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Understanding Trends in Hate Crimes Against Immigrants and Hispanic-Americans

Final Report

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Executive Summary

Project Background, Objectives, and Design

Over the past decade, substantial public attention has been directed toward the possibility that anti-immigrant rhetoric and legislation might be associated with an increase in hate crime in the United States against immigrants and those of Hispanic origin. Recent speculation about whether levels of hate crime are rising or falling, and what may be causing any observed trend, frequently arise in response to new incidents. Moreover, the speculation about hate crime trends applies across a wide range of groups that are known to be targeted for crimes motivated by hate or bias. Answers to questions about trends and why they occur have important implications for policy and practice. For example, if rising levels of hate crime are occurring in a region and targeting certain populations, resources can be deployed where they are most needed, and at appropriate levels. If specific populations are being targeted, culturally competent victim services and law enforcement responses can be tailored to serve those populations.

To effectively respond to rising levels of hate crimes and to determine what may be causing the trend, it must first be established that the trend exists. While conceptually simple, it is technically challenging to distinguish random or insignificant variations that occur in any time-series from substantial, statistically significant changes over time. Establishing the significance of trends requires time-series data with:

- Measures and data collection methods used consistently over time;
- Reliable measurement of the variables of interest (e.g., ethnicity, race, sexual orientation of victim or respondent);
- Numbers of incidents sufficient to provide statistical power; and
- Coverage of geographic areas of interest.

Prior to the 1990s, the ability to measure trends in hate crime was limited to a few municipalities where data were collected. Since the passage of the Hate Crime Statistics Act in 1990, substantial public investments have been made to develop data streams, including annual victimization surveys and collections of reported crimes and arrests. While much can be learned about hate crime from information gathered through Federal data collection programs, these time-series collections have not been examined to assess whether the data can support the study of a number of issues, including the detection of significant trends in hate crimes against specific groups. Fundamental questions remain to be answered, including whether the data contained in the major Federal hate crime data collection systems (primarily, the Uniform Crime Reports (UCR), National Crime Victimization Survey (NCVS), and National Incident Based Reporting System (NIBRS) or other data streams (such as the School Crime Supplement (SCS) of the NCVS, and the School Survey on Crime and Safety (SSOCS) are adequate to:

- Estimate hate crime trends nationally, or within any state, across all hate crime types;
- Assess whether trends exist in hate crimes against immigrants and those whose ethnicity is classified as Hispanic;

- Serve as a foundation for research on the causes and consequences of hate crime; and
- Support evaluations of interventions meant to prevent or effectively respond to the problem.

To answer such questions, the study featured:

- An examination of each of the major national time-series datasets (e.g., UCR, NIBRS, NCVS);
- Seeking additional data sources that could be used to corroborate or supplement the national data collections;
- Analysis of each database, examining whether trends can be modeled and tested to determine statistical significance; and
- Gathering qualitative input from expert researchers and practitioners regarding study findings and recommendations.

The scope of work originally defined by NIJ divided the study into two phases.

- **Phase I:** The first phase of the study focused on gathering and analyzing secondary data sets including UCR, NCVS, NIBRS, as well as state-level databases. A key objective of this phase of the project was to assess whether significant trends could be identified at the national level, and then whether statistical power and data quality were sufficient to assess trends at the state level. Among the tasks performed was selecting four states for more intensive study in the second phase of the project. The four “intensive study” states were selected on the basis of their potential for state-level analysis of secondary data from the national data streams. Key considerations in determining this potential were the number of cases contained in the UCR data for each state (for overall hate crime incidence as well as hate crimes targeting Hispanics).
- **Phase II:** This phase was initially designed to involve largely qualitative research conducted in the four states selected in Phase I. It featured a survey of police departments, focus groups with law enforcement personnel and NGOs addressing hate crime, and interviews with expert practitioners, trainers, and researchers. The objective of Phase II was to gather information to inform the secondary data analysis regarding trends in hate and bias crime directed toward Hispanic-Americans and those perceived to be immigrants.

Phase I findings about the limitations of secondary data sources available to study hate crime trends (particularly at the state-level) led to a redesign of Phase II. The main limitation leading to the redesign was that the dataset with the greatest statistical power – the UCR – contains data sufficient to support solid statistical modeling of trends in only one state (California). Since the original Phase II fieldwork was intended to explain state level trends, and those trends cannot be established with confidence in all but one states, NIJ and the project team collaborated on a redesign the second phase of the study.

- **Redesigned Phase II:** The new design replaced the surveys, focus groups, and stakeholder interviews in four select states with a series of expert panels and workgroups with a more national scope. An Advisory Committee was formed, and was comprised of national experts on hate crime. A series of Expert Panels was conducted with experts approaching the problem from strategically important professional vantage points, including law enforcement, legal and victim advocacy, policymakers, health care providers and methodologists. In an effort to both

understand current data and aid in the development of more reliable data collection systems, advisory committee and expert panels collectively helped the research team identify the challenges in measuring hate crimes against immigrants and Hispanic Americans, understand the dynamics of hate crimes against these populations, and how these dynamics impact officially reported data on hate crime victimization.

- **Purpose of this Report:** The intent of this report is to inform policy makers and practitioners about the strength of the empirical foundation of measured hate crime in the United States. Trends are frequently in question when discussing the need for action to combat hate crime, as are determinations about what groups are at highest risk, and where best to direct efforts to prevent and respond to such offenses. To facilitate such deliberations, the report provides an overview of current time-series data measuring hate crime, and their utility for assessing the presence and significance of trends. It describes the process of gathering the databases and other information discussed in this report, how they were analyzed, and the conclusions reached about the ability of extant data to measure trends in hate crimes against immigrants and those of Hispanic heritage residing in the United States.

Phase I: Secondary Data Identification, Review, and Analysis

Identifying, Acquiring, and Assessing Hate Crime Data

A priority of Phase I was acquiring and analyzing data from the three main national data collection programs: the *Uniform Crime Reports* (UCR), *National Incident Based Reporting System* (NIBRS), and *National Crime Victimization Survey* (NCVS). Each data series was assessed for its utility in determining the statistical significance of hate crime trends.

- As expected, our assessment of secondary data determined that the *UCR* program is the most promising source of data for detecting significant trends in hate crime in the United States.
- While *NIBRS* provides rich detail about reported incidents, the utility of the program's hate crime data for detecting significant trends is compromised by incomplete coverage across states. Roughly one-third of the law enforcement agencies in the United States provide data to NIBRS, and the jurisdictions of participating agencies contain about 25 percent of the U.S. population. The data may be useful for examining the characteristics and composition of reported hate crime incidents, but not national or state trends in the number of incidents.
- *NCVS* provides a unique national data stream on hate crime that is not dependent upon (nor directly influenced by) police enforcement and reporting practices, but is of limited use for estimating significant hate crime trends—particularly those targeting immigrants and Hispanics. The *NCVS* data support the assessment of national trends in all hate crimes, but cannot be used to examine hate crime trends at the state level, or trends in specific subcategories of hate crime.

- ***None of the three key national datasets (UCR, NIBRS, NCVS) measure trends in hate crimes specifically targeting immigrants.***
 - The only time-series measure approximating anti-immigrant hate or bias crime was found in a state-level annual survey that measures bias-motivated bullying or harassment (the ***California Healthy Kids Survey***, CHKS) among secondary school students who participate in the Migrant Education Program. The survey gathers information on perceived reasons for victims being targeted and on race/ethnicity. Limitations of this data series for measuring anti-Hispanic and anti-immigrant hate crime include: (a) it measures a broader range of incidents (bullying and harassment) rather than just those rising to the level of crime; (b) the survey is administered only to a population with a narrow age range; and (c) the survey measures incidents only in school environments.
- In addition to assessing the UCR, NIBRS, and NCVS data, we searched for other data that may be useful in pursuing the project’s research objectives. Data with the potential to support examination of statistically significant trends in hate crime were pursued. Several datasets were ruled out, due to the time-series being of insufficient duration, having insufficient sample sizes, or due to measurement limitations.

The most promising dataset was the California Healthy Kids Survey (CHKS), a student-level panel survey. We examined its utility for detecting significant trends, and as a means of triangulating with (and supplementing) the state-level UCR time-series analyses for California. The CHKS has very large samples (over 400,000 per year), providing statistical power supporting trend modeling and significance testing, even for subsets of hate crimes such as those targeting Hispanic respondents.

