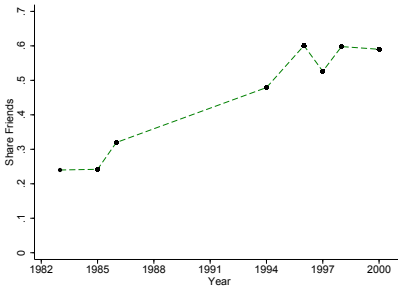[15]The sample consists of 4142 observations and the regression below has an adjusted R-squared of 0.137.

Figure 2

Evolution of the share of the US Population that answered "Yes" to the question "Do you have a friend or acquaintance who is gay or lesbian." Sources: Gallup and PSRA. See text for details.

2.2 1992 -'93: The Heightened Salience of Gay-Related Issues

The competitive nature of the democratic electoral system – the constant search for funds and votes – helped ensure that the increased mobilization of the gay community was also mirrored in the formal political arena.[16] The increased political presence of the gay community is particularly evident in 1992 - a presidential electoral year.   As discussed in Brewer (2003), Hertzog (1996), and Walters (2003), it was at this point that the Republican and Democratic presidential candidates took clearly opposing views on a variety of gay-related issues, especially those pertaining to the existing Pentagon ban on gay men serving in the military.[17] The Democratic party openly courted the gay vote, with all five of the leading Democratic contenders endorsing a repeal of the ban on gays in the military.   For the first time, the platform of the Democratic Party not only promised to reverse "the Bush Administration's assault on civil rights enforcement" and to "provide civil rights protection for gay men and lesbians" but also promised "an end to Defense Department discrimination" whereas the Republican Party platform stated "Unlike the Democrat Party

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[16]As noted by the NY Times journalist Jeffrey Schmalz (known for his trailblazing reporting on the AIDS epidemic): "it is clear that homosexuals have crossed a threshold, becoming an integral part of American political life. On Election Day, they are expected to exceed the Jewish turnout of four million voters, with some estimates gauging their number as high as nine million. Scared into action by AIDS, drawing on lessons of AIDS organizing and fund raising, they have learned how to play the game..." Schmalz (1992).

[17]Karol (2012) attributes the divergent views across parties to LGBT activism in the Democratic party and to the growth of the Christian right in the Republican party. See also Haider-Markel and Meier (1996). In Fernández and Parsa (2021) we show that, indeed, the partisan gap between self-identified Democrats vs Republicans occurred in the mid to late 1980s and that the gap did not increase as a result of the national debate in 1992-'93. Party identification is endogenous, however, so it could be that individuals sorted into political parties on this issue already in the late eighties or that individuals changed their attitudes along party lines prior to the national debate.

9

and its candidate, we support the continued exclusion of homosexuals from the military as a matter of good order and discipline." The opposing party platforms signaled a much more profound debate over the appropriate role for gay individuals in America. The prominence of gay-related issues during the electoral campaign was followed by intense controversy over the pentagon ban on gays in the military once Bill Clinton was elected, culminating in the "compromise" resolution of "don't ask, don't tell" in late 1993.

The increased political salience of issues especially relevant to the gay community was mirrored by the heightened intensity of media attention given to these. In the nineties (as well as the preceding decades), Americans got informed mostly by watching the news on TV.[18] Using the Vanderbilt Television News Archive we calculate the number of evening news stories that were devoted to: i. the gay community, and ii. the AIDS epidemic. For gay-related issues we used the keywords homosexual, gay(s), lesbian(s), LGB(T), and bisexual; for the AIDS epidemic we searched for AIDS or HIV.[19]

Figure 3 shows the evolution on the "big-three" news networks of ABC, CBS, and NBC of the number of evening news stories touching on: i. the gay community (purple line - dots), ii. the AIDS epidemic (yellow line - diamonds), and iii. the intersection of the preceding two (green dashed line).[20] The left-hand y-axis counts the number of stories related to gay people whereas the right-hand y-axis counts the news stories related to AIDS/HIV. As can be seen clearly from the figure, the latter was a dominant event all throughout the '80s.[21] An American household watching only one evening news program per day in 1987 would have been exposed to close to one news segment covering the AIDS epidemic every three days. Next, turning to news stories relevant to the gay community more generally, it is clear from the figure that 1992 saw a large increase in news stories whose total was

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[18] According to data from national surveys conducted by the Pew Research Center for the People & the Press as of 1993, television was the primary source of news over this period. When allowed to give two sources from television, newspapers, radio, magazines, and internet, 83% gave television as their primary source in 1993 and it was fairly stable over time – in 2002 the equivalent number was 82%. See http://www.people-press.org/wp-content/uploads/sites/4/2013/08/8-8-2013-Media-Attitudes-Topline-for-Release-1.pdf.

[19] We use a range of words to capture gay-related stories as the associated terminology has evolved over time. We obtained a total of 1213 news items for gay-related issues and 2539 for the AIDS epidemic. We manually checked for false positives. A total of 248 news items covered both the AIDS epidemic and the gay community.

[20] The AIDS epidemic appears for the first time in our sample in October 6th 1982 – two months after the CDC coined the term AIDS.

[21] The yearly average from 1982 through 1992 was 148 stories devoted to the AIDS epidemic. At its peak in 1987, 338 news stories were devoted to this issue. By way of contrast, the year that followed the fall of the Berlin wall in 1989 saw the same three networks covering this topic with 423 news stories.

more than doubled in 1993.[22] It is important to note that this increase is not driven by AIDS-related news as can be seen by the decrease in the intersection of the two categories (the green dashed line). In 1993, a household that watched one evening news program per day would have seen a story related to gay people once a week as opposed to, say, once a month on average throughout the preceding 10 years.

A similar dramatic increase in coverage of gay-related news stories can be seen in newspapers. We use NewsBank to select all newspapers that have continuous coverage starting in 1987 as very few papers are available in the data set prior to that. In total, our sample consists of 59 newspapers. Gay-related articles are all those found by searching for the keywords homosex, bisexual, same sex, gay men, gay community, gay marriage, gay people, lesbian, sexual orientation, sexual preference, and lgb. Figure 4 shows the evolution of the average share of stories across these newspapers by year.[23] As can be seen in the figure, the share of gay-relevant articles increased starting in 1990 and peaked in 1993.
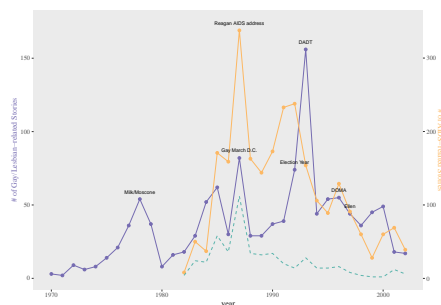
Figure 3
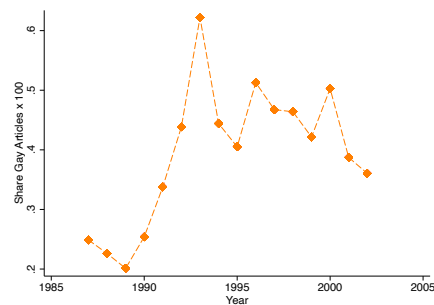
Figure 4

Figure 3: Evolution of the number of evening news stories on ABC, CBS, and NBC that are related to the gay community (Left y-axis) and AIDS epidemic (Right y-axis). The dashed line shows the number of news stories that appear in both categories (left axis). Source: Vanderbilt News Archive. .

Figure 4: Evolution of the yearly average share of articles which touch upon topics related to the gay community (multiplied by 100) for the same 59 newspapers. Source: Newsbank. See the Appendix for details.

3 Discontinuity in Public Opinion

In this section, we first describe the dataset and then test formally the discontinuity in public opinion towards same-sex relationships.

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[22]There were 74 and 156 news stories related to the gay community in 1992 and 1993, respectively.

[23]See the Appendix for details.

3.1 Dataset

We primarily use the General Social Survey (GSS) to study the evolution of public opinion towards same-sex relationships.[24] This dataset is the only one to consistently ask the same set of questions to a representative sample of the US population for a lengthy period of time. We use individual responses to the question: "Is it wrong for same-sex adults to have sexual relations?" We chose to focus on this question as it gets to the heart of people's moral views regarding same-sex relations unlike, say, questions regarding the rights of gay people. This question could be answered in four different ways: "not wrong at all," "sometimes wrong," "almost always wrong," and "always wrong." In our benchmark specification we code "Not wrong at all," and "sometimes wrong," as approving of same-sex relations and code the other two options as disapproving of same-sex relations. We denote this dummy variable as SameSexApp, which takes the value 1 if an individual approves and 0 if they disapprove.[25]

We examine the change in opinion between 1973-2002. The starting point is defined by the first year in which poll data is available. The analysis ends in 2002 as in 2003 the Massachusetts Supreme Court held that the state constitution required it to legally recognize same-sex marriage. As noted in Adams and Waddell (2018) and Aksoy et al. (2020) in the US and European contexts respectively, changes in same-sex marriage laws are themselves associated with changes in opinion. Furthermore, as noted by Manning and Masella (2018) in the US, these laws were accompanied by a dramatic increase in coverage of both pro and anti-gay sentiment in US newspapers. This could have once again made gay-related issues a "kitchen-table" discussion topic, and led to changes in approval of same-sex relationships.

The analysis uses all 19 waves of the GSS that asked the same-sex approval question between 1973 and 2002, keeping all individuals between the ages of 18 and 69. We keep states that have observations in all three decades.[26] Our final sample consists of a total of

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[24]The GSS, conducted by the National Opinion Research Center at the University of Chicago, is a nationally representative sample for the U.S. The data is publicly available except for geographic locators.

[25]An alternative specification is used in the robustness section.

[26]No individuals from Hawaii, Idaho, Nevada, Maine, Nebraska and New Mexico were sampled by the GSS for this question prior to 2003. Alaska, Delaware, Iowa, Kentucky, Mississippi, North Dakota, New Hampshire, Rhode Island, South Dakota, Utah, Wyoming, and Vermont are dropped as they have no observations in one of the three periods. We also drop DC.

21,727 observations over 32 states. See the Appendix Table A1 for summary statistics.

3.2 Aggregate Change in Public Opinion

The last few decades witnessed a dramatic change in public opinion towards gay people. As can be seen in Figure 5, aggregate public opinion appears more or less constant at around 20% in the '80s. It is only around 1992 that there is a sharp rise in the percentage of individuals who approve of these relationships. The discontinuity in public opinion can be measured. The yearly opinion change between 1991-'93 is over 2.5 times the standard deviation in opinion change (where the latter is calculated over the period 1973-2002). This is significantly larger than the change over any other year. One can also use the Supremum Wald test for a single break point with an unknown break year (see Perron (2006)) to examine the raw data more rigorously and determine if there is a significant change in the evolution of opinion. Performing this test identifies a break in 1992, rejecting the null hypothesis of no break ($p < 0.001$).[27]

Alternatively, we can control for the socio-economic evolution of the sample and examine the estimated coefficients on year dummies, δ_t, from 1974 to 2002 (using 1973 as the excluded year). We estimate these coefficients using the specification below:

$$y_{ist} = \kappa + \delta_t + \delta_s + \beta_\tau X_{i,t} + \epsilon_{ist} \tag{1}$$

where $y = $ SameSexApp, κ is a constant, and δ_s are state-fixed effects. X is a vector of individual controls, which includes age in 10-year intervals (18-29, 30-39,...,60-69), gender, race (white, black, and other), education categories (less than high school, high school graduate, some college, college graduate and above), six household real-income categories measured in 1986 dollars, and six residential categories.[28] Standard errors are clustered at the level of the state for reasons that will become clear in the next section, and we used a

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[27]To run this test, we first fill in the missing years by linear interpolation from the adjacent years. We then use the sbsingle command in STATA to identify the year of a structural break in the data and test for statistical significance, following a regression of SameSexApp on its first lag.

[28]The income categories are: below 10,000, between 10-20K, between 20-30K, between 30-50K, between 50-75K, above 75K. The residential categories are: large city (over 250,000), medium city (between 50,000-250,000), suburb of large or medium city, unincorporated large or medium city, smaller towns/areas (below 50,000), and open country.

weighted least square estimator (where the weights are given by respondents weights from GSS, wtssall as in Figure 5).

Figure 6 shows the plot of the year-fixed effects, i.e., the δ_t from the equation above. As is clear from the figure, the 1993 year-fixed effect coefficient jumps with an estimated coefficient of 9.5% and is statistically significant. The coefficients on all the following years are likewise positive and statistically significant. Note that the year coefficients become progressively larger in time as of 1993, consistent with the idea that a process of cultural diffusion was underway. Recall that the years that follow the '92-'93 debates are characterized by greater social acceptance of gay individuals (as portrayed, for example, in prime time TV sitcoms such as "Ellen," "Will and Grace," or in the bi-sexual character of Samantha in "Sex and the City") which then contribute to further changes in attitudes.
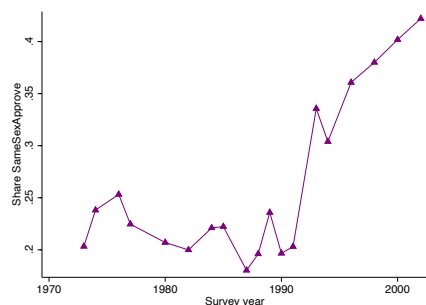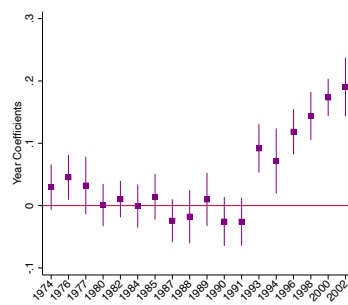
Figure 5   Figure 6

Figures 5: The fraction of individuals who answered that it was "not wrong at all," or only "sometimes wrong, for same-sex adults to have sexual relations as opposed to "almost always wrong" or "always wrong." from 1973 to 2002, using the weighted average approval per year with the respondents weights variable (wtssall) from GSS. Figure 6: The estimated coefficients on year dummies, δ_t, from 1974 to 2002 (where 1973 is the excluded year) from the regression $y_{ist} = \kappa + \delta_t + \delta_s + \beta_\tau X_{i,t} + \epsilon_{ist}$ using a weighted least square estimator, and the respondents weights (wtssall) from GSS. The bars represent the 95% confidence interval with standard errors clustered at the state level. See the text for a full description of variables. Source: GSS

The timing of the discontinuity in attitudes towards same-sex relationship is key. It mirrors the spike in salience presented in the previous section. The explicit positions taken by the political parties and the attention given to gay-related issues during that same time suggest that people were led to rethink and reevaluate their positions regarding the morality of same-sex relationships.

3.3 Other Social Attitudes

It is also instructive to examine whether other social attitudes display the same structural break point in 1992 as those towards same-sex relationships. Using the same GSS sample, we can study this by using questions that were consistently covered over the time period 1973-2002 and that concern important social attitudes such as gender roles, race, abortion, capital punishment, gun laws, and sex.

For gender roles we use the questions: (i). Do you agree or disagree with this statement? Women should take care of running their homes and leave running the country up to men. (ii) If your party nominated a woman for President, would you vote for her if she were qualified for the job? For racism we use the questions: (i) If your party nominated a (Negro/Black/ African-American) for President, would you vote for him if he were qualified for the job? (ii) Do you think there should be laws against marriages between (Negroes/Blacks/African-Americans) and Whites? Attitudes towards abortion are captured by the question: Please tell me whether or not you think it should be possible for a pregnant woman to obtain a legal abortion if the woman wants it for any reason? Capital punishment attitudes are captured by the question: Do you favor or oppose the death penalty for persons convicted of murder? Gun law attitudes are measured by the question: Would you favor or oppose a law which would require a person to obtain a police permit before he or she could buy a gun? The more liberal answer (i.e., disagree, yes, yes, no, yes, oppose, and favor, respectively) is coded in a dummy variable that then takes the value of one. In terms of pre-marital sex, the GSS asks: "There's been a lot of discussion about the way morals and attitudes about sex are changing in this country. If a man and woman have sexual relations before marriage, do you think it is always wrong, almost always wrong, wrong only sometimes, or not wrong at all." We coded as more liberal (with a dummy that takes the value of one in this case) answers of "only sometimes" or "never" wrong. The other answers are coded as zero. For extra-marital sex, we used the question: What is your opinion about a married person having sexual relations with someone other than the marriage partner–is it always wrong, almost always wrong, wrong only sometimes, or not wrong at all? We code the third and fourth responses as the more liberal response. In terms of pornography, the GSS asks: "Which of these statements comes closest to your feelings about pornography

laws? Illegal to all, illegal under 18, legal." Here we take the last two answers as the more liberal responses.

Figures 7 and 8 show the evolution of the share of respondents with a more liberal attitude as defined above. Performing the Supremum Wald test to find the break point in each of the series in the same way as for SameSexApp previously does not identify 1992 as a structural break year for any of these social attitudes.
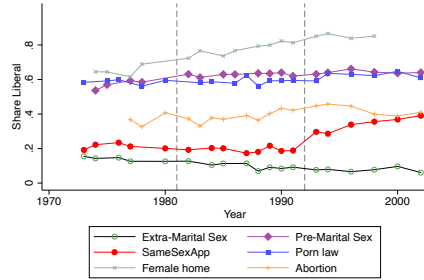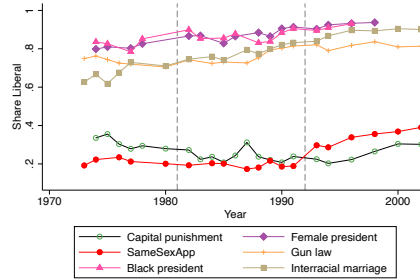
Figure 7   Figure 8

Figures 7: Share of liberal opinion for pre-marital sex, extra-marital sex, pornography law, abortion, and women's role. Figure 8: Share of liberal opinion for capital punishment, gun laws, black president, female president, and interracial marriage. The evolution of attitudes towards same-sex relation is in red in both figures. The answers that are considered more liberal are defined in the text. Source: GSS

To sum up, this section presents strong evidence that there was a sharp change in opinion towards same-sex relationships in 1992-'93, initiating the rapid change in public opinion towards the gay community that followed. This change, we believe, is the result of the political debates in 1992-93 and the greater coverage of gay-related issues in the mainstream media leading people to reconsider their opinions that we documented in the prior section. Although these were national events, their impact is likely to have been greater in places with greater exposure to the gay community. This could occur, as hypothesized by contact theory (Allport, Clark and Pettigrew (1954) and Herek and Glunt (1993)), as a result of greater contact between groups reducing prejudice or because the salience of these national events would be larger in places with larger gay communities. These places would be bound to witness greater local political action and more local media attention, amplifying the effects of the national debates. We next show that, indeed, the differential exposure of states to the gay community is associated with differential changes in public opinion.

16

4 Cultural Change and Exposure to the Gay Community

This section presents the main findings regarding the relationship between exposure and approval of same-sex relationships. First we show that greater exposure to the gay community is associated with a greater change in opinion in the nineties, using state-level variation. Next, we show that the effect of differential exposure holds with county-level variation instead.

4.1 State-Level Evidence

Measuring the salience of the gay community in a given location in the '90s is challenging.[29] Ideally, we want a measure of variation in political activism, contact between the gay community and others, the degree of mobilization, and local media coverage.[30] In the absence of these, measures of the proportion of gay individuals in a place is likely to be the best way to proxy for exposure to the gay community and its related concerns. We use two measures: 1) the variation in the cumulative AIDS rate across states in 1992, and 2) the share of households consisting of cohabiting same-sex couples in 1990 in a state.

To understand the logic for using the cumulative AIDS rate as a measure of the gay population, note that by 1992 men accounted for 89% of all AIDS cases. The cases among men were mostly attributed to same-sex relations: with 64% attributed to sex with other men, 20% attributed to injecting drug use, 7% from both, and 3% heterosexual contact.[31] This measure, furthermore, is less subject to individual wishes to guard privacy than is the Census measure. On the other hand, the Census-based measure is useful because it includes both female and male same-sex couples. It is reassuring that the two measures are highly correlated, with a Spearman correlation of 0.69. The fact that this correlation is not 1 reflects both the noise in the two measures and the possibility that they may capture different demographics of the gay population. In particular, since AIDS was predominantly a male disease prior to 1993, the CAR92 measure does not reflect the lesbian population

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[29]In particular, there are no measures of the number of gay individuals, local gay activism, etc. during the full period of our analysis.

[30]It is useful to note explicitly here that we are unable to measure any of these variables directly and that, in any case, they are all interconnected.

[31]Source: Centers for Disease Control and Prevention (CDC) (1993).

and it would need to be proportional to the male gay population represented in the CAR92 measure to leave the ranking unaffected.

We use publicly available data from the Center of Disease Control (CDC) to calculate the cumulative AIDS rate, per 100,000 state population, by the end of 1992.[32] We refer to the rate as CAR92 and it ranges, for the states in the sample, from a low of 13.25 for Montana to a high of 279.3 for NY, with a cross-state mean of 71.2.[33] The choice of year and the use of a cumulative rather than an annual measure is guided by the desire to minimize the under-reporting error that was more prevalent at the beginning of the AIDS epidemic. Furthermore, 1992 is the closest year prior to our '90s period. Note that *changes* in attitudes "causing" a higher AIDS rate, i.e., reverse causality, is not a concern. It takes close to a decade for the severe symptoms of HIV to manifest (see Bacchetti and Moss (1989) and Osmond (1998)). Nonetheless, the robustness section shows that the results hold with earlier years of the cumulative AIDS rate.

The second proxy uses demographic information about the gay community: the number of households that consist of same-sex cohabitating partners per 100 households, in the 1990 Census at the state-level, denoted GayPop. Systematic data on LGBTQ demographics is still rare (see Black et al. (2000) and Black et al. (2007) for more information). The 1990 Decennial Census was the first that allowed the identification of same-sex cohabiting couples who were in partnership relationships. Same-sex couples are identified as two adults of the same-sex who described their relationship as that of an "unmarried partner."[34] Although the measure captures only those gay individuals who have a cohabiting partnership relationship, it is reasonable to believe that it will be a good proxy for the ranking of states along the size of the gay community more generally. In the main sample, the median number of same-sex co-habiting couples per 100 households is 0.12 and the mean is 0.13. The states with the lowest and highest numbers are West Virginia (0.04) and California

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[32]See Table 1 in the CDC HIV Surveillance Report 1992 (Feb 1993). That table lists, by state, both the number of AIDS cases reported that year, the annual rate implied per 100,000 population that year, as well at the cumulative total of state cases by the end of 1992. We use these numbers to back out the state population and then construct the cumulative total rate, per 100,000, as of the end of 1992.

[33]Appendix Figure A3 shows the geographic distribution of CAR92 across all US states.

[34]Before 1990, unmarried couples living together were not distinguished from roommates. In 1990, the Census Bureau allowed unmarried partners to be identified and recorded. This allowed researchers and demographers to identify an unmarried partnership regardless of the partner's sex. In Black et al. (2000), they show that these couples were in fact same-sex couples not related by blood and viewed their relationship as partners.

(0.35), respectively.

The analysis divides states into one of three categories $g \in \{H, M, L\}$ according to their exposure to the gay community. For the cumulative AIDS rate (i.e., CAR92), the categorical division follows natural breaks in the data as can be seen in the Figure A2, where the High-CAR92 states (H) are those with CAR92 $\geq$ 86, the Medium-CAR92 states (M) with 49 <CAR92< 86, and Low-CAR92 states (L) with a CAR92 $\leq$ 49. The cross-state average CAR92 by group is 138.1, 59.7, and 29.8, respectively. Independently, the states are divided into three categories according to the number of households that consist of same-sex cohabitating partners per 100 households, in the 1990 Census at the state-level (i.e., GayPop). The divisions also follow natural breaks in the data with the High-GayPop states (H) defined by those with GayPop $\geq$ 0.16; the medium-GayPop states (M) with $0.098 < GayPop < 0.16$; and Low-GayPop states (L) with a GayPop $\leq$ 0.098.[35] The robustness section shows that other categorical divisions produce similar results.
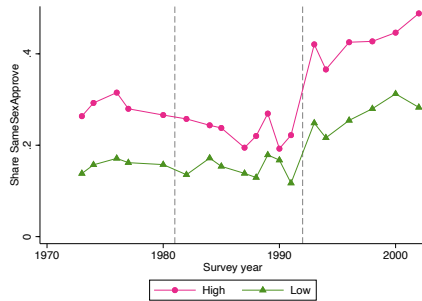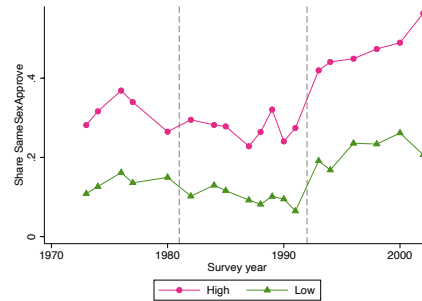
Figure 9: CAR92   Figure 10: GayPop

Figure 9: The evolution of SameSexApp divided by High and Low-CAR92 states. Figure 10: The evolution of SameSexApp divided by High and Low-GayPop states. SameSexApp is a dummy variable that equals 1 if the individual answered "Not wrong at all," or "sometimes wrong," to the GSS question on whether it is "wrong for same-sex adults to have sexual relations?" See the text for the definition of the variables. Source: GSS

The baseline specification distinguishes among three time periods: (i) before AIDS (pre-1981), (ii) the AIDS-crisis period (1981-1991), and (iii) the post-1992 presidential election period (1992-2002). We refer to these periods loosely as the '70s, '80s, and '90s, respectively.[36] Figures 9 and 10 show the evolution over time of SameSexApp, differentiating

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[35]The GSS sample is distributed as follows: 32.6 % in the Low-CAR92 group, 39.3 % in the High-CAR92 group, and the remainder in the Medium-CAR92 group. For GayPop the division is 37.7%, 36.9% and 25.4% in the High, Medium, and Low groups, respectively. See the Appendix for greater detail.