Analyzing Hate Crime Trends

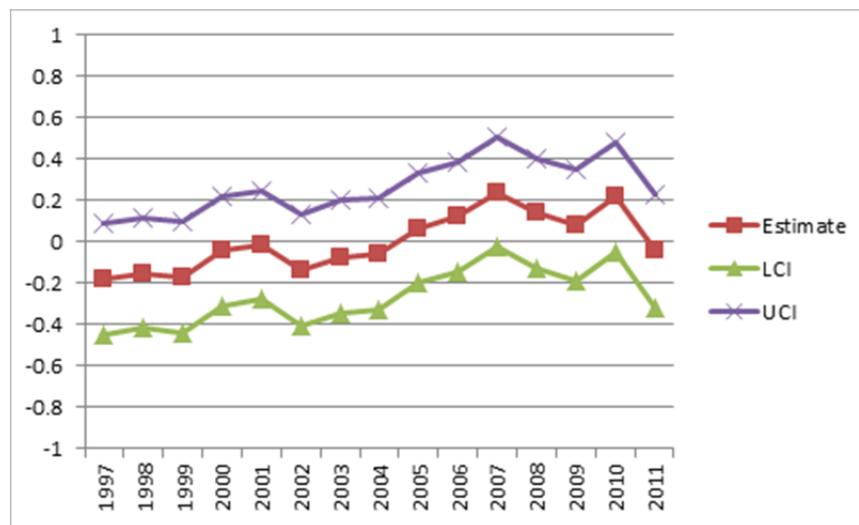
- Publicly accessible data from the ***UCR, NIBRS*** and the ***NCVS*** programs were acquired and examined to determine the types of analysis that could be supported. Most of our attention was devoted to analyzing UCR data, since data limitations prevent productive use of the NCVS and NIBRS hate crime data for assessing the significance of trends, particularly among Hispanics, immigrants, and at the state
- An analytic UCR dataset was assembled for trend analyses, and was composed of one record per state per year, with the number of hate crimes in each state for each year as the variable of interest. All hate crimes and anti-Hispanic hate crimes were selected for analysis.
- To estimate trends, three types of models were used: (a) ***weighted least squares***, (b) ***Poisson regression***, and (c) ***negative binomial regression***
- Models were specified using year indicators, time trend, splines, and state indicators.
- Trends were tested for individual effects, subsequent years and year groups, selected years and groups of years against overall average.

Results: Overall Hate Crime Trends

- Statistically significant national hate crime trends were detectable in UCR data. Two trends observed were:

- ***A potential “9/11 effect:”*** A significant increase was found in multiple models of the total number of hate crimes occurring throughout the nation after 9/11. The increase was a short-lived spike, and the level of hate crimes decreased in subsequent years.
 - ***An average decrease in hate crime over time:*** Tests comparing average numbers of hate crimes in late-90s to early to mid-2000s show a decrease on average. The decrease persists when controlling for the “9/11 effect” in 2001 alone and in 2001-2002.
- Important caveats regarding those trends are: (a) that there are large confidence intervals around the trend lines, and (b) there is uncertainty about the extent to which the trends reflect reporting and law enforcement practices, versus true changes in hate crime levels.

Figure ES-1 Estimated National Trend in Anti-Hispanic Hate Crimes (1996-2011)



Results: Anti-Hispanic Hate Crimes

- Statistically significant national trends in hate crimes against Hispanics are detectable in UCR data. The significant findings were:
 - There was a statistically significant increase in anti-Hispanic hate crimes in the mid-2000s, but a slight downturn at the end of the decade.
 - No 9/11 effect was observed in anti-Hispanic hate crime trends.

There are important caveats regarding trends in anti-Hispanic hate crime: (a) there were low numbers of reported hate crimes against Hispanics; (b) the trends were significant but not very robust, and were extremely sensitive to model specifications; (c) UCR data are dependent upon police activity, training, state law, and record-keeping—all of which can vary over time and affect trends.

Results: State-Level Analyses of UCR Data

- Statistically significant trends in overall hate crime data were detectable in two states, and anti-Hispanic crime trends were not found to be significant in any state. Anti-immigrant hate crime could not be measured directly in any of the time-series (with the exception of a proxy measure in the CHKS). In California and Texas, the marginal statistical significance of overall

hate crime trends are subject to numerous caveats about data limitations and the sensitivity of the analyses to model specification.

- Significant findings from state-level analyses were:
 - UCR data for just two states (California and Texas) provide adequate statistical power sufficient to model trends. However, even in these two populous states, it is possible to model trends only when all types of hate crimes are combined. It is not possible to model anti-Hispanic trends in UCR data within any single state.
 - California and Texas trends were similar to national trends. This might be expected, since these populous states contribute a substantial portion of the national population. Although marginally significant through 2008, the trends were unstable and the confidence intervals were large, and very sensitive to model specification. The modest upward trends leading up to about 2008 were not sustained in 2009 and 2010.
 - UCR data are insufficient to detect significant trends in anti-Hispanic hate crime within any state.
 - UCR data do not contain measures of anti-immigrant hate crime.

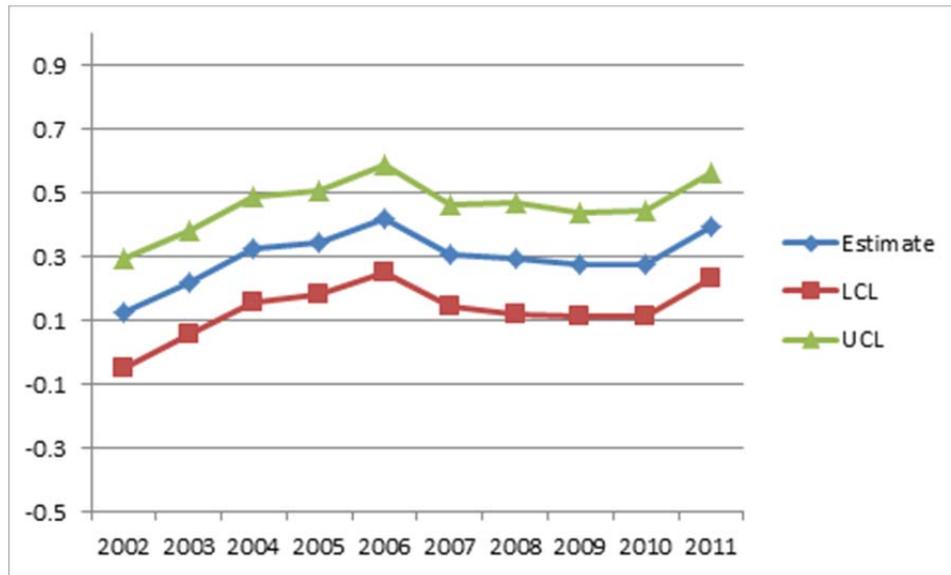
Results: Analyses of California Healthy Kids Survey Data

From a visual inspection of the annual raw prevalence rates, it appears as though the rates are relatively stable over time. Some sub-populations, such as students self-identifying as Black or Asian, showed dramatic increases in reported bullying targeting the victim's perceived ethnicity.

While the overall trends are relatively stable, they tend to trend slightly upwards from the early 2000s to 2010.

- With large annual samples, statistical significance can be detected in modest changes over time. Furthermore, the numerous models of hate-motivated bullying and harassment found year-to-year changes and larger trends to be statistically significant.
- Figure ES-2 shows the estimated trend of anti-Hispanic ethnic bullying or harassment in California from 2002 to 2011, as measured by the CHKS. Each annual change was individually statistically significant (i.e., when each year's crime level is compared to that of the year before).
- Also statistically significant were trends across sets of years, such as the years of 2003-2004 versus the average of subsequent years, and 2006-2007 compared to all other years.
- From 2010 to 2011, there was a statistically significant increase in the prevalence of harassment or bullying targeting Hispanics because of their ethnicity.

Figure ES-2 California Healthy Kids Survey: Estimated State Trend in Anti-Hispanic Bullying/Harassment



- Migrant Education Program (MEP) participation as a CHKS proxy measure of immigrant status:
 - The CHKS contains a survey item asking students about their participation in the MEP. The MEP is a federally funded program that provides services to migrant children, and is intended for children in families employed in seasonal labor who move frequently.
 - While not all migrants are immigrants, there are indications that many CHKS respondents who participate in the MEP may be immigrants, or the children of immigrants. A California Legislative Analyst’s Office Report (2013) found that the “vast majority” of the state’s MEP participants “are Latino and have limited proficiency in English.” While this does not necessarily mean the vast majority are immigrants, it suggests that a large proportion might be. The evidence suggests that MEP participation is a reasonable approximation of a measure of immigrant status.
 - We separated Hispanic students who participated in the MEP from those who did not, and compared the two group’s levels of bullying/harassment perceived to be directed toward race or ethnicity. We found Hispanic students who participated in the MEP were victimized at a far higher rate than the rest of the Hispanic student population. We have only a four-year time series available at this time, so options for trend analysis are limited. By simply plotting the data, one observes virtually no substantial 2008-2011 trend among Hispanic students in general, but a large increase in anti-Hispanic incidents from 2009-2011 among Hispanic students who participated in the MEP. With additional years of data, and with additional research on the immigrant status of MEP participants, these trends may be modeled and tested for significance.

NCVS Findings

- Detecting significant overall hate crime trends using NCVS is currently possible at the national level.

- State-level analyses of trends are not currently feasible because the NCVS sampling design and weighting scheme are designed for national estimates, and the raw responses on which to base estimates are very small at the state level. The second of those limitations makes developing state-level estimates infeasible, even if one had access to data for developing weights for that level of aggregation.
- Publicly accessible NCVS data do not allow examination of anti-Hispanic hate crime. Additional information would be needed to identify anti-Hispanic hate crimes.
- The NCVS does not measure hate crime victimization targeting immigrants.
- NCVS will become more useful with the release of corroboration information for hate crime questions.

Phase II: Expert Feedback about Hate Crime Data and Trends

Expert panel members confirmed or identified a number of challenges to using existing Federal data collection systems to measure the prevalence of or trends in hate crimes against immigrants and Hispanic Americans. Challenges identified include:

- Existing Federal data collection systems require users (whether the police or individuals completing surveys) to understand, recognize and report an incident as bias motivated. Data from police are likely deficient since hate crime victimization may not be accurately reported to the police and the police may not recognize bias motivation when a crime is reported. Similarly, self-report victimization surveys such as the NCVS will not capture bias motivated crimes if the victims themselves do not understand the concept of a hate crime.
- Immigrants, whether documented or undocumented, may be fearful of reporting victimization to the police out of concern about their immigration status. Police in expert panels we convened reported receiving few reports of hate crimes against immigrants or Hispanic Americans and indicated that a crime would likely not be uncovered unless the victim proactively reported their victimization to the police. Immigrants also may not understand the concept of bias motivated crimes. Panel members suggested that immigrants face numerous forms of victimization and exploitation and often come to expect that they will experience hardships based on bias. These collective experiences undermine the ability of victims to identify what is happening to them as a bias motivated crime from which they have a right to be protected.

- Police in the expert panels we convened indicated that officers are commonly uncomfortable or prohibited by policy to ask questions about immigration status that might help law enforcement identify a bias motivated hate crime against an immigrant or Hispanic American. Police panelists noted challenges to police accurately identifying hate crimes in communities where the police do not have open lines of communication and established trust with immigrant groups, and that this condition may be exacerbated in an era where funding for community policing has been reduced (i.e., funding levels have declined since their peak in the 1990s). Police also reported facing serious challenges communicating with individuals to discern whether their victimization was bias-motivated, due to a lack of foreign language capacities within their agencies. Officers commonly utilize phone-based language lines to communicate with immigrants and Hispanic-Americans who do not speak English as their first language.
- Police, health care and advocacy panelists indicated that crime victims from immigrant communities are more likely to report victimization to a local community group, church or advocacy organization that may or may not help facilitate reporting the victimization experience to the police. While these organizations may be rich sources of information about hate crimes that are not reported to the police, they commonly have less formal or unstructured systems for keeping records.

Conclusions and Recommendations

The secondary data analysis conducted in this study was successful on many fronts. We are confident that we have exhausted current statistical techniques that may be productively applied to the project's core research objective of determining whether significant trends are detectable in existing time-series data. Some of our findings were encouraging. When examining all forms of hate crime on a national basis, the UCR data were found to be capable of confirming the statistical significance of large spikes or steep trends, such as the spike occurring in 2001. Moreover, UCR data supported the detection of significant trends that were more subtle—namely, the modest decline in hate crimes over a three- to four-year period in the national time series, and the modest increase in anti-Hispanic hate crimes over the same time period. Finding statistical significance in modest trends within a relatively short time frame provides encouragement¹ that the UCR has the potential to be a useful tool for detecting trends and for time-series studies evaluating policies and practices.

By triangulating findings from several sources, we developed some confidence in the national trend in anti-Hispanic hate crime observed in the UCR data. While data limitations and small samples produce large confidence intervals and present challenges to statistical modeling, we found several other data sources to corroborate the basic trend observed in UCR data: a spike in 2001 followed by a rapid return to baseline levels, then a gradual increase in anti-Hispanic hate crimes peaking in or near 2008. The rates fluctuated in the following years without an overall trend. The national trend found in police data was generally consistent with that observed in a survey time series measuring bias motivated bullying or harassment (the CHKS). In addition, a set of annual national public opinion polls conducted by Gallup across the same timeframe included questions about attitudes about

¹ By this we mean that we are encouraged from a methodological standpoint, although disappointed to find an increase in anti-Hispanic hate crime.

immigrants and racial climate, and showed trends consistent with those found in the UCR and CHKS data. While each dataset has limitations that prevent drawing firm conclusions about the presence and significance of trends, finding a level of corroboration across several data sources suggests that the temporal patterns observed in UCR data might be more than an artifact of police activity or reporting practices, and may instead reflect changes in hate crime incidence. While this is a hopeful sign, we must also conclude that the UCR and other data sources are far too limited at present to be useful for understanding causal mechanisms in hate crime trends, or to support time series designs for program or policy evaluation.

Although we executed a rigorous analytic approach appropriate for the data and answering the research questions posed, the kinds of analysis that we conducted and the data used have important limitations.

- **First**, our examination of secondary data was based on the requirement that we assess the ability of extant time-series data to detect significant hate crime trends. We answered the question of whether hate crimes reported by police varied significantly from year to year, or from any selected points, set of points, or averages across sets of years. We have not made causal inferences about trends.
- **Second**, the UCR and NIBRS data are a function of factors apart from the levels of hate crime occurring throughout the United States. Reported hate crime rates and trends are affected by legal definitions and changes in law over time, by reporting practices of police that are themselves a function of resources, training, and many other factors. Therefore, a finding of an increase in hate crime targeting Hispanics over a given set of years, for example, cannot be interpreted as hard evidence that Hispanics are being victimized more frequently, since we cannot rule out that the trend could be an artifact of changing reporting practices or other alternative explanations.
- **Third**, we were largely unable to pursue the objectives of learning about hate crimes against immigrants, since none of the national databases measures hate crimes that target this population. A policy recommendation we make with confidence is that hate crimes against immigrants should be added to the NCVS and more localized survey programs. While it would be helpful to measure anti-immigrant crimes in the UCR, there are great challenges in doing so, and measurement is unlikely to be implemented successfully.
- **Fourth**, state-level analysis of trends in all hate crime types collectively is possible in just one state. UCR data in California has statistical power sufficient to find significance in steep or robust trends in overall hate crime levels, but not for subsets of hate crimes, such as those targeting ethnicity. Statistical significance of trends was also found in Texas, but may be an artifact of reporting outliers and could not be corroborated. Statistically significance could not be found in other states, due in part to the “noise” of uneven reporting practices among counties (the unit of analysis for state-level study), and due to small numbers of events.

Identifying such limitations suggests pathways for data system improvements that may make future trends analysis more informative. For example, to provide answers about hate crime trends that are of practical use for developing effective responses, it is important to develop data that can support analysis below the national level, and by victim subgroups. Most of the policy, practice, law, and infrastructure that is brought to bear on hate and bias crime exist at the state and local levels, so detecting and describing trends at these levels of aggregation have the greatest pragmatic value to

those engaged in prevention efforts and for responding to both offenders and victims. For example, if solid panel data were available within a metropolitan area or a state, it would be possible to implement rigorous time-series designs for evaluating the impact of a municipal prevention program, or the passage of new state legislation. National data have little value for such evaluations, at present.