[36]The '70s consists of waves 1973,'74,'76,'78,'80; the '80s consists of waves 1982,'84,'85,'87,'88,'89,'90,'91; the '90s consists of waves 1993,'94,'96,'98,'00,'02.

by High versus Low-CAR92 states, and High versus Low-GayPop states, respectively. As is clear from these figures, public opinion stayed fairly constant over the '70s (pre-AIDS period) period, following parallel trends, which we test formally in the next subsection. The gap between high and Low-CAR92 states decreased over the '80s, mostly due to opinion in High-CAR92 states becoming more negative, and both High and Low-CAR92 states saw a jump in approval over the '90s. The jump was larger for the High-CAR92 category. The patterns are similar when we use the GayPop categories instead except during the eighties when they do not display the same narrowing difference as for the CAR92 categories. This is likely due to the first measure capturing the AIDS epidemic and the attendant backlash in opinion towards the male gay community.

The main specification is:

$$y_{ist} = \kappa + \sum_{\tau} \sum_{g} \gamma_{g,\tau} D_{ig\tau} + \sum_{\tau} \beta_{\tau} D_{i\tau} X_{i,t} + \delta_s + \delta_t + \epsilon_{ist}$$

where y =SameSexApp, $D_{ig\tau}$ is a dummy $= 1$ if i was polled in year $t \in \tau$, $\tau \in \{'80s, '90s\}$, and lived in state $s \in g$, $g \in \{H, M\}$; it takes the value 0 otherwise. $D_{i\tau}$ is a dummy $= 1$ if i was polled in year $t \in \tau$. κ is a constant, δ_s and δ_t are state and time fixed effects, respectively. X is a vector of individual controls as defined in the previous subsection, namely, age groups in 10-year intervals, gender, race (white, black, and other), education categories, six household real-income categories measured in 1986 dollars, and six residential categories. It is important to emphasize that all individual characteristics are interacted with $D_{i\tau}$, allowing their impact to vary by time period. Standard errors are clustered at the level of the state.

Table 1 presents the results for both measures of exposure to the gay community and includes, as well, a continuous non-linear specification of these: $log(1+CAR92)$ and $log(1+ GayPop)$. The main coefficient of interest is $\gamma_{g,\tau}$ which measures the differential impact of the high and medium exposure categories relative to the low exposure category (omitted group) in the '80s and the '90s relative to the '70s. Columns 1-4 use CAR92 and columns 5-8 use GayPop. All specifications include state and year fixed effects as well as 10-year age intervals, sex, and race, all interacted with the decade dummies. The next column adds

20

residential categories and the last specification includes education and household income controls as well, all interacted with the decade dummies as defined in equation 1. As can

Table 1: **Approval of Same-sex Relations**

Dependent variable: SameSexApp

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Medium-CAR92 x '80s	0.00594	0.0153	0.00477					
	(0.038)	(0.033)	(0.029)					
High-CAR92 x '80s	-0.0381	-0.0262	-0.0231					
	(0.030)	(0.028)	(0.026)					
Medium-CAR92 x '90s	0.0334	0.0395	0.0342					
	(0.035)	(0.029)	(0.027)					
High-CAR92 x '90s	0.0523*	0.0617**	0.0547**					
	(0.027)	(0.027)	(0.026)					
log(1+CAR92) x '80s				-0.0215				
				(0.017)				
log(1+CAR92) x '90s				0.0266*				
				(0.014)				
Medium-GayPop x '80s					0.0549*	0.0478*	0.0373	
					(0.031)	(0.025)	(0.022)	
High-GayPop x '80s					-0.00140	-0.00227	-0.00671	
					(0.024)	(0.023)	(0.021)	
Medium-GayPop x '90s					0.0656**	0.0573**	0.0543**	
					(0.027)	(0.026)	(0.026)	
High-GayPop x '90s					0.0848***	0.0843***	0.0772***	
					(0.026)	(0.028)	(0.026)	
log(1+GayPop) x '80s								-0.156
								(0.097)
log(1+GayPop) x '90s								0.359**
								(0.157)
Female	-0.00567	-0.00660	0.00748	0.00743	-0.00591	-0.00682	0.00733	0.00730
	(0.008)	(0.008)	(0.009)	(0.009)	(0.008)	(0.009)	(0.009)	(0.009)
Female x '80s	0.0382***	0.0396***	0.0345***	0.0348***	0.0394***	0.0407***	0.0353***	0.0348***
	(0.010)	(0.010)	(0.011)	(0.011)	(0.010)	(0.010)	(0.011)	(0.011)
Female x '90s	0.0709***	0.0740***	0.0611***	0.0611***	0.0703***	0.0733***	0.0605***	0.0611***
	(0.011)	(0.011)	(0.012)	(0.012)	(0.011)	(0.011)	(0.012)	(0.012)
Black	-0.0350**	-0.0827***	-0.0617***	-0.0623***	-0.0360**	-0.0842***	-0.0628***	-0.0628***
	(0.016)	(0.012)	(0.014)	(0.014)	(0.016)	(0.012)	(0.014)	(0.014)
Other	-0.0322	-0.0608	-0.0818	-0.0818	-0.0313	-0.0600	-0.0812	-0.0806
	(0.081)	(0.082)	(0.080)	(0.080)	(0.082)	(0.082)	(0.081)	(0.081)
Black x '80s	-0.0576**	-0.0517*	-0.0515*	-0.0499*	-0.0601**	-0.0548*	-0.0547*	-0.0541*
	(0.027)	(0.029)	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)	(0.029)
Other x '80s	-0.0534	-0.0322	0.00480	0.00706	-0.0528	-0.0318	0.00564	0.00648
	(0.077)	(0.077)	(0.074)	(0.074)	(0.077)	(0.077)	(0.075)	(0.075)
Black x '90s	-0.128***	-0.109***	-0.0966***	-0.0960***	-0.120***	-0.0981***	-0.0875***	-0.0882***
	(0.021)	(0.024)	(0.023)	(0.024)	(0.023)	(0.025)	(0.024)	(0.024)
Other x '90s	-0.100	-0.0835	-0.0506	-0.0498	-0.100	-0.0823	-0.0500	-0.0534
	(0.075)	(0.074)	(0.075)	(0.074)	(0.076)	(0.074)	(0.075)	(0.075)
State & Year FE	√	√	√	√	√	√	√	√
Res cat.		√	√	√		√	√	√
Income cat. & Educ			√	√			√	√
Observations	21727	21727	21727	21727	21727	21727	21727	21727
Adj. R sq	0.109	0.121	0.153	0.153	0.109	0.122	0.154	0.153

SameSexApp is a dummy variable that equals 1 if the individual answered "Not wrong at all," or "sometimes wrong," to the GSS question on whether it is "wrong for same-sex adults to have sexual relations?" See text for definitions of categories for individual characteristics. See the text for details. Robust clustered standard errors at the state level in parentheses. All specifications contain state and year fixed-effects and 10-year age interval dummies (interacted with the decade dummies). Education categories are: less than high school, high school graduate, some college, college graduate and above, six household real-income categories measured in 1986 dollars (below 10,000, between 10-20K, between 20-30K, between 30-50K, between 50-75K, above 75K), and six residential categories (large city (over 250,000), medium city (between 50,000-250,000), suburb of large or medium city, unincorporated large or medium city, smaller towns/areas (below 50,000), and open country. All individual characteristics are interacted with decade dummies. *** p < 0.01, ** p< 0.05, * p < 0.1

be seen in the table, across all specifications women and men have similar views in the '70s but a gap opens up afterwards. In the most complete specification in column (3) and (7), women are some 3.5 percentage points more likely to approve of same-sex relationships than men in the '80s and around 6 percentage points more favorable in the '90s. Blacks, on the other hand, were already some 6 percentage points more likely to disapprove of same-sex relationships in the '70s than were Whites, and the gap between the two groups over time, becoming an additional 9-10 percentage points greater in the '90s, depending on the measure of exposure. Note that the gap between High and Low-CAR92 states is negative (although not statistically significant) in the '80s suggesting that the AIDS epidemic had a negative effect on public opinion especially in the High CAR92 states. This is no longer the case in the '90s. At that point, High-CAR92 states become an additional 5.5 percentage points more favorable towards same-sex relations than Low-CAR92 states.[37] Note that over the thirty years period, Low-CAR92 states increased their approval from an average of 15.7% in the '70s to an average of 26.6% in the '90s. The analysis suggests that if these individuals had experienced a process similar to that in high exposure states, the change in their approval rate from the '70s to the '90s would have been 50% greater. The results for the GayPop measure of exposure are very similar. High-GayPop states become an additional 7.7 percentage points more favorable towards same-sex relations relative to Low-GayPop states in the '90s (relative to the '70s). Finally, Columns 4 and 8 in Table 1 show the results for the continuous log measures of CAR92 and GayPop, rather than the categorical specification. Note that both variables are positive and statistically significant at conventional levels.

4.2   Year and State-Level Evidence

We now turn to a more detailed examination of the patterns in the data by interacting the exposure to the gay community with each poll year rather than a decade dummy. This has two benefits: we can test for parallel trends as well as visualize the years in which

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[37]Can the increase in approval of same-sex relationships in the nineties be driven by differential migration of gay individuals to high exposure states? Two comments serve to rule out the plausibility of this possibility. First, as we have shown, there is a clear discontinuity everywhere in opinion in 1992-'93. This cannot be the result of differential migration. Second, the magnitude of the increase is much larger than any plausible migration of gay individuals over the two year span.

the changes in attitudes occurred. We use the most complete specification of individual characteristics:

$$y_{ist} = \kappa + \sum_t \sum_g \gamma_{g,t} D_{igt} + \sum_\tau \beta_\tau D_{i\tau} X_{i,\tau} + \delta_s + \delta_t + \epsilon_{ist}$$
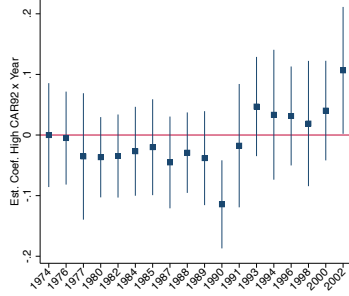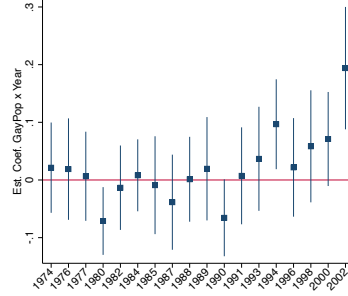

Figure 11   Figure 12

Figure 11: Coefficients of High-CAR92 category interacted with the year fixed effect ($\gamma_{H,t}$), from the regression $y_{ist} = \kappa + \sum_t \sum_g \gamma_{g,t} D_{igt} + \sum_\tau \beta_\tau D_{i\tau} X_{i,\tau} + \delta_s + \delta_t + \epsilon_{ist}$. Figure 12: Coefficients of High-GayPop category interacted with the year fixed effect ($\gamma_{H,t}$), from same specification. The excluded year is 1973 in both figures. See the text for the definition of the variables.