More uniform and increased reporting are needed to elevate the utility of the state-level UCR data and allow analyses of trends using these time-series data. We believe it is important to examine state-level trends, since there is so much variation across states in hate crime law and demographic profiles, and since most of the policy and practice responses to the problem of hate crime occur at the state level, and are pursued within the parameters of state law and local infrastructures and resource levels. Of course, national trends are important, but most practitioners responding to hate crime are more concerned with meeting their local needs which may look quite different from those at the national level.

The advent of the internet, social media, and mobile communications, and other technologies have created opportunities to explore new ways of measuring crime and other negative behavior motivated by hate or bias. For example, the Google Corporation's analyses of patterns of search terms have proven to be a highly accurate means of identifying outbreaks of influenza. It is possible that patterns exist in web searches conducted by both victims and offenders of hate or bias motivated crime, and that trends in search terms may reflect or measure incidence and prevalence. An encouraging exploration of such "new media" possibilities is the coding and mapping of data from Twitter reflecting "hate speech" appearing in tweets (Stephens, 2013). While unlikely to supplant traditional police and survey data collections, social media and other internet-based sources may prove to provide supplementary data and information streams useful for near real-time surveillance of hateful behavior, and as a means of corroborating findings from UCR, NIBRS, and NCVS data.

We recommend the following:

- Efforts should be initiated to improve police identification of hate crimes against Hispanic-Americans. These efforts should include training for law enforcement about bias motivation and crimes against different ethnicities and nationalities, and education to improve cultural competencies. Police reporting would also benefit from increasing foreign language capabilities to facilitate communication between police and immigrant communities in an effort to improve crime reporting generally, and bias-motivated crime in particular.
- Since many immigrant victims may be unfamiliar with the terminology or concepts of hate- or bias-motivated crimes, police protocols should be enhanced by adding follow-up questions that may facilitate identification of bias motivations. Questions that may be productive include: (a) Do you know why the person did this to you?; (b) Did the offender call you any names during the encounter?; (c) Did you receive threats before the incident?; (d) Have similar things happened to other people you know?
- To more accurately identify patterns of hate crime victimization over time, it is necessary to collect information from other systems where hate crime victims may seek assistance and from victims themselves. Despite efforts that can be made to improve police reporting of hate crimes against immigrants and Hispanic Americans, there are limits to administrative data sources from law enforcement. Federal police data collection systems and their state corollaries provide an important source of information about police identification and responses to hate crimes against

immigrants and Hispanic Americans, but are unable to provide a full understanding of trends without other data streams for corroboration. This basic issue is not unique to hate crime, and is a key reason for the sustained Federal investment in both the NCVS and UCR programs.

- Efforts to introduce immigration status into law enforcement data streams should be considered with great caution. The challenges for successful implementation are substantial, and if not executed with sensitivity and patience, could produce negative impacts on crime reporting that outweigh the benefits of acquiring the data. The key challenge to improving police reporting of hate crime against immigrants is the reluctance of police to inquire about the immigration status of crime victims. By policy or custom, many police working in immigrant or ethnic neighborhoods do not ask whether a crime victim is an immigrant. Asking questions about immigration status raises fears of deportation for victims or family members who may be undocumented, and police avoid the subject in responding to victimization calls in order to build trust and increase overall crime reporting. In responding to hate crime, law enforcement officers will not usually ask whether the victim believes they may have been targeted due the perception or reality of their being an immigrant.
- While it is unlikely immigrant status can be addressed through changes to the UCR or NIBRS systems of collecting police data, it would be possible to do so via surveys where the issue of fear of police or deportation is less problematic. If viable data streams on hate crimes against immigrants are to be developed, is important to include questions about a person's immigration status in crime victimization surveys such as the NCVS or more localized collections.
- A series of specialized victimization surveys in high immigrant or high Hispanic communities could provide important information about the nature and pattern of hate crime against immigrants and Hispanic Americans. Nationally representative self-report surveys may not be accurate sources of information about victimization in smaller sub-areas where immigrants may be populated.
- Non-traditional sources of data and information should be explored in future efforts to improve tracking of hate crime prevalence, incidence, and trends. Examples of potential sources of supplemental, corroborative, or surveillance data include de-identified data on tweets and search terms acquired from Twitter, Google, and other "new media" providers.

1. Introduction

A recent headline in an ABC news report read, “Anti-Latino Hate Crimes Rise As Immigration Debate Intensifies” (Constatini, 2011). Representatives from advocacy groups such as the Southern Poverty Law Center and the National Hispanic Media Coalition have contended that hate crimes (particularly those targeting race, ethnicity, and nationality) in the United States have increased from the early 2000s to the present. Moreover, they attribute increasing violence motivated by hate or bias toward immigrants or those of Hispanic heritage to heated debates over immigration law and policy (e.g., Constatini, 2013; Rincon, 2013). In explaining the rise, experts specifically reference controversy surrounding the 2010 Arizona statute, SB1070²), which expands police powers to investigate the identities of persons about whom they have “reasonable suspicion” of being undocumented, and requires individuals to carry proof of legal presence in the country. Also cited as fueling hate crime is the contentious pursuit of laws similar to Arizona SB1070 in six additional states, and the effort to modify the 14th Amendment of the Constitution to eliminate the right to citizenship of children of illegal immigrants born in the United States (i.e., the “anchor baby” debate). During an interview conducted in October, 2013, the President of the National Hispanic Media Coalition (NHMC) said, “Our fear is that all these restrictive laws against Latino immigrants are adding fuel to the fire of hate speech, which can only lead to more hate crimes” (Rincon, 2013).

Speculation about whether levels of hate crime are rising or falling, and what may be causing any observed trend, frequently arise in response to new incidents, and apply across a wide range of groups that are known to be targeted for crimes motivated by hate or bias. Answers to questions about trends and why they occur have important implications for policy and practice. For example, if rising levels of hate crime are occurring in a region, resources can be properly calibrated and deployed where they are most needed. If specific populations are being targeted, culturally competent victim services and law enforcement responses can be tailored to serve those populations.

In order to effectively respond to growth in hate crimes and to determine what may be causing a trend, it must first be established that a trend exists. While conceptually simple, it is technically challenging to distinguish random or insignificant variations that occur in any time-series from substantial, statistically significant changes over time. Determining the significance of trends requires time-series data with: (a) consistent measures and data collection methods, (b) measurement of the variables of interest (e.g., ethnicity, race, sexual orientation of victim or respondent), (c) numbers of cases each year of sufficient size to provide statistical power, and (d) coverage of geographic areas of interest.

Prior to 1991, there were no “official” national hate crime data in the United States from which to form a picture of the size and shape of the problem, nor to observe trends. Recognizing the importance of measuring hate crime over time, a number of federal efforts have been launched. The Hate Crime Statistics Act of 1990 (HCSA) mandated the collection and reporting of hate crime data,

² SB 1070 requires documentation of legal presence in the country to be carried in Arizona by non-citizens, and allows police greater power to determine an individual's immigration status if they have “reasonable suspicion” that a person may be an illegal immigrant.

and in 1991 the *Uniform Crime Reports* (UCR) began collecting data on hate crimes reported to police. However, UCR data across all crime types are dependent upon events being reported to police, and the barriers to such reporting are particularly acute for hate crime: victims or witnesses must not only be aware of a crime, but also must attribute the motivation to bias or hatred toward a recognized group or trait (e.g., gender, disability, sexual orientation, race, ethnicity). Police must also be aware of the relatively new hate crime laws necessary to investigate the possibility of a crime being bias motivated and the tools available record and report this category of crime. NIBRS, a crime data collection system that provides for gathering information grounded in each incident rather than attached to individual offenders or arrests, added hate crime to its collection protocols in 1991 in response to the HSCA.

Crime victimization surveys provide useful alternatives to law enforcement data. Although surveys have challenges of their own (e.g., obtaining unbiased samples of sufficient size; employing sampling and measurement instruments designed to capture respondents with experiences and traits of interest; respondent recollection of events and willingness to disclose them), they avoid the problems of dependence upon public willingness to report crimes to police and are not highly dependent upon statutory definitions of hate crime or law enforcement investigations, training, and record keeping. In 2001, the *National Crime Victimization Survey* (NCVS) began asking respondents throughout the U.S. whether they had been the victims of vandalism and various interpersonal crimes whether they believe that hate was a factor in the offenses committed against them.