The results are summarized in Figures 11 and 12 which show the coefficients, by year, on the High category states (relative to Low category states) for the CAR92 and GayPop variables (i.e, the γ_{Ht}).[38] Notice from Figure 11 that public opinion evolves in a similar manner in High vs Low-CAR92 states for the first for 20 years but γ_{Ht} jumps in 1993 to 4.5%. Note that although the coefficients prior to 1993 are negative relative to the baseline year of 1973, they are not statistically significant (with the exception of 1990). The year coefficient of γ_H stays positive from 1993 onward. A test of whether the coefficients in the '70s, the baseline years in the difference-in-difference specification (i.e., the leads – the years in the pre-AIDS period) are jointly equal to zero fails to rejects the null hypothesis at any standard level of significance. Although there are more individual year idiosyncrasies in the coefficients for the GayPop $\gamma_{H,t}$ coefficients, the overall pattern remains the same: the coefficients become positive in 1993 and stay positive thereafter as shown in Figure 12. The main difference is that the test rejects the null hypothesis that the coefficients in the '70s are jointly zero at the 10% significance level.

From the aggregate data as shown in Figures 9 and 10, it is clear that the share of

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[38]For both figures, the lack of power means that most individual coefficients are not statistically significant.

people that approve of same-sex relationships continued to increase in the nineties as we would expect in a process of cultural diffusion, but that the differential increase in approval in the High category states as evidenced from Figures 11 and 12 is persistent over time.

4.3   County-Level Evidence

Although the GSS does not have county-level identifiers during most of the period studied, we can use the American National Election Studies survey (ANES) to obtain county-level variation on the exposure to the gay population. The ANES are national surveys of voters in the United States, conducted before and after every presidential election, starting in 1948. Before 2000, the ANES provides county-level identifiers in its unrestricted data. To proxy for exposure to the gay community, we use the 1990 Decennial Census, and construct, as before, the number of households that consist of same-sex cohabitating partners per 100 households but at the county-level, denoted CountyGayPop. We divide counties into one of three categories $g \in \{H, M, L\}$ corresponding to the terciles of CountyGayPop across counties.

Starting in 1984, the ANES asked survey respondents to rate their feelings towards gay individuals on a "thermometer" scale from 0 and 100, with higher values indicating a more positive rating. Respondents were told 'Ratings between 50 degrees and 100 degrees mean that you feel favorable and warm toward the person or group. Ratings between 0 degrees and 50 degrees mean that you don't feel favorable and warm toward the person or group. You would rate them at the 50 degree mark if you don't feel particularly warm or cold toward them."[39] We use the thermometer to build a GayTolerance dummy, which equals one if the response is strictly greater than 50 and 0 otherwise. We use the years in which the question was asked with publicly available county data. The final sample consists of 9999 individuals from 42 states and 225 counties and the poll years 1984, 1988, 1992, 1994,

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[39]Specifically, the ANES asked: "We'd like to get your feelings toward some people and groups who are in the news these days using something we call the feeling thermometer. Ratings between 50 degrees and 100 degrees mean that you feel favorable and warm toward the person or group. Ratings between 0 degrees and 50 degrees mean that you don't feel favorable and warm toward the person or group. You would rate them at the 50 degree mark if you don't feel particularly warm or cold toward them. If you come to a person or group that you don't recognize at all, you don't need to rate them. Just leave the box empty and go on to the next person or group." Then they went over a number of groups, with a thermometer question to "Gay men and lesbians (that is), homosexuals."

1996 and 1998. Table A2 in the Appendix reports the descriptive statistics for this sample. Figure 13 illustrates the evolution over time of the GayTolerance measure, which starts at 12% in 1984 and ends at 30% in 1998. Note that, similar to SameSexApp, there is a jump in 1992 and diffusion thereafter.

The evolution of GayTolerance can also be seen in Figure 14. This shows the estimated coefficients on year dummies from 1988 to 1998, where 1984 is the excluded year, after controlling for socio-economic characteristics using the following regression:

$$y_{ict} = \kappa + \delta_t + \delta_c + \beta_\tau X_{i,t} + \epsilon_{ict}$$

where $y = $ GayTolerance, κ is a constant, δ_c are county fixed effects. X is a vector of individual controls, which includes age in 10-year intervals (17-24, 25-34,...,75 and over), gender, race (white, black, and other), education categories (less than high school, high school graduate, some college, college graduate and above). The residential categories are central cities, suburban areas, and rural small towns.[40] Income is reported in percentile categories over the respondents (0-16, 17-33, 34-67, 68-95, and 96-100). Standard errors are clustered at the level of the state and δ_t are the set of year fixed effects plotted in Figure 14. Paralleling the GSS data in Figure 5 and the ANES data in Figure 13, the 1992 year fixed-effect coefficient departs from the previous year coefficients, with an estimated coefficient of 9.2% and statistically significant at the 1% level.

We next conduct an analysis similar to the state level one. Given the poll years, we distinguish only between two periods: prior to 1992 and Post (1992 and all years after). We use the following specification:

$$y_{ict} = \kappa + \sum_g \gamma_g Post_{i,t} \times CountyGayPop_{i,g} + \beta X_{i,t} + \delta_c + \delta_t + \epsilon_{ict}$$

where $Post_t$ is a dummy $= 1$ if the polling year is greater or equal to 1992, and 0 otherwise, and $CountyGayPop_{i,g}$ is a dummy $= 1$ if i lived in county $c \in g$, $g \in \{H, M\}$; it takes the value 0 otherwise. κ is a constant, δ_c and δ_t are county and time-fixed effects, respectively. X is a vector of individual controls which are included in all the regressions: age in 10-year

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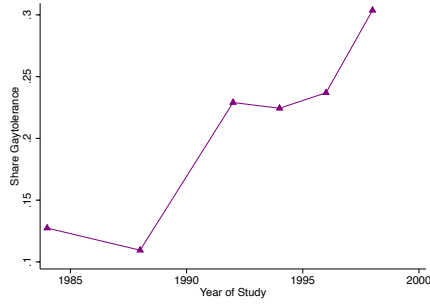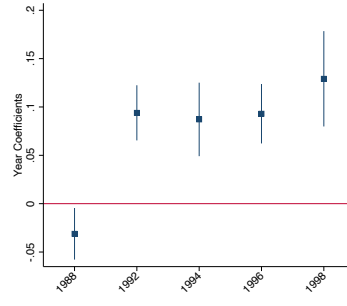[40]The residential categories in ANES end in 2000.

Figure 13

Figure 14

Figure 13: Evolution of the share of individuals with a GayTolerance measure equal to 1. The GayTolerance measure is equal to one if the thermometer is strictly greater than 50 and 0 otherwise. The thermometer is a rating given by ANES respondents about their feelings towards gay men and lesbians on a scale from 0 and 100, with higher values indicating more positive rating. See text for more details. Figure 14: The estimated coefficients on year dummies, δ_t, from 1988 to 1998 (where 1984 is the excluded year) from the regression $y_{ict} = \kappa + \delta_t + \delta_c + \beta_\tau X_{i,t} + \epsilon_{ict}$. The bars represent the 95% confidence interval with standard errors clustered at the state-level. y_{ict} is the GayTolerance measure and X is the set of individual level controls (age, race, sex, education, residential categories and income groups) as described in the text. Source: ANES.

intervals, gender, race, education categories, residential categories and income groups, all as specified in the prior regression. Standard errors are clustered at the level of the state.

Table 2: **Approval of Same-sex Relations**

Dependent variable: GayTolerance

	(1)	(2)	(3)	(4)
Medium CountyGayPop			0.00194	
			(0.014)	
High CountyGayPop			0.0251	
			(0.030)	
Medium CountyGayPop x Post	0.00747		0.00392	
	(0.028)		(0.023)	
High CountyGayPop x Post	0.0596**		0.0416*	
	(0.027)		(0.023)	
log(1+CountyGayPop)				0.247***
				(0.053)
log(1+CountyGayPop) x Post		0.178**		0.132**
		(0.069)		(0.061)
County & Year FE	√	√		
State & Year FE			√	√
Educ	√	√	√	√
Observations	9263	9263	9263	9263
Adj. R sq	0.111	0.111	0.0984	0.102

The GayTolerance measure is equal to one if the thermometer is strictly greater than 50 and 0 otherwise, where the thermometer is a rating given by ANES respondents about their feelings towards gay men and lesbians on a scale from 0 and 100, with higher values indicating more positive rating. All specifications contain 10-year age interval dummies, sex, race, education categories, residential categories, and income groups. Robust clustered standard errors at the state-level in parentheses. See text for definitions. *** p < 0.01, ** p< 0.05, * p < 0.1.

Table 2 shows the main results for a number of specifications. Columns 1 and 2 use county-fixed effects whereas columns 3 and 4 use state-fixed effects. The regression specifications with county-fixed effects leverage within county variation: they compare

counties' GayTolerance over the pre-1992 period with their level post-1992 across counties with different levels of exposure to the gay community. By doing so, any time-invariant county specific characteristics is accounted for. On the other hand, the state fixed-effect controls for time-invariant state characteristics. That is, it leverages the variation within a state across counties' exposure to the gay community, comparing GayTolerance pre- and post-1992. Columns 1 and 3 report the results for the CountyGayPop categorical variables (terciles) over time whereas columns 2 and 4 show the results for the continuous log transformation of the share of same-sex cohabiting couples at the county level $log(1 + CountyGayPop)$.

As can be seen in the table, the results are in line with the previous section: counties with a higher share of same-sex cohabiting couples, measured in terciles or via the log transformation of the continuous variable, experienced a larger increase in tolerance after 1992. The state-fixed effects in column (3) show that the pre-existing difference between High and Low-CountyGayPop in GayTolerance are relatively small and insignificant after accounting for demographic differences. The difference across high vs low GayPop counties increases by around 4 percentabe points in in the post-1992 period.

4.4 Robustness

In this section we show that the results are robust to a series of alternative specifications, sample construction, and different definitions of the exposure categories. To economize on space, for each robustness check discussed below, Figure 15 graphs the coefficients and 95% confidence interval for the two main exposure variables interacted with the '90s, i.e., it graphs: High-CAR92 category x '90s (purple) and High-GayPop x '90s (pink). The Appendix Tables A5 and A6 report the coefficients for the other main variables. The most complete specification of the approval question is used for all exercises.

The morality/immorality of same-sex relations has historically been of concern to many religions.[41] To investigate the role of religious beliefs, we make use of the GSS question "In what religion were you raised?" The answer to this question, as opposed to one that asks about an individual's current beliefs, has the advantage of not suffering from reverse

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[41]See, e.g., Long (2013).

causality, i.e., it is not the person's views of same-sex relationships that is causing them to grow up in a particular religion. The first set of coefficients show that the results are robust to controlling for religious upbringing (Protestant, Catholic, Jewish, None, and Other) interacted with the decade dummies. Next, we use an alternative definition for SameSexApp that codes any answer other than "it is always wrong" as constituting approval. Third, although Figures 11 and 12 do not suggest any differential time-trend in the pre-period (the '70s), we allow for the possibility that states may be following different trends by including a state-level linear time trend. The results are robust to all the above modifications. Fourth, we exclude the last poll year (2002). We include this check since, as can be seen in the preceding figures, the gap between Low and High exposure states increases in that year. Next we exclude the states with the highest value of CAR92 and GayPop (New York and California, respectively), as well as the states with the lowest value (Montana and West Virginia, respectively). The results remain robust to all the above changes in the sample.

In the next series of robustness checks, we explore the sensitivity of the results to alternative specifications of the exposure categories. First, we use the CAR measure from an earlier year (1989) instead of 1992.[42] As seen in the last column of the figure, the result remains similar in size and statistical significance.[43] Next we divide the sample population into terciles for each of the two exposure measures, constructing the state groups of H, M, and L using these. Alternatively, we divide the sample population into two halves for each of the two measures, and thus have only two categories of states, H and L The results are robust to these alternative ways of splitting the sample.

An interesting question is whether the jump in approval in 1992-'93 and its subsequent evolution is driven entirely or even mostly by individual partisan loyalties. This is the question tackled in Fernández and Parsa (2021) where it is shown that the partisan gap did not widen in 1992-'93 nor in the following years. Nonetheless, despite the obvious endogeneity of party identification, we explore whether the exposure proxies are confounding partisan effects by controlling for party identification (as usual interacting it and all other individual attributes with the decades dummies). Classifying individuals into Republican,

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[42]See the Appendix for the division into High, Medium, and Low for CAR89.

[43]This is not surprising as the correlation of the CAR across years is very high (e.g., the rank correlation between CAR89 and CAR92 is 0.99).

Democrats, and Independents based on their answer to the GSS question on party identification, the exposure proxies x '90s remain positive and the coefficients are similar to those obtained before as shown in Figure 15.[44]

Lastly, there is always the possibility that there are omitted variables responsible for the results. This could include latent differences in views regarding same-sex relationships that are only revealed as a result of the national debate. While this is entirely possible, the views that people are willing to express may matter in a way that privately held views do not (see, e.g., Bursztyn, González and Yanagizawa-Drott (2020)). The next section provides some suggestive evidence that this is the case by showing that the suicide rate of young people drops more in high vs low exposure states in the years after (relative to before) the national debate.

4.5 Does Opinion Change Matter?

Does opinion change matter? In this section of the paper we present suggestive evidence that the national debates of 1992-'93 affected real outcomes, presumably by changing social attitudes towards same-sex relationships. In order to do this, we turn to suicide rates. A large literature has found that suicide attempts are substantially higher among sexual minorities, with several of them pointing to stigma as a likely mechanism.[45] A recent paper by Raifman et al. (2017) conducted a difference-in-difference analysis of suicide attempts among public high school students across states that did and those that did not legalize same-sex marriage, distinguishing between the period before the legislation was introduced and the period after. They find that those states that introduced same-sex marriage had a significant reduction in suicide attempts relative to those that did not. Unfortunately, the data source they used (the Youth Risk Behavior Surveillance System (YRBSS)) started

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[44]The GSS asks "Generally speaking, do you usually think of yourself as a Republican, Democrat, Independent, or what?" The responses can be: "strong Democrat," "not strong Democrat", "strong Republican," "not strong Republican," and three categories of Independent: "Independent," "Independent near Democrat," and "Independent near Republican." We classify individuals into three categories – Democrats (answered strong or not strong Democrats), Republicans (answered strong or not strong Republicans), and Independents (all three possible answers that include the term "Independents") – according to their response.

[45]The 2009 YRBSS found that the percentage of students who seriously considered attempting suicide ranged from 9.9-13.2% for heterosexual students, but from 18.8-43.4 percent among gay students; the percentage of students who attempted suicide one or more times ranged from 3.8-9.6% among heterosexual students, but from 15.1-34.3% among gay students (See *Sexual identity, sex of sexual contacts, and health-risk behaviors among students in grades 9–12 —Youth Risk Behavior Surveillance, selected sites, United States, 2001–2009* (2011)).
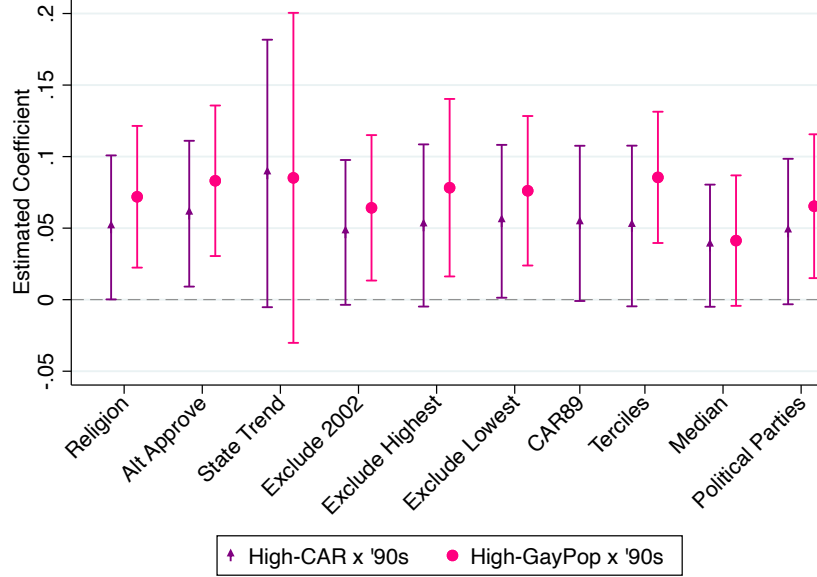
These are the coefficients and 95% confidence interval (with robust standard errors clustered at the state level) on the High-CAR92 category x '90s (purple) and High-GayPop x '90s (pink) for the set of robustness specifications. From left to right: religious upbringing category; alternative definition of SameSexApp that codes any answer other than "it is always wrong" as constituting approval; linear time trend at the state-level; exclude 2002; exclude the state with the highest exposure; exclude the state with the lowest exposure; split sample into H,M, and L based on terciles of the population; split states into H and L based on above/below median exposure level, and controlling for individual party identification. All individual variables are interacted with the decades dummies. See the text for details for each robustness check.

Figure 15

their data collection in 1991 and covered only 15 states that year. This does not allow one to meaningfully compare suicide attempts among high-school students before versus after the national debate in 1992-'93. Instead, we turn to examining actual suicides (a much smaller number relative to attempts but very important nonetheless).[46]

Annual suicide data is available from the CDC mortality files, where we identify death by suicide using the International Classification of Diseases ICD-9 Codes.[47] The CDC started suppressing death counts below 9 in 1989. In order not to mix different reporting criteria that could affect states differentially, we start the analysis in 1989. As the numbers for any particular age group are very small, we use age-adjusted suicides rates by state over the age range of 15-34 as we think that this age group is likely to be more sexually actively and

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[46]Suicide is the third leading cause of death among American youths. Suicidal behaviour is quite common in adolescents, with 9% of American high school students reporting a suicide attempt and 2.6% of youth attempts are serious enough for medical attention. See Brown et al. (2007) and references therein.

[47]Centers for Disease Control and Prevention. CDC WONDER online database. Compiled from Compressed Mortality File 1989–1998. In particular, we use E950-E959, suicide and self-inflicted injury.

more susceptible to changes in social attitudes. Furthermore suicide is the second leading cause of death for this age group.[48] The age brackets in this age range reported in the data are 15-19, 20-24, and 25-34. These are then adjusted by the CDC such that an age group has the same weight across states – specifically the weights represent the age distribution in the US in the year 2000.

Given the data constraints, we restrict our analysis to a window of years around the event, with the years 1989-1991 being those prior to the debate and 1992-1995 the years of and post debate. We have data for all 50 states over the entire period. Across all states and years in the sample, the (age-adjusted) suicide rate ranges from 7 to 34.2 per 100000, with a mean of 16.2. Averaging across all years for each individual state, New Jersey had the smallest average rate of 7.8 and Alaska the highest (28.4).[49] As in the preceding sections, we use variation in exposure to the gay community to capture the salience of the debate and the ensuing change in approval of same-sex behavior and examine how this affected the suicide rate.

Figures 16 and 17 illustrate the relationship between our two measures of the salience of the gay community and the change in the suicide rate (expressed, as in our tables, in logs). These are scatter plots of the state-level difference between the suicide rate averaged over the pre-period (1989-1991) and the average over the post-period (1992-1995) rate relative to $log(1 + GayPop)$ (Figure 16) and $log(1 + CAR92)$ (Figure 17). Both figures show a robust negative relationship between the change in the (age-adjusted) suicide rate and the proxy for exposure to the gay community.

The relationship illustrated in the figures above can be further quantified by running the following parsimonious regression:

$$SuicideRate_{st} = \kappa + \sum_g \gamma_g D_g \times Post + \delta_s + \delta_t + \epsilon_{st}$$

where κ is a constant, and δ_s and δ_t are state and time fixed effects, respectively. $SuicideRate_{st}$ is the age-adjusted death rate by suicide in state s and year t. D_g is a dummy $= 1$ if $s \in g$,

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[48]see CDC, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. (May 2021). Retrieved from www.cdc.gov/injury/wisqars.

[49]The age-adjusted suicide rates are reported per 100000.
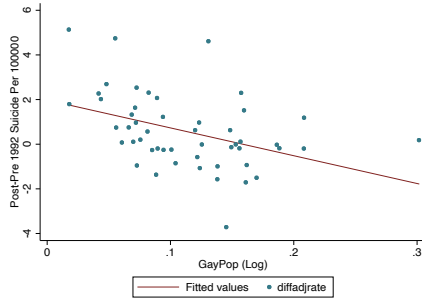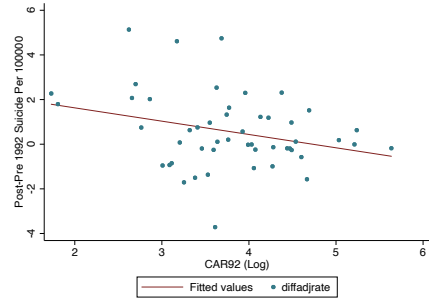
Figure 16   Figure 17

Figure 16: Scatter plot of the state-level difference between the average post-period (1992-1995) and the average pre-period (1989-1991) age-adjusted suicide rate and the state level log(1+GayPop). / Figure 17: Scatter plot of the state-level difference between the average post-period (1992-1995) and the average pre-period (1989-1991) age-adjusted suicide rate and the state level log(1+CAR92). Source: CDC Compressed Mortality.

$g \in \{H, M\}$, where H and M are constructed based on the terciles of the respective measure $GayPop$ and $CAR92$; it takes the value 0 otherwise. Post is comprised of the years 1992-1995 and the pre period is 1989-1991. Standard errors are clustered at the level of the state.

Table 3 reports the estimated coefficient on the two tercile measures of gay exposure (columns (1) and (2) whereas columns (3) and (4) report the results using the continuous measures ($log(1 + GayPop)$ and $log(1 + CAR92)$) as in the preceding figures. The estimate of column (1) suggests that states with high exposure to the gay population (as measured by GayPop) saw their suicide rates drop by 1.7 individuals in the Post period relative to the states with low exposure, relative to the gap that existed in the pre period. This suggests that had individuals in low GayPop states experienced a process similar to that in the high GayPop states, they would have experienced a drop in suicide rates of 0.1 per 100000 rather than seen an increase of 1.6 per 100000. Note, that the coefficient on high exposure is larger than that on medium exposure, but they are not statistically different from one another and, although negative, the results with CAR92 are insignificant at standard levels. The last two columns using the continuous measure are both significant at the 5% level. They imply that a standard deviation increase in exposure to the gay community as measured by GayPop of a standard deviation (0.063) from its mean of 0.12 is associated with a 0.3 decrease in the number of (age-adjusted) suicides per 100000 people. The same exercise for CAR92 yields an estimate in the same ballpark. A one standard deviation increase (51.5) from its mean of 58.6 is associated with a 0.2 decrease in the number of age-adjusted suicides

per 100000 people. These seem reasonable numbers given that the LGBT population is estimated to be between 3.5-5.5% of the population. Nonetheless, given the noisiness of the data and the absence of information as to the motivation for the suicides, we simply present these findings as suggestive and fitting into a larger literature linking stigma and shame to suicidal impulses.

Table 3: **Suicide Rates and Exposure**

	(1)	(2)	(3)	(4)
Medium GayPop x '90s	-1.305**			
	(0.586)			
High GayPop x Post	-1.732***			
	(0.558)			
Medium CAR92 x Post		-0.455		
		(0.706)		
High CAR92 x Post		-0.804		
		(0.582)		
log(1+GayPop) x Post			-12.45**	
			(4.723)	
log(1+CAR92) x Post				-0.596**
				(0.239)
State & Year FE	√	√	√	√
Observations	350	350	350	350
Adj. R sq	0.849	0.843	0.849	0.846

The age-adjusted death rates by suicide measured as the weighted average of the age-specific death rates, where the weights represent the fixed 2000 US population by age. Columns 1: Specification using $GayPop$ Terciles categorical variables. Column 2: $CAR92$ Terciles. Column 3: $log(1+GayPop)$. Column 4: $log(1+CAR92)$. All specifications contain year and state fixed effects. Robust clustered standard errors at the state-level in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. See text for details. Source: CDC Compressed Mortality

5 An Alternative Hypothesis: Liberalism and Civil Liberties

A popular hypothesis is that the increase in approval of same-sex relationships is part of a more general process of increasing liberalism and greater tolerance as reflected in the evolution of opinion towards civil liberties. Inglehart and Baker (2000) attribute the overall liberalizing trend in opinion to living in post-industrial societies in which people need to operate in a world in which "the freedom to exercise individual judgment are essential. Self-expression becomes central." Brooks (2000) states "Arguably the most dramatic trend in U.S. public opinion during the past 30 years has been Americans' liberalizing attitudes toward the civil rights of African Americans, women, and more recently, gays and lesbians."