While the UCR, NIBRS, and NCVS represent the backbone of federal collection of time-series data, there are other National efforts to track crime and other incidents motivate by hate or bias. For example, the School Crime Supplement survey of the NCVS (SCS/NCVS) was created as a supplement to the NCVS and co-designed by the National Center for Education Statistics (NCES) and Bureau of Justice Statistics (BJS). Since 1999, the SCS collects information on alternate years about crime and school safety among students, and has included questions about having been called a hate-related word or name (i.e., hate speech) or seeing hate-related graffiti at school.

In addition to these national collections, some states have established time-series data on bias motivated crimes and incidents. For example, California's Attorney General's Office maintains ongoing hate crime data collections similar to UCR collections, which has more data elements than those required for the UCR.

Substantial commitments have been made to developing streams of data on hate and bias-motivated crime, from both law enforcement reports and victimization surveys. After roughly two decades of measurement on a national scale, and with events frequently placing the extent and nature of bias motivated crime at the forefront of practitioner focus and policy debates, it is important to assess the capabilities of extant data for answering fundamental questions. For example, are time-series data of sufficient scope and quality to allow conclusions to be made about whether hate crimes are significantly trending, either at the national-, state-, or local-level?

Government agencies, advocacy groups, and the news media use simple tracking of UCR data as evidence of trends. For example, in a recent discussion of the links between the rhetoric surrounding immigration policy and bias-motivated incidents (Rincon, 2013), the president of the NHMC referenced analysis of federal time-series data as evidence of a trend:

“The latest study of hate crimes shows they increased by 40-percent between 2003 and 2007. These figures are now even higher, and if we don’t ease off on these anti-immigrant diatribes, the number of hate crimes will continue to rise.”

The 2011 report by the Tennessee Bureau of Investigations was headlined, “Hate Crime on the Decline in Tennessee,” and reported a 55 percent decrease in hate crimes reported to police from 2008 to 2010. While such data are invaluable for a number of purposes, using crimes reported to police to indicate a trend in crime has important limitations. For example, crime reported to police is a function of factors aside from the crime rate (e.g., victim willingness and ability to report the crimes). Even assuming that the reported data reflect the true rate, all time-series data show fluctuations and may appear to trend for stochastic or idiosyncratic reasons and consequently, not all increases or decreases are necessarily significant either statistically or substantively.

Answers to questions about trends and why they occur have important implications for policy and practice. For example, if rising levels of hate crime are occurring in a region, resources can be properly calibrated and deployed where they are most needed. If specific populations are being targeted, culturally competent victim services and law enforcement responses can be tailored to serve those populations.

To effectively respond to growth in hate crimes and determine what may cause a trend, it must first be established that a trend exists. While conceptually simple, it is technically challenging to distinguish random or insignificant variations that occur over time from statistically and substantively significant trends. Determining the significance of trends requires time-series data with:

- Measures and data collection methods used consistently over time
- Measurement of the variables of interest (e.g., ethnicity, race, sexual orientation of victim or respondent)
- Numbers sufficient to provide statistical power
- Coverage of geographic areas of interest

Prior to the 1990s, the capacity for measuring trends in hate crime was limited. Since the passage of the Hate Crime Statistics Act in 1990, substantial public investments have been made to develop data streams, including annual victimization surveys and collections of reported crimes and arrests. While much can be learned about hate crime from information gathered through federal data collection programs, these time series collections have not been examined to assess whether the data can support the study of a number of issues, including the detection of significant trends in hate crimes against specific groups. Fundamental questions remain to be answered, including whether the data contained in the major federal hate crime data collection systems (primarily, the UCR, NCVS, and NIBRS) or other data streams (such as the SCS/ NCVS and the SSOCS) are adequate to:

- Estimate hate crime trends nationally, or within any state, across all hate crime types;
- Assess whether trends exist in hate crimes against immigrants and those whose ethnicity is classified as Hispanic;
- Serve as a foundation for research on the causes and consequences of hate crime;
- Support evaluations of interventions meant to prevent or effectively respond to the problem.

2. Project Background

2.1 Definitions and Literature Review

Hatred fueled by prejudice and bias has motivated criminal acts throughout history, often against immigrants and people whose perceived ethnicity differs from the offender's. Violence, intimidation, and discrimination frequently are directed toward each new wave of immigrants, and are manifested in criminal acts against individuals and groups because of their land of origin, religion, skin color, language, or other trait. Hate and bias also have long histories of producing crime targeting those who are perceived to be "different" or inferior from majority groups, such as people with disabilities or with certain sexual orientations.

What is relatively new about hate crime is not its occurrence, but its widespread recognition and codification into law over the past 30 years, and more recently, the implementation of measurement systems to monitor it. The term "hate crime" and its analog, "bias crime," first saw widespread use among criminal justice practitioners and researchers in the 1980s (e.g., Jenness & Grattet, 2001). As the concept crystalized and a consensus emerged about definitions and the need to treat hate or bias motivated offenses as distinct categories of crime, states began codifying them in hate crime statutes. Conceptual and legal definitions vary (e.g., Craig & Waldo, 1996; Perry, 2001; Copeland & Wolfe, 1991), but a working definition suitable for our purposes is that used by the FBI (1999):

A hate crime, also known as a bias crime, is a criminal offense committed against a person, property, or society which is motivated, in whole or in part, by the offender's bias against a race, religion, disability, sexual orientation, or ethnicity/national origin.

Research explicitly addressing hate crime has grown from the occasional piece in the 1980s (e.g., Finn and McNeil, 1988; Jenness, & Grattet, 2001; Southern Poverty Law Center, 1989) to a steady flow over the subsequent 20 years (e.g., Bell, 2002; Eitle & Taylor, 2008; Dharmapala, 2004; McDevitt et al., 2003; Perry, 2002; Shively et al., 2001). There is a large body of research on the prevalence, incidence, and consequences of hate crime (see reviews e.g., Berk et al., 2003; Herek et al., 1999; Levin & McDevitt, 2002; McPhail, 2002; Southern Poverty Law Center (1989). Perry, 2001, 2002; Shively et al., 2005; Shively & Mulford, 2007), which has produced the general conclusions that: (a) hate crimes are more prevalent than is suggested by reported crime data; (b) many victims do not report hate crime to law enforcement; and (c) compared to the analogous conventional offenses, hate crimes have more serious negative consequences for victims.

Forty-five states and the District of Columbia have enacted some form of hate crime legislation to address hate or bias motivated crime (Anti-Defamation League, 2012). Each state defines different penalties for crimes depending on the victim's particular status. While the majority of states offer penalty enhancement for crimes motivated by race, religion, and ethnicity along with several other categories of victims, none of the states include coverage for crimes directed at immigrants or those perceived to be immigrants.

The operationalization of hate crime varies widely across studies, and across jurisdictions' criminal codes. State hate crime statutes differ in terms of: (a) the specific traits legally defined as targets of hate crime motivation; (b) whether and how they address criminal penalties and civil remedies; (c) the range of crimes covered; (d) whether the statutes require data collection, and for what crime types, and (e) whether training about hate crime is required for law enforcement personnel.

Prior to 1991, there were no "official" national hate crime data in the United States from which to form a picture of the size and shape of the problem, nor to observe trends. The federal Hate Crime Statistics Act (HCSA) was passed in 1990. It required the U.S. Attorney General to collect data on "crimes that manifest evidence of prejudice based on race, religion sexual orientation or ethnicity" (U.S. Department of Justice, 1997). Prior to the passage of the HCSA in 1990, there were no "official" national hate crime data from which to form a picture of the size and shape of the problem, nor to observe trends. The Attorney General tasked the Federal Bureau of Investigation with collecting and reporting hate crime data as part of the Uniform Crime Reporting program (UCR). Collection of hate crime data through the UCR began in 1991.

In 1995, the National Incident Based Reporting System (NIBRS) added bias as a motivating factor for crimes. Due to the limited number of jurisdictions participating in NIBRS only a small number of hate crimes were reported to the FBI through NIBRS. In 1995 for example only 2 percent of the total hate crimes were reported through NIBRS. That number has grown over the years but remains a small proportion of all hate crimes. In 2002 less than 20 % of all hate crimes were reported through NIBRS. (Nolan 2010).