We examine this hypothesis by making use of the GSS core module on civil liberties. The existence of this module allows us to use a common set of questions asked about unpopular

groups or individuals regarding their civil liberties. The GSS states in its prelude to these questions: "There are always some people whose ideas are considered bad or dangerous by other people" and then proceeds to ask about the civil liberties of communists, racists, atheists, and "militarists" where the groups are identified by the following: "Now, I should like to ask you some questions about a man who admits he is a Communist;" "Consider a person who believes that Blacks are genetically inferior;" "For instance, somebody who is against all churches and religion;" and lastly "Consider a person who advocates doing away with elections and letting the military run the country."

Three questions are posed for each group: i. Suppose such an individual wanted to make a speech in your community. Should he be allowed to speak, or not? [Answers: Allowed - Not Allowed]; ii. Should such a person be allowed to teach in a college or university, or not? [Answers: Allowed - Not Allowed]; and iii. If some people in your community suggested that a book he wrote in favor of X should be taken out of your public library, would you favor removing this book, or not? [Answers: Removed - Not Removed], where X refers to the cause advocated by an individual of the aforementioned group.

Simply to illustrate the evolution of these 12 variables in a summarized fashion, we construct four civil liberties indices, using the principal component of the questions related to public speech, library books, and teaching, for each of the four groups. Figure 18 shows the civil liberties first principal component for each group separately. The first component explain 65% of the variance for the racists, 69% for the communists, 66% for the atheists, and 70% for the militarists (see Table A3 in the Appendix for more details).[50] In line with the general process of increasing liberalism described by Inglehart and Baker (2000) and Brooks (2000), the civil liberties index of each group shows an upward trend (with the exception of racists) starting in the eighties.

Can the underlying trend in favor of greater liberties help explain the change in opinion towards same-sex relation in the US? We explore this question next, by making an important distinction between attitudes towards the civil liberties of gay individuals versus towards

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[50]We keep only the first principal component as it is the only one with an eigenvalue above 1. Note that since we have three variables (teach, library and speech) there is a total of three components for each group. Each index is constructed using the standardized variables, by linearly combining the three standardized variables in one index, weighing each variable with their respective loadings. The first index is the principal component that captures the highest share of the variance in these three variables.
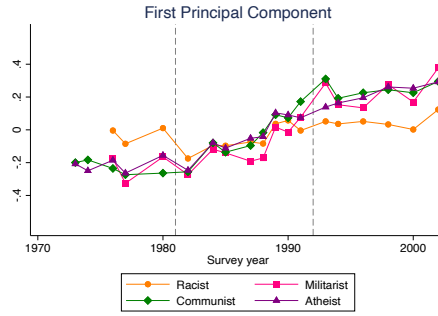
Figure 18

Figure 18: The evolution of the first principal component of the civil liberties variables for each group separately: racists, communists, atheists, and militarists. Source: GSS

the morality of their relationships. In what follows we ask: 1. whether gay civil liberties evolve differently than civil liberties for other groups, and, more importantly, 2. whether the explanatory power for same-sex approval of the degree of exposure to the gay community is nullified or decreased when these civil liberties are included. To that end, we construct two civil liberties indices using principal component analysis: one using answers regarding the civil liberties of all the groups studied previously and another related to the civil liberties of gay people.

We show: i. attitudes towards civil liberties and gay-related civil liberties move jointly; ii. exposure to the gay community does not affect attitudes towards gay-related civil liberties once other civil liberties are included; iii. the explanatory power for SameSexApp of exposure to the gay community remains unchanged even after including the indices of attitudes towards civil liberties.

5.1   Constructing the Civil Liberties Indices

We can use the responses in the GSS civil liberties model to the three questions discussed above regarding the four groups to construct 12 variables. We recode the answers, creating dummy variables that take a value of 1 when the individual gives a pro-civil-liberties answer, i.e., "allowed" or "not removed;" a value of 0 is given to the answers "not allowed" or "removed."[51] We construct an index of civil liberties using PCA as before. In this case we

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[51]The questions on atheists and communists are asked for the same years as SameSexApp. The militarist and the racist questions are not asked in 1973 and 1974. This implies that the civil liberties indices do not have values

end up with two civil liberties (CL) indices – the first two components of the 12 variables above as both have eigenvalues above one. We denote these CL1 and CL2, respectively. Jointly they explain 59% of the total variance.

The GSS also asked about the civil liberties of gay people using the same set of questions, where the group is identified by the following: "What about a man who admits that he is a homosexual?" Figure 19 shows the share of the population supporting civil liberties for "homosexuals." As a comparison, we also plot the evolution of the share of the population approving of same-sex relationships. It is interesting to note the contrast between the support for gay-related civil liberties and approval of same-sex relationships. Whereas the latter remained fairly flat until the early '90s, the former steadily increased throughout the entire period. The initial levels of support in the '70s are also markedly different: support for gay-related civil liberties was over 50% whereas same-sex relationships had only 20% approval. Lastly, while there is clearly an important discontinuous jump in approval for same-sex relationships that occurs in 1992-93, this is either smaller, earlier, or non-existent for the three indicators of sentiments towards gay-related civil liberties.

We proceed in a similar fashion as before to construct an index of gay civil liberties (GCL) keeping only the components with eigenvalues greater than one – in this case the first component. This component explains 73% of the total variance. Appendix Table A4 summarizes the loadings, the eigenvalues, and the share of the total variance explained by GCL, CL1, and CL2. Figure 20 shows the indices created from the civil liberties questions (CL1 and CL2) as well as the index created for the cilvil liberties of gay individuals, GCL. As is clear from the figure, the CL1 and GCL evolve in a very similar fashion over the entire period.

5.2 Civil Liberties and Cultural Change

To study the relationship between the GCL index and CL1 and CL2, we use the following specification:

$$GCL_{ist} = \kappa + \sum_{\tau}\sum_{g} \gamma_{g,\tau} D_{ig\tau} + \sum_{\tau,n} \phi_{\tau} CLn_{ist} D_{\tau} + \sum_{\tau} \beta_{\tau} D_{i\tau} X_{i,t} + \delta_s + \delta_t + \epsilon_{ist}$$

in the missing years. The results are robust to excluding these two categories and thus making use of all years.
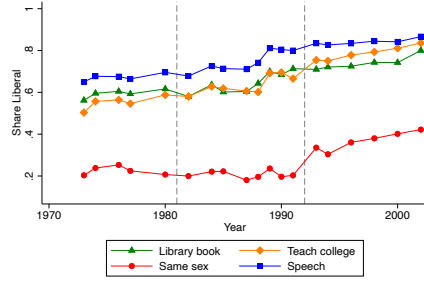
Figure 19   Figure 20

Figure 19: The evolution of the more liberal response to GSS questions on speech, library book, and teaching (see text) for gay individuals where the question is phrased "What about a man who admits that he is a homosexual?." The red line is the evolution of SameSexApp. Figure 20: CL1 and CL2 are the two indices created from the civil liberties questions for militarists, communists, racists, and atheists (see text). They are, respectively, the first and second principal component. GCL is the index created for gay individuals. See text for more details. Source: GSS
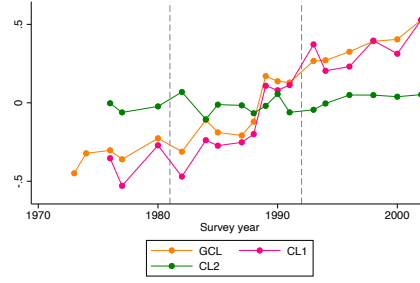
where CLn, $n = 1, 2$ is one of the two indices for civil liberties. We allow a flexible specification where these indices, like the individual controls, are interacted with a decade level dummy thus allowing the effect to differ over time (recall that D_τ is a decade-level dummy). The other controls are those specified in the main regression and standard errors are clustered at the state level.

Column 1 of Table 4 for CAR92 and Table 5 for GayPop shows the results of the regression specification where the dependent variable is GCL and omitting the civil liberties indices, CL1 and CL2. Column 2 excludes the categorical exposure variables but includes CL1 and CL2. Lastly, column 3 controls for both the exposure categories and CL1 and CL2. As is clear from the tables, the civil liberties indices have explanatory power for the evolution of gay civil liberties along the decades, in line with Figure 20. Contrasting column 2 with column 1 shows that including these indices instead of the exposure categories is associated with a jump in the adjusted R squared, from 22% to 49% and that this level remains unchanged once the (statstically insignificant) exposure categories are reintroduced in column 3.

Turning next to asking whether the change in the approval of same-sex relationships is driven by the same factors as civil liberties, column 4 reproduces the results from the standard regression for comparison whereas column 5 includes CL1 and CL2 in addition. As can be seen in column 5, although there is a significant relationship between SameSexApp and the civil liberties indices, this does not diminish the importance of the exposure

Table 4: **Civil Liberties and Gay Rights: CAR92**

	(1) Gay CivLib	(2) Gay CivLib	(3) Gay CivLib	(4) SameSexApp	(5) SameSexApp
Medium-CAR92 x '80s	0.0660		0.0578	0.00477	0.00856
	(0.110)		(0.079)	(0.029)	(0.035)
High-CAR92 x '80s	-0.126*		-0.0594	-0.0231	0.00312
	(0.070)		(0.060)	(0.026)	(0.031)
Medium-CAR92 x '90s	0.0636		0.116	0.0342	0.0320
	(0.104)		(0.073)	(0.027)	(0.027)
High-CAR92 x '90s	0.0220		0.0685	0.0547**	0.0687**
	(0.081)		(0.070)	(0.026)	(0.029)
Civ. Lib. 1		0.418***	0.418***		0.0535***
		(0.012)	(0.012)		(0.004)
Civ. Lib. 1 x '80s		-0.0388***	-0.0387***		-0.0102**
		(0.010)	(0.010)		(0.004)
Civ. Lib. 1 x '90s		-0.100***	-0.101***		0.000964
		(0.012)	(0.011)		(0.005)
Civ. Lib. 2		-0.0639***	-0.0640***		0.00861
		(0.020)	(0.020)		(0.006)
Civ. Lib. 2 x '80s		-0.0418	-0.0419		0.00139
		(0.028)	(0.028)		(0.007)
Civ. Lib. 2 x '90s		-0.0484*	-0.0481*		-0.0275***
		(0.025)	(0.025)		(0.008)
State & Year FE	√	√	√	√	√
Res cat.	√	√	√	√	√
Income cat. & Educ	√	√	√	√	√
Observations	20555	16118	16118	21727	16506
Adj. R sq	0.220	0.493	0.493	0.153	0.207

SameSexApp is a dummy variable that equals 1 if the individual answered "Not wrong at all," or "sometimes wrong," to the GSS question on whether it is "wrong for same-sex adults to have sexual relations?" Civ. Lib 1 & 2 are the civil liberties indices. Gay CivLib is the gay civil liberties index. All specifications include 10-year age interval dummies, sex, race, and residential, education, and income categories. All individual variables are interacted with the decade dummies. Robust clustered standard errors at the state level in parentheses. *** p < 0.01, ** p< 0.05, * p < 0.1. See text for details. Source: GSS

categories in the '90s which actually have a greater impact.

The preceding analysis permits one to conclude that gay civil liberties evolved along the lines of civil liberties more generally, consistent with the hypothesis of Brooks (2000) and Inglehart and Baker (2000), among others. The change in how the public viewed the *morality* of same-sex relationships, while affected by the evolution of civil liberties, continues to be economically and statistically significantly affected by the degree of exposure to the gay community.

6   Conclusion

The last few decades witnessed a dramatic change in public opinion towards gay people. We show an hitherto unremarked upon fact: after twenty years of more or less stable opinions, there was a discontinuous increase in the approval of same-sex relationships in 1992-'93 which then continued to evolve towards greater acceptance. This paper studies

Table 5: **Civil Liberties and Gay Rights: GayPop**

	(1) Gay CivLib	(2) Gay CivLib	(3) Gay CivLib	(4) SameSexApp	(5) SameSexApp
Medium-GayPop x '80s	0.0179		0.0600	0.0373	0.0696***
	(0.090)		(0.067)	(0.022)	(0.025)
High-GayPop x '80s	-0.0675		0.00535	-0.00671	0.0127
	(0.094)		(0.076)	(0.021)	(0.024)
Medium-GayPop x '90s	0.0541		0.0889	0.0543**	0.0722**
	(0.089)		(0.075)	(0.026)	(0.028)
High-GayPop x '90s	-0.0285		0.0646	0.0772***	0.0807**
	(0.083)		(0.082)	(0.026)	(0.031)
Civ. Lib. 1		0.418***	0.418***		0.0539***
		(0.012)	(0.013)		(0.004)
Civ. Lib. 1 x '80s		-0.0388***	-0.0390***		-0.0103**
		(0.010)	(0.011)		(0.004)
Civ. Lib. 1 x '90s		-0.100***	-0.102***		0.000117
		(0.012)	(0.012)		(0.005)
Civ. Lib. 2		-0.0639***	-0.0640***		0.00825
		(0.020)	(0.020)		(0.007)
Civ. Lib. 2 x '80s		-0.0418	-0.0421		0.00135
		(0.028)	(0.028)		(0.007)
Civ. Lib. 2 x '90s		-0.0484*	-0.0478*		-0.0266***
		(0.025)	(0.025)		(0.008)
State & Year FE	√	√	√	√	√
Res cat.	√	√	√	√	√
Income cat. & Educ	√	√	√	√	√
Observations	20555	16118	16118	21727	16506
Adj. R sq	0.219	0.493	0.493	0.154	0.208

SameSexApp is a dummy variable that equals 1 if the individual answered "Not wrong at all," or "sometimes wrong," to the GSS question on whether it is "wrong for same-sex adults to have sexual relations?" Civ. Lib 1 & 2 are the civil liberties indices. Gay CivLib is the gay civil liberties index. All specifications include 10-year age interval dummies, sex, race, and residential, education, and income categories. All individual variables are interacted with the decade dummies. Robust clustered standard errors at the state level in parentheses. *** p < 0.01, ** p< 0.05, * p < 0.1. See text for details. Source: GSS

the hypothesis that this discontinuity resulted from the increased salience of gay-related issues in 1992-'93 and that this led individuals to reconsider their views towards same-sex relationships, giving rise to a process of cultural change.

Although the increased attention paid to gay-related concerns occurred at the national level, the salience of these events is likely to be larger in places with a greater exposure to the gay community. Our paper investigates this hypothesis using a difference-in-difference empirical strategy with two main measures of the degree of exposure: the cumulative AIDS rate in 1992 and the share of households in the 1990 Census that identify as same-sex partners. We differentiate across three time periods – prior to AIDS, during the AIDS epidemic but before the 1992 presidential election, and after the presidential election – and show that places (states and counties) with greater exposure to the gay community experienced a greater change in opinion precisely in the last period.

Our paper also investigates a popular alternative hypothesis for the process of cultural change towards same-sex relationships which sees it as part of a more general process of

expanding liberal attitudes, leading towards ever wider civil liberties and tolerance. Indeed, as we show using a PCA on a set of questions in the GSS, attitudes towards gay-related civil liberties follow a very similar evolution as attitudes towards the civil liberties of other unpopular groups; the degree of exposure to the gay community does not affect how attitudes towards gay civil liberties evolved once the evolution of these other civil liberties are accounted for. The degree of exposure, however, remains economically and statistically significant in explaining attitudes towards the morality of same-sex relationship. It is precisely these attitudes, reflecting how socially "acceptable" it is to be a gay person, that were changed by the "kitchen table" conversations with friends, family, and others when gay-related concerns became the focus of much greater attention. This changed view of the *morality* of same-sex relationships may be what underlines our finding that suicide rates of young individuals fell more in states which saw a larger increase in approval.

Should one conclude from these findings that increased salience of a group necessarily leads to a process of reflection and greater acceptance? We think not. The case of gay individuals is special in a variety of important ways. First, feeling attraction towards same-sex individuals transcends class and racial distinctions. When this is combined with a competitive democratic process that incentivizes politicians to obtain money and votes as widely as possible, there is greater potential of seeing this organized group as politically attractive, courting it, and responding to its concerns. Second, from the perspective of, say, a parent who may have a gay child, there may be large gains from society having more accepting attitudes towards same-sex relationships. This is not so, for example, in the case of discriminated racial/ethnic groups or immigrants. Greater acceptance of these groups, at least in the short run, may also generate losses to more privileged groups from greater competition for jobs, schools, or social status. Nevertheless, an exogenous shock (the AIDS epidemic) that creates a unified group willing to donate time, money, and votes combined with a competitive political process and the attendant greater salience of gay-related concerns is an important lesson of how cultural change can happen in a relatively short time period that transcends this its particular domain.

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Appendix

Dataset

Friends

The information on gay friend/acquaintance uses the earliest available evidence poll from the Roper Center, starting in 1983. Newsweek Magazine commissioned surveys from Gallup (1985, 1986) and Princeton Survey Research Associates (PSRA) (1994, 1996, 1997, 1998, and 2000) that asked individuals whether they had "a friend or acquaintance who is gay or lesbian." The 1983 raw data was not available. Instead, we used the averages kindly provided by the Roper Center from the poll conducted by Gallup for Newsweek Magazine. The remaining data can be found in the Roper Center: USAIPOSPFONEW1985-85186, USAIPOSPFONEW1986-86189, USPSRA1994-NW0294, USPSRA1996-NW96005C, USPSRA1997-NW97009, USPSRA1998-NW9813, USPSRA2000-NW10.

News

The newspaper data comes from NewsBank, and is restricted to all newspapers that have continuous coverage from 1987 onwards. To be included, the newspaper must be present in 1987 or 1988 and not end prior to 2001. In total, our sample consists of 59 newspapers (we exclude national papers). Gay-related articles are all those found by searching for the keywords homosex, bisexual, same sex, gay men, gay community, gay marriage, gay people, lesbian, sexual orientation, sexual preference, and lgb. To find all articles, we simply search for the word "the."

Gay Exposure: CAR92 and GayPop

To construct a measure of exposure to the AIDS epidemic, we use publicly available data from the Center of Disease Control (CDC) to calculate the cumulative AIDS rate, per 100,000 state population, by the end of 1992. See Table 1 in the CDC HIV Surveillance Report 1992 (Feb 1993). 1992 is the closest year prior to our '90s period and minimize underreporting of cases prevalent at the beginning of the AIDS crisis. It takes close to a decade for the severe symptoms of HIV to manifest (see Bacchetti and Moss (1989) and

Osmond (1998)). That table lists, by state, both the number of AIDS cases reported that year, the annual rate implied per 100,000 population that year, as well at the cumulative total of state cases by the end of 1992. We use these numbers to back out the state population and then construct the cumulative total rate, per 100,000, as of the end of 1992. We refer to the rate as CAR92 and it ranges, for the states in the sample, from a low of 13.25 for Montana to a high of 279.3 for NY, with a cross-state mean of 71.2. See Figure A3 for the geographic distribution of CAR92 over US states. It takes close to a decade for the severe symptoms of HIV to manifest (see Bacchetti and Moss (1989) and Osmond (1998)).

High-CAR92 states (H) are those with CAR92 ≥ 86: California, Connecticut, Florida, Georgia, Louisiana, Maryland, Massachusetts, New Jersey, New York, and Texas; Medium-CAR92 states (M) with 49 <CAR92< 86: Arizona, Colorado, Illinois, Missouri, Oregon, Pennsylvania, South Carolina, Virginia, and Washington; and Low-CAR92 states (L) with a CAR92 ≤ 49: Alabama, Arkansas, Indiana, Kansas, Michigan, Minnesota, Montana, North Carolina, Ohio, Oklahoma, Tennessee, West Virginia, and Wisconsin. This categorical division follows natural breaks in the data as can be seen in the Appendix Figure A2.

Stage 3 (AIDS) Classifications and Deaths of Persons with Diagnosed HIV Infection Ever Classified as Stage 3 (AIDS), among Adults and Adolescents, 1985–2015 United States and 6 Dependent Areas
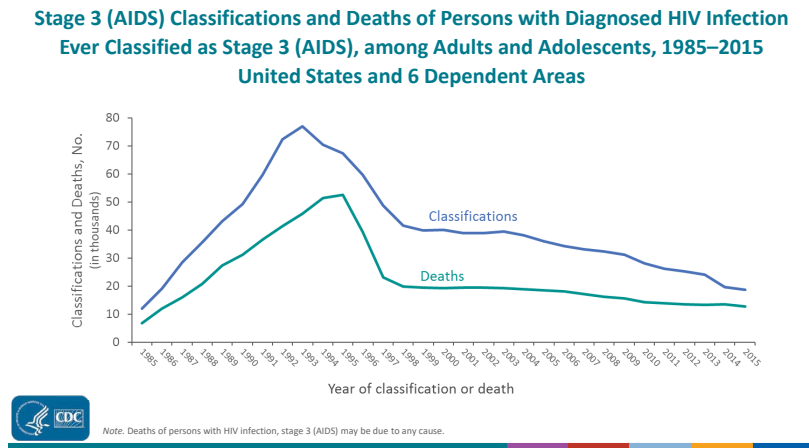
Figure A1

Source: Center of Disease Control (CDC) - HIV Surveillance Report 1992 (Feb 1993).

The cross-state average CAR92 by group is 138.1, 59.7, and 29.8, respectively. Our final sample is distributed as follows: 32.6 % in the Low-CAR92 group, 39.3 % in the High-CAR92 group, and the remainder in the Medium-CAR92 group.
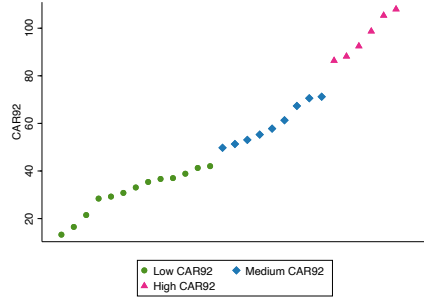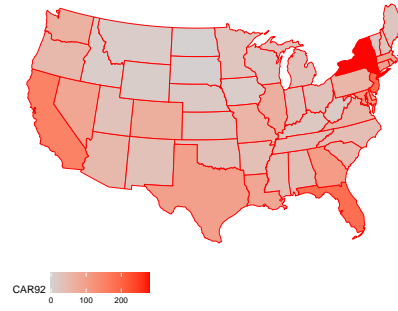
46

Figure A2

Figure A3

Figure A2: Cumulative AIDS rate per 100,000 state population, by the end of 1992, CAR92. Colors indicate the CAR92 group (L,M,H). The plot omits the 4 states with CAR92 above 150: CA, FL, NJ, and NY. Figure A3: Geographic distribution of CAR92 at the state level. Source: Center of Disease Control (CDC) - HIV Surveillance Report 1992 (Feb 1993).

We also use the the cumulative AIDS rate, per 100,000 state population, by the end of 1989 in the robustness section, CAR89. The two measures, CAR89 and CAR92, have a Spearman correlation of 0.98. We divide the states in three groups based on the natural cuts of the CAR89, where the High-CAR89 states (H) are those with CAR89 $\geq$ 42:, Medium-CAR89 states (M) with 17 <CAR89< 42 and Low-CAR89 states (L) with a CAR89 $\leq$ 17. The GSS sample is distributed as follows: 32.6 % in the Low-CAR92 group, 39.3 % in the High-CAR92 group, and the remainder in the Medium-CAR92 group.

GayPop is defined as number of households that consist of same-sex cohabitating partners per 100 households, in the 1990 Census at the state-level. The 1990 Decennial Census was the first census that allowed the identification of same-sex cohabiting couples who were in partnerships relationships. Specifically, same-sex couples are identified as two adults of the same-sex who described their relationship as "unmarried partner". Before 1990, same-sex partners were not distinguishable from roommates. Our data comes from US Census Bureau 1990. Selected Characteristics from 1990 to Supplement Census 2000 SF1 - Unmarried Partner Households. Source: 1990 STF4B, Matrix PB12. `https://www2.census.gov/census_1990/other/90partners.txt`. In taking the decennial census, the Census Bureau designates as the head of household (the householder) "the member (or one of the members) in whose name the home is owned, being bought, or rented." The Census Bureau then collects information on all the members of the household and identifies each member by his or her relationship to the householder. Systematic data on LGBTQ demographics is rare, and the 1990 U.S. census allows a unique glimpse at the it, see Black

47

et al. (2000) and Black et al. (2007) for more information.
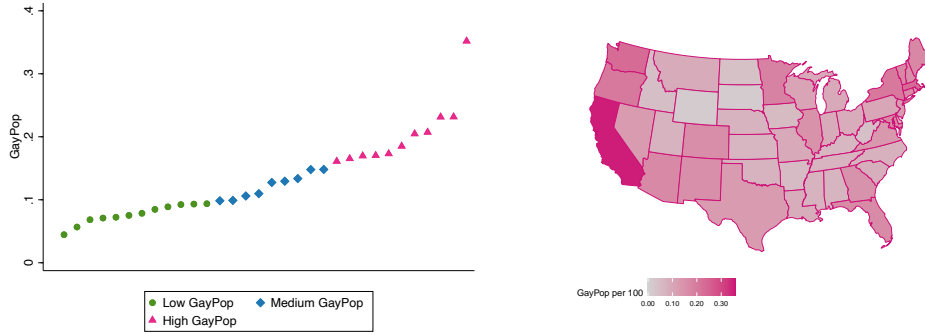
Figure A4

Figure A5

Figure A4: The number of households in each state that consist of same-sex co-habitating partners in the 1990 Census per 100 household (GayPop). Colors indicate the GayPop category (L, M, H). . Figure **??**: Geographic distribution of GayPop at the state level. Source: 1990 Census.