Following concerns from civil rights groups and policymakers, the FBI recently announced that they would be formally tracking hate crimes against Sikhs, Hindus, and Arabs, along with other religious groups starting in 2015. Although this is a response to an increase in attacks against persons who may be viewed as members of a terrorist group, especially after the September 11 terrorist attacks, there are still concerns about offenses against other members of vulnerable groups such as immigrants in general and Hispanic-Americans (ADL 2012). As a result of growing animosity in many communities over immigration policy, recent news accounts and reports suggest an increase in the victimization of immigrants or those perceived to be immigrants (Londoño and Vargas 2007; Southern Poverty Law Center 2009). While the FBI collects data on hate crimes against Hispanics, it does not include crimes motivated by hate against individual's immigration status in their hate crime reports.

More recently, federal legislation has been enacted. The Matthew Shepard and James Byrd, Jr. Hate Crimes Prevention Act (HCPA) was enacted in 2009 as a response to a gap in federal enforcement authority. HCPA encourages partnerships between state and federal law enforcement officials to more effectively address hate violence and, in cases where local authorities are unwilling or unable to act, it provides expanded authority for federal hate crime investigations and prosecutions. In addition, the HCPA complements the Hate Crimes Statistics Act of 1990 (HCSA), which mandates the collection and reporting of hate crime data, by including data on crimes directed against individuals because of their gender or gender identity and hate crimes committed by or against juveniles.

Despite significant efforts to institutionalize and improve federal hate crime reporting, numerous gaps remain. While the HCSA mandated that the federal government collect data on hate crimes, it did not require state or local law enforcement agencies to participate in the data reporting program. By the end of the 1990s, up to half of local law enforcement jurisdictions were still noncompliant with the

Act (McDevitt et al., 2003; Nolan, & Akiyama, 1999; Nolan, McDevitt, Cronin & Farrell, 2004). The FBI, which coordinates the collection of hate crime data from federal, state, and local law enforcement agencies, continues to find gaps and inconsistencies in the reporting from agencies when comparing hate crimes across states and other data sets (Shively, 2005). While a majority of police agencies participate in the hate crime reporting program, many simply indicate that no hate crimes occurred, even in cases where there is strong evidence that bias motivated crimes have occurred (McDevitt et al., 2000). As of 2011, 14,575 law enforcement agencies provided hate crime data with only 1,944, or 13.3 percent, of those agencies reporting hate crimes in their jurisdictions. With a majority of the agencies reporting no hate crime incidents to the FBI, the hate crime reports largely underestimate the actual number of incidents involving hate crimes (Levin and Nolan, 2011; McDevitt et al., 2003; Shively, 2005). In the FBI data for 2008, for example, Massachusetts reported 333 hate crimes, while Georgia and Mississippi combined reported just 13. This disparity is remarkable given that the combined population of Georgia and Mississippi is nearly twice that of Massachusetts (12.9 million and 6.6 million, respectively), and suggests that the number of hate crimes known to police is a function of factors in addition to true incidence.

There are numerous barriers that law enforcement agencies face in successfully reporting hate crime incidents. Primary among them is the challenge of recognizing that an incident was motivated by bias (Bell, 2002). Research suggests numerous definitional ambiguities in what behavior constituted hate crimes generally and bias motivation more specifically (Bell, 2002; Boyd et al., 1996; Garofalo & Martin, 1993; Martin, 1995; McVeigh et al., 2003; Nolan et al., 2004). Examining the magnitude of error in hate crime reporting, Haas et al. (2011) found that classification errors undermined the accuracy of hate crime statistics in West Virginia. Additionally, police organizations commonly do not have the necessary structures, resources or culture to support officers who work in highly discretionary environments to successfully identify bias motivation among the criminal incidents to which they respond (Balboni & McDevitt, 2001, Bell, 2002; McDevitt et al., 2003). As a result, the hate crime incidents that are reported by law enforcement agencies tend to be incidents that rise to the level of a criminal offense and are most easily recognized as bias-motivated crimes. These incidents commonly include victims who are most vocal about the elements of bias they believe caused their groups' victimization. Unfortunately, some of the most likely victims of hate crimes are also considered to be the least likely to report these crimes to the police (Anti-Defamation League, 2012). In addition to the challenges of identification, research suggests that police face significant barriers investigating hate crime to confirm bias motivation and are disadvantaged by data entry and reporting systems that may undermine the quality of hate crime data reported to the FBI (McDevitt et al., 2003).

Variation in the data from the police about hate crime incidents is likely a function of both the organizational readiness of police agencies to prepare their officers to identify and report such crimes (Jenness & Grattet, 2005) and the support of the community that works to externally control policing. Local disagreement and political controversy surrounding both the enactment and enforcement of hate crime laws complicates hate crime reporting (Nolan & Akiyama, 1999, 2002). Research suggests that community activist organizations can play an important role in promoting or impeding the local police to successfully identify hate crimes (McVeigh et al., 2003).

Crime victimization surveys provide useful alternatives to law enforcement data. Although surveys have problems of their own as sources of crime data (e.g., respondent recollection of events and their willingness to disclose them), they avoid the problems of dependence upon public willingness to report to the police and are not highly dependent upon statutory definitions of hate crime or law enforcement investigations, training, and record keeping.

Among the significant barriers to determining the prevalence of hate crime and trends over time has been the absence, until recently, of surveys using representative sampling on a national level in a longitudinal or repeated cross-sectional design. Fortunately, this situation has been remedied. In 2001, the NCVS began asking respondents who have been the victims of vandalism and various interpersonal crimes whether they believe that hate was a factor in the offenses committed against them. This survey involves random sampling of thousands of households in a rotating panel design. In developing an understanding of other types of crime the NCVS (particularly in combination with the UCR) has been invaluable, e.g. in helping to determine the prevalence, offense profiles, trends, and other important dimensions of crime. This has proved to be particularly true in crime types known or expected to be severely underreported to police, with sexual assault being a prominent example.

Starting in 2003, the NCVS began collecting information on crimes motivated by hate or bias. The survey is conducted using a random sampling of households and is limited to household members over the age of 12. Using the same definition used by the FBI's hate crime data collection, the NCVS measures crimes perceived to be motivated by an offender's bias against the respondent for belonging to (or being associated with) a group identified by specified characteristics. While the survey includes both legal and illegal immigrants who reside in sampled households, it does not request any information about their citizenship status. A number of potential problems could arise from asking household members their immigration status in the survey, including the possibility that individuals, both immigrant and non-immigrant, would be less inclined to participate in the survey (Addington, 2008).

Aside from UCR data (and the related NIBRS data) and independent, localized victimization surveys, evidence of the prevalence and character of hate crime has primarily been anecdotal (e.g., ADL, 2004; Human Rights Campaign, 2003; National Coalition of Anti-Violence Programs, 2006) or through localized surveys (e.g., Barnes & Ephross, 1994; Ehrlich, 1994; Herek et al., 2002; Shively et al., 2001). Independent studies have attempted to measure the prevalence of hate crime for selected types of victims (e.g., for gays and lesbians, or among high school students), their estimates have varied widely depending on sampling and how hate crime was operationally defined (e.g., Herek et al., 1997; McDevitt et al., 2002; Schulthess, 1992; Shively et al., 2001), and there have been no true replications to validate results.

As a result of the limitations in the national data collection efforts on hate crimes, it is difficult to estimate the extent to which hate crimes motivated by bias against immigrants occur. The only evidence of a rise in hate crimes against immigrants has been suggested by reports measuring anti-immigrant sentiment. For example, the National Hispanic Media Coalition commissioned three separate studies to determine the prevalence of hate speech as depicted in the media and its influence on the opinion of non-Latinos about Latinos and immigrants (Barreto et al. 2012; Noriega & Iribarren 2011; Norriega et al. 2012). The findings from the studies suggest that news and entertainment media heavily influence how non-Latinos view Latinos and immigrants. Therefore, negative portrayals of

Latinos and immigrants, which were found to be pervasive in news and entertainment media over the course of the survey, influenced the public opinion of non-Latinos even in cases when the public held more favorable opinions. Similarly, civil rights organizations such as the Leadership Conference on Civil Rights Education Fund (LCCREF) and Southern Poverty Law Center (SPLC) have reported on a link between anti-immigrant rhetoric and hate crimes against Hispanics and others perceived to be immigrants caused by a sense of fear as portrayed in the media (Leadership Conference on Civil Rights Education Fund 2009; Southern Poverty Law Center 2009).