The GayPop categories are defined as follows: the High-GayPop states (H) are those with GayPop $\geq$ 0.16: Arizona, California, Colorado, Connecticut, Florida, Maryland, Massachusetts, Minnesota, Oregon, New York, Washington; the Medium-GayPop states (M) with $0.098 < GayPop < 0.16$: Georgia, Illinois, Michigan, Missouri, New Jersey, Pennsylvania, Texas, Virginia, Wisconsin; and Low-GayPop states (L) with a GayPop ≤ 0.098: Alabama, Arkansas, Indiana, Kansas, Louisiana, Montana, North Carolina, Ohio, Oklahoma, South Carolina, Tennessee, West Virginia. Note that the GayPop variable has less obvious categorical division from natural breaks in the data as can be seen in the Appendix Figure A4. The GSS sample is distributed as follows: 37.7%, 36.9% and 25.4% in the High, Medium, and Low-GayPop groups, respectively. We show in the robustness section of the paper that are results are robust to alternative divisions of the data such as using terciles or medians.

CountyGayPop is using the same 1990 Decennial Census data, but uses the county-level numbers instead of the state the information at the state-level ones. We divide counties into one of three categories $g \in \{H, M, L\}$ corresponding to the terciles of CountyGayPop across counties.

Tables

Table A1: Summary statistics

Variable	Mean	Std. Dev.	Min.	Max.	N
SameSexApp	0.275	0.446	0	1	21727
GayPop (per 100 hh)	0.154	0.082	0.045	0.352	21727
CAR92	93.572	71.510	13.250	279.270	21727
Male	0.454	0.498	0	1	21727
Female	0.546	0.498	0	1	21727
White	0.815	0.388	0	1	21727
Black	0.148	0.355	0	1	21727
Other	0.037	0.189	0	1	21727
Years of Educ.	12.744	3.004	0	20	21682
Age	40.953	13.988	18	69	21727
Religious Upbringing:					
Protestant	0.63	0.483	0	1	21659
Catholic	0.287	0.452	0	1	21659
Jewish	0.021	0.143	0	1	21659
None	0.042	0.2	0	1	21659
Other	0.021	0.142	0	1	21659
City Size:					
Large city	0.192	0.394	0	1	21727
Medium city	0.114	0.318	0	1	21727
Suburb of large/medium city	0.308	0.462	0	1	21727
Uninc. large/medium city	0.123	0.329	0	1	21727
Smaller towns/areas (below 50k)	0.172	0.378	0	1	21727
Open country	0.09	0.286	0	1	21727

Descriptive statistics of the socio-economic characteristics from the GSS sample. Row 1 to 3: The outcome variable (SameSexApp), and the state level measures of gay exposure, i.e., the cumulative aids rate in 1992, (CAR92) and the number of households that consist of same-sex cohabitating partners per 100 households, in the 1990 Census (GayPop). See the main text for definitions.

Table A2: Summary statistics

Variable	Mean	Std. Dev.	Min.	Max.	N
GayTolerance	0.200	0.400	0.000	1.000	9999
CountyGayPop	0.136	0.171	0.000	2.228	9999
Male	0.455	0.498	0.000	1.000	9999
Female	0.545	0.498	0.000	1.000	9999
White	0.785	0.411	0.000	1.000	9999
Black	0.108	0.311	0.000	1.000	9999
Hispanic	0.077	0.266	0.000	1.000	9999
Other	0.029	0.169	0.000	1.000	9999
Age	45.250	17.296	17.000	94.000	9999
City Size:					
Central cities	0.247	0.431	0.000	1.000	9999
Suburban areas	0.415	0.493	0.000	1.000	9999
Rural, small towns, outlying and adj	0.338	0.473	0.000	1.000	9999
Education Categories:					
0-8 grades	0.061	0.240	0.000	1.000	9999
12 grades or fewer, incl. non-college	0.438	0.496	0.000	1.000	9999
13 grades or more but no degree	0.252	0.434	0.000	1.000	9999
College or advanced degree	0.236	0.425	0.000	1.000	9999
Others	0.013	0.112	0.000	1.000	9999

Descriptive statistics of the socio-economic characteristics of the ANES sample. Rows 1 and 2: the outcome variable (GayTolerance), and the number of households that consist of same-sex cohabiting partners per 100 households, in the 1990 Census at the county-level (CountyGayPop). See the main text for definitions.

Table A3: **First Principal Component Loadings**

Variable	Homosex	Mil	Atheist	Com.	Racist
College	0.59	0.57	0.56	-0.55	0.57
Library	0.55	0.56	0.57	0.59	0.55
Speak	0.59	0.59	0.59	0.58	0.6
Eigenvalue	2.19	2.11	1.99	2.07	1.95
Share Total Variance	0.73	0.70	0.66	0.69	0.65

Loadings, eigenvalues, and the share of the total variance explained by the first principal component on civil liberties questions of the groups covered in the GSS civil liberties modules: "Homosexuals," Militarists, Atheists, "Communists", Racists. The column Homosex corresponds to the GCL index in the main analysis. See the text for details on its construction.

Table A4: **PCA Loadings**

Variable	GCL	CL1	CL2
College Homosex	0.59	-	-
Library Homosex	0.55	-	-
Speak Homosex	0.59	-	-
College Mil	-	0.29	0.33
Libray Mil	-	0.31	-0.31
Speak Mil	-	0.30	0.07
College Atheist	-	0.29	0.35
Speak Atheist	-	0.29	0.033
Library Atheist	-	0.30	-0.37
Speak Com.	-	0.30	-0.06
College Com.	-	-0.26	-0.06
Library Com.	-	0.31	-0.39
Speak Racist	-	0.27	0.21
College Racist	-	0.26	0.50
Library Racist	-	0.28	-0.29
Eigenvalue	2.19	5.90	1.21
Share Total Variance	0.73	0.49	0.10

Loadings, eigenvalues, and the share of the total variance explained
by GCL, CL1, and CL2 which are the principal components of the
gay civil liberties and civil liberties variables, respectively. See the
text for details on its construction.

Table A5: **Robustness**   Dependent variable: SameSexApp

	(1) Religion	(2) Alt Approve	(3) State Trend	(4) Exclude 2002	(5) Exclude NY	(6) Exclude MT	(7) CAR89	(8) Terciles CAR92	(9) Median CAR92	(10) Pol Parties
Med-CAR92 x '80s	0.00381	0.0235	-0.0513	-0.0321	0.00506	0.00355				0.00107
	(0.029)	(0.027)	(0.042)	(0.038)	(0.029)	(0.029)				(0.030)
High-CAR92 x '80s	-0.0253	-0.0303	-0.00564	0.0103	-0.0242	-0.0245				-0.0239
	(0.025)	(0.025)	(0.038)	(0.036)	(0.027)	(0.026)				(0.026)
Med-CAR92 x '90s	0.0322	0.0577**	-0.0855*	-0.0538	0.0340	0.0344				0.0306
	(0.026)	(0.027)	(0.050)	(0.048)	(0.027)	(0.027)				(0.027)
High-CAR92 x '90s	0.0505*	0.0601**	0.0882*	0.114**	0.0519*	0.0548**				0.0473*
	(0.025)	(0.025)	(0.047)	(0.044)	(0.028)	(0.027)				(0.025)
Med-CAR89 x '80s							0.00433			
							(0.028)			
High-CAR89 x '80s							-0.0242			
							(0.026)			
Med-CAR89 x '90s							0.0374			
							(0.026)			
High-CAR89 x '90s							0.0533*			
							(0.027)			
Medium Terc. CAR92 x '80s								-0.00206		
								(0.025)		
High Terc. CAR92 x '80s								-0.0271		
								(0.027)		
Medium Terc. CAR92 x '90s								0.0386		
								(0.025)		
High Terc. CAR92 x '90s								0.0513*		
								(0.028)		
Ab Median CAR92 x '80s									-0.0397*	
									(0.020)	
Ab Median CAR92 x '90s									0.0379*	
									(0.021)	
State & Year FE	√	√	√	√	√	√	√	√	√	√
Res cat.	√	√	√	√	√	√	√	√	√	√
Income cat. & Educ	√	√	√	√	√	√	√	√	√	√
Observations	21659	21727	21727	21029	20094	21591	21727	21727	21727	21300
Adj. R sq	0.163	0.159	0.156	0.151	0.148	0.154	0.153	0.153	0.154	0.167

Column (1) includes religious upbringing, (2) redefines SameSexApp = 1 to include all responses other than "always wrong," (3) includes a state linear time trend, (4) excludes 2002, (5) excludes NY, (6) excludes MT, (7) uses categories based on CAR89, (8) divides states based on the terciles of CAR92, (9) divides states based on the median of CAR92, (10) controls for party identification. All individual variables are interacted with the decades dummies. See text for all details. All specifications include gender, race, 10-year age interval dummies. Robust clustered standard errors at the state-level in parentheses. *** p < 0.01, ** p< 0.05, * p < 0.1

52

Table A6: **Robustness**   Dependent variable: SameSexApp

	(1) Religion	(2) Alt Approve	(3) State Trend	(4) Exclude 2002	(5) Exclude CA	(6) Exclude WV	(7) Terciles GayPop	(8) Median GayPop	(9) Pol Parties
Med-GayPop x '80s	0.0354	0.0490**	0.0103	0.0238	0.0369	0.0362			0.0394*
	(0.022)	(0.019)	(0.045)	(0.040)	(0.023)	(0.023)			(0.023)
High-GayPop x '80s	-0.00827	-0.00216	-0.000200	0.0290	0.000734	-0.00791			-0.00796
	(0.020)	(0.022)	(0.042)	(0.039)	(0.026)	(0.021)			(0.021)
Med-GayPop x '90s	0.0524**	0.0657**	-0.00221	0.0222	0.0544**	0.0532**			0.0559**
	(0.024)	(0.025)	(0.061)	(0.053)	(0.025)	(0.026)			(0.025)
High-GayPop x '90s	0.0719***	0.0831***	0.0851	0.134**	0.0783**	0.0761***			0.0667**
	(0.025)	(0.026)	(0.058)	(0.052)	(0.031)	(0.026)			(0.025)
Medium Terc. GayPop x '80s							0.0133		
							(0.026)		
High Terc. GayPop x '80s							0.00597		
							(0.021)		
Medium Terc. GayPop x '90s							0.0501**		
							(0.024)		
High Terc. GayPop x '90s							0.0863***		
							(0.023)		
Ab Median GayPop x '80s								-0.0231	
								(0.021)	
Ab Median GayPop x '90s								0.0422*	
								(0.023)	
State & Year FE	√	√	√	√	√	√	√	√	√
Res cat.	√	√	√	√	√	√	√	√	√
Income cat. & Educ	√	√	√	√	√	√	√	√	√
Observations	21659	21727	21727	21029	19399	21438	21727	21727	21300
Adj. R sq	0.164	0.159	0.155	0.151	0.151	0.152	0.153	0.153	0.167

Column (1) includes religious upbringing, (2) redefines SameSexApp = 1 to include all responses other than "always wrong," (3) includes a state linear time trend, (4) excludes 2002, (5) excludes CA, (6) excludes WV, (7) divides states based on the terciles of GayPop, (8) divides states based on the median of GayPop, (9) controls for party identification interacted. All individual variables are interacted with the decades dummies. See text for all details. All specifications include gender, race, 10-year age interval dummies. Robust clustered standard errors at the state-level in parentheses. *** p < 0.01, ** p< 0.05, * p < 0.1