As newcomers to the United States, immigrants face a number challenges in assimilating into a new country (Massey & Sanchez, 2010). Cultural and language differences are pervasive among immigrants in their interaction with others. Many newcomers arrive from countries where there is significant distrust of the police and they often do not understand the role of police in U.S. communities (Davis & Erez, 1998; Menjivar and Bejarano, 2004). Additionally, many immigrants come from cultural contexts that do not recognize hate crimes as criminal offenses. In addition to cultural and language barriers, fears of deportation make immigrants less likely to report crimes to any law enforcement official. Despite these barriers, there is mixed empirical evidence about whether or not immigrants are less likely to report criminal victimization than their U.S. born counterparts. Davis & Henderson (2003) suggest that immigrants are more likely to report crimes to the police when they live in communities with substantial cultural and political capital, compared to those who live in more disenfranchised communities.

Other studies suggest that immigrants and Hispanic Americans may be at increased risk for victimization. Some communities hold negative opinions of immigrants and Hispanic Americans based on the recent growth of the immigrant population and attention paid to the immigration policy reform in the media (Hopkins 2010; Southern Poverty Law Center 2009). Such evidence of negative opinions suggests an increased risk of victimization of immigrants, but may also decrease the reporting of crimes by immigrants, especially in any government-sponsored study.

Research on anti-immigrant attitudes and crime outside of the United States, such as Canada and the United Kingdom, is more common, with many countries turning their attention to the increasing violence against immigrants (e.g., Boomgaarden et al. 2007; Ceobanu & Escandell 2008; McLaren 2003; Pehrson et al. 2009; Quillian 1995; Schneider 2008; Stephan et al. 2005; Van der Brug 2003). As a global phenomenon, the migration of newcomers to countries has led to similar policy changes as in the United States that promote either diversity or solidarity in the face of widespread hostility (McLaren & Johnson 2007). This hostility against immigrants has been linked to factors such as economic deprivation, lack of contact with immigrants, perceived threat, and political conservatism in cross-country comparisons across Europe (Pehrson et al. 2009). Although some countries have taken different approaches in their responses to violence against immigrants (Bleach, 2007), countries participating in the Organization for Security and Co-operation in Europe (OSCE) have begun collecting data on hate crimes. This collection is required by the OSCE Ministerial Council in 2009 in order to identify, report, and raise awareness of hate crimes (OSCE 2013). The data collection from participating countries includes several bias categories, including crimes

targeting ethnicity, national origin, minority group status, and citizenship.³ Although the reporting to OSCE continues to suffer from inadequate or unreliable data, there have been many recent improvements by participating countries in the data collection and identification of hate crimes.

While several major data streams have been developed in the United States, they have not been thoroughly assessed for their ability to support trend analysis. Recognizing the need for such an assessment, the present study was initiated through a Congressional directive and is designed to address this gap in research and provide important substantive knowledge to help inform future hate crime policy, procedure, and research. In 2009, NIJ was directed by Congress through a House Appropriations Bill to "evaluate trends in hate crimes against new immigrants, individuals who are perceived to be immigrants, and Hispanic-Americans, and to assess the underlying causes behind any increase in hate crimes against such groups" (United State House of Representatives, 2009: House Report 111-366). Before the causes of any observed change in hate crime levels can be assessed, it must first be determined that extant retrospective data are of sufficient quality and statistical power to determine the presence of a trend in anti-Hispanic or anti-immigrant hate crime, or all hate crimes. Thus, the first order of business in pursuing the stated research objectives was assessing whether statistically significant trends in hate crimes exist in the U.S., with a particular focus on those directed toward immigrants and Hispanic Americans.

To address these and other important questions, Abt Associates and Northeastern University, in collaboration with and supported by NIJ, have conducted a three-year study designed to examine whether data collection programs have produced data whose quality and coverage are sufficient to detect significant trends in hate crimes—particularly those targeting people of Hispanic descent and immigrants. Related objectives of the project are to determine whether national or state-level crime data are capable of supporting basic research on the causes and consequences of hate crime and rigorous evaluations of initiatives designed to prevent or respond to hate crime.

³ For more information on participating countries, see Organization for Security and Co-operation in Europe, 2013. Annual Report for 2012. (<http://www.osce.org>).

3. Research Objectives and Design

The design of the study conducted to answer the research questions discussed above featured (a) examination of each of the major national time-series datasets (e.g., UCR, NIBRS, NCVS); (b) seeking additional data sources that could be used to corroborate or supplement the national data collections; (c) analysis of each database, examining whether trends can be modeled and tested to determine statistical significance; (d) gathering qualitative input from expert researchers and practitioners regarding study findings and recommendations.

The scope of work originally defined by NIJ divided the study into two phases.

- **Phase I:** The first phase of the study focused on gathering and analyzing secondary data sets including UCR, NCVS, NIBRS, as well as state-level databases. A key objective of this phase of the project was assessing whether significant trends in hate crimes against immigrants, Hispanic-American and other protected groups could be identified at the national level, and then whether statistical power and data quality were sufficient to assess trends at the state level. Among the tasks performed was selecting four states for more intensive study in the second phase of the project; this “four state” portion of the study was eliminated, for reasons discussed below.
- **Phase II:** This stage was initially designed to focus on largely qualitative research conducted in four states selected in Phase I. It featured a survey of police departments, focus groups with law enforcement personnel and NGOs addressing hate crime, and interviews with expert law enforcement practitioners, trainers, and researchers. The objective of Phase II was to gather information allowing valid interpretation of the secondary data regarding trends in hate and bias crime directed toward Hispanic-Americans and those perceived to be immigrants.

The original design outlined in the Scope of Work called for the results of the Phase I and II tasks to be aggregated to produce a comprehensive understanding of trends. However, Phase I findings about the limitations of secondary data sources available to study hate crime trends (particularly at the state level) led to a redesign of Phase II.

- **Redesigned Phase II:** The new design replaced the surveys, focus groups, and stakeholder interviews in four select states with a series of expert panels and workgroups with a more national scope. An Advisory Committee was formed, and was comprised of national experts on hate crime. A series of Expert Panels was conducted with experts approaching the problem from strategically important professional vantage points, including law enforcement, legal and victim advocacy, policymakers, health care providers and methodologists. In an effort to both understand current data and aid in the development of more reliable data collection systems, advisory committee and expert panels collectively helped the research team identify the challenges in measuring hate crimes against immigrants and Hispanic Americans, understand the dynamics of hate crimes against these populations, and how these dynamics impact officially reported data on hate crime victimization.

3.1 Identifying and Reviewing Key Hate Crime Data Time-Series Collections

The process that led us to focus on two key data sources - the national UCR data and an annual survey in California - involved identifying and examining numerous sources of secondary data as candidates for conducting hate crime trend modeling and significance testing. Pursuit of this task featured extensive literature reviews and web searches, consultation with key hate crime experts, input from our Advisory Panel and a set of discussions with expert practitioners and researchers, and consultation with officials with Federal and State agencies that conduct data collection programs or use the data that are produced by such collections (e.g. Bureau of Justice Statistics, National Institute of Justice).

Our first key task was acquiring the major federal sources of time-series data (the UCR, NIBRS, and NCVS data) and assessing their ability to answer the research questions posed by Congress and NIJ. Descriptions of these data sources and our assessments are presented in Chapter 5 of this report. A brief summary of our findings and conclusions about the strength and weaknesses of these data for analyzing trends is presented below in Table 3-1. In short, we found limitations or inherent features of the NIBRS and the NCVS data to undermine their utility for time-series research, particularly if attempting to pursue crimes against immigrants or Hispanic-Americans, or state-level trends. The UCR hate crime data were the most promising of the major national collections, with the most complete coverage of the U.S. and reasonable levels of statistical power.

We also searched for additional datasets that might be useful in pursuing our research objectives. In addition to state-level data from police agencies, we searched for annual or periodic surveys at both state and national levels. We found several time-series surveys that addressed hate crime or analogous incidents, such as bias-motivated bullying, harassment, hate speech, and graffiti. For example, we examined three national time-series collections that each measure bias-motivated incidents occurring in school environments: (a) the School Crime Supplement to the NCVS (SCS); (b) the surveys constituting the Youth Risk Behavior Surveillance System (YRBSS); and (c) the School Survey On Crime and Safety (SSOCS). These datasets were ruled out for our study of national- and state-level analyses of trends, due to timeframes of insufficient duration, insufficient sample sizes, and/or measurement limitations. We determined that the CHKS data from an annual school survey administered throughout the state of California was sufficiently robust in terms of annual sample sizes, time-series duration, and measurement to use them for trend modeling and significance testing. Details about the CHKS dataset, analysis, and findings are presented in Chapter 5, and our assessment of their strengths and limitations are briefly summarized in Table 3-1.

In addition, we searched for additional data streams at state-, local-, or national-levels of aggregation. For example, several states provide hate crime reports and law enforcement datasets that we examined to determine whether they provided data superior to - or distinct from - the UCR data for those states. We found that such sources (e.g., data posted by the California Attorney General's Office) provided data very similar to those forwarded to the FBI for the UCR program.

The analysis of trends in hate crimes presented in this report primarily used national data sets. The national analysis used data from the Uniform Crime Reports Hate Crime Data (UCRHD), UCR Arrests, National Incident Based Reporting System (NIBRS), and the National Crime Victimization Survey (NCVS). This section describes the specific datasets used and the procedure used to convert them into analytic data files.

Table 3-1 Summary of Assessment of Hate Crime Time-Series Data

Source	Type of Data	Key Observations About Database Utility for Specified Trend Analyses
Uniform Crime Reports (UCR)	National crime reported to police, arrests; hate crime added in 1991	<p>Strengths</p> <ul style="list-style-type: none"> • Probably the best data source for examining national trends in hate crimes generally, and those directed toward Hispanics. • Statistical significance in trends detectable at national level for all hate crimes, marginal for subpopulations, such as Hispanics. • Data collection methods produce data allowing for state-level analysis. <p>Limitations*</p> <ul style="list-style-type: none"> • Statistical significance of robust trends detectable in only two states (CA, TX). • Statistical significance of trends not detectable for anti-Hispanic hate crime • Does not measure immigrant status.
National Incident Based Reporting System (NIBRS)	National incident-based police data, hate crime added in 2001	<p>Strengths</p> <ul style="list-style-type: none"> • Provides rich detail of crime incidents. • Supports cross-sectional analysis of incidents in subset of reporting states. <p>Limitations</p> <ul style="list-style-type: none"> • Incomplete reporting reduces number of incidents and thus statistical power, limiting significance testing of hate crime trends. • Does not measure immigrant status.
National Crime Victimization Survey (NCVS)	National survey, annual hate crime data since 2003	<p>Strengths</p> <ul style="list-style-type: none"> • Sampling and standard weighting provided by BJS designed to provide national estimates. • State level estimates may be derived with state-level weighting, provided there are sufficient numbers of cases. <p>Limitations</p> <ul style="list-style-type: none"> • Small numbers of raw incidents (e.g., 64 to 101, 2003-2008) can support weighted national estimates for all hate crime types, but not when disaggregated to state level or by hate crime types (e.g., anti-Hispanic). • Does not measure immigrant status.

RESEARCH OBJECTIVES AND DESIGN

Source	Type of Data	Key Observations About Database Utility for Specified Trend Analyses
School Crime Supplement to NCVS (SCS)	National survey of students, semi-annual hate-related measures since 1999	<p>Strengths</p> <ul style="list-style-type: none"> Measures being subjected to hate speech and witnessing hateful graffiti at school, plus respondent ethnicity, so potentially useful for tracking hate speech experienced by Hispanics. <p>Limitations</p> <ul style="list-style-type: none"> Does not measure the motivation for hate speech, so does not allow determinations of which respondent trait was target of incident. Does not allow determinations of Anti-Hispanic bias motivation. Does not measure immigrant status.
Youth Risk Behavior Survey (YRBS)	National survey of students, semi-annual	<p>Strengths</p> <ul style="list-style-type: none"> Contains survey measures of bullying and respondent ethnicity, so could be used to track bullying experienced by Hispanics. <p>Limitations</p> <ul style="list-style-type: none"> Does not measure the content or motivation for bullying, so does not allow determinations of bias motivation type. Does not measure immigrant status.
School Survey On Crime and Safety (SSOCS)	National survey of school principals, first administered in 1999, annual since 2003	<p>Strengths</p> <ul style="list-style-type: none"> Current instrument asks principals to report the number of hate crimes and gang-related hate crimes occurring at their schools. <p>Limitations</p> <ul style="list-style-type: none"> Designed to provide national estimates, not state estimates. Changes in survey measures of hate crime (both question specification and response categories) in 2003 and 2005 impair time series analyses. Does not allow measurement of anti-Hispanic hate crime, or specification of any other targets or motivations. Does not measure immigrant status.
California Healthy Kids Survey (CHKS)	California survey of students, annual since 2001	<p>Strengths</p> <ul style="list-style-type: none"> Clear survey items asking respondents to report the perceived reasons for being targeted for hate-motivated bullying or harassment, including ethnicity. Large samples provide statistical power supporting trend modeling and statistical testing. Contains the only proxy measure of immigrant status (respondent participation in the Migrant Education Program - MEP) found among time series databases measuring hate crime. Evidence supports high correlation between MEP and immigrant status.

RESEARCH OBJECTIVES AND DESIGN

Source	Type of Data	Key Observations About Database Utility for Specified Trend Analyses
		<p><u>Limitations</u></p> <ul style="list-style-type: none">• Measures bias-motivated bullying and harassment, not hate crimes per se.• Measures respondent inclusion in MEP, and not immigrant status per se.• Administered in California only.

* By limitations, we mean impediments to achieving the current project's key objectives of identifying significant trends, particularly for crimes targeting Hispanics and immigrants, and supporting state-level trend analyses. Datasets of limited value for identifying and testing trends may be excellent for other purposes, such as cross-sectional studies or cross-group comparison.

4. Assessment and Analysis of Secondary Data

The Federal Bureau of Investigation collects information on crimes from cities, universities, states, tribal and Federal law enforcement agencies for the UCR program. Agencies report to the UCR system on a voluntary basis. The data do not represent the universe of crimes committed in the United States, but capture only crime reported to (or discovered by) police. Additionally, the FBI performs supplementary data collection efforts on Hate Crime Data, Homicide, and Property Stolen and Recovered. These data are again not comprehensive, but their depth and breadth make them the most detailed records of crime in the United States. This chapter discusses the appropriate data sets from the UCR data collection, the approaches used to prepare the data for analysis, and the approaches used to analyze the data.

4.1 Uniform Crime Reports

The Federal Bureau of Investigation collects information on crimes from cities, universities, states, tribal and Federal law enforcement agencies for the Uniform Crime Reports program. Agencies report to the Uniform Crime Reports system on a voluntary basis. The data are available at multiple units of data collection including offenses and arrests.

For this project we used the *Uniform Crime Reporting Program Data [United States]: Arrests by Age, Sex, and Race, Summarized Yearly* files for the years 2000 to 2011. These files report offenses by arrest at the agency level for each year. Each record in this file is a count for a particular type of offense (for example murders) handled by the agency and the columns are divided into age categories for each sex. These data were aggregated to the state level to produce a data file with one record per state for each year. The multiple one-year files were combined to produce one file that reported the number of arrests in each state in each year. We excluded non-state territories including Puerto Rico, Guam, and the US Virgin Islands.

The Uniform Crime Reports Hate Crime Data Files (UCRHCD) are distinct from the main Uniform Crime Report File. This UCRHD data collection was authorized by the Hate Crime Statistics Act of 1990. The Act specifically required collection of data “about crimes that manifest evidence of prejudice based on race, religion, sexual orientation, or ethnicity.” This data collection effort is an adjunct effort to incident-based reporting of crimes, and information about bias motivation is collected on crimes that are classified as hate crimes. For a crime to be classified as a hate crime for the purposes of the UCRHD, it must involve a motivation involving at least one of the categories defined in the Hate Crime Statistics Act: hatred or bias directed toward race, religion, sexual orientation, or ethnicity.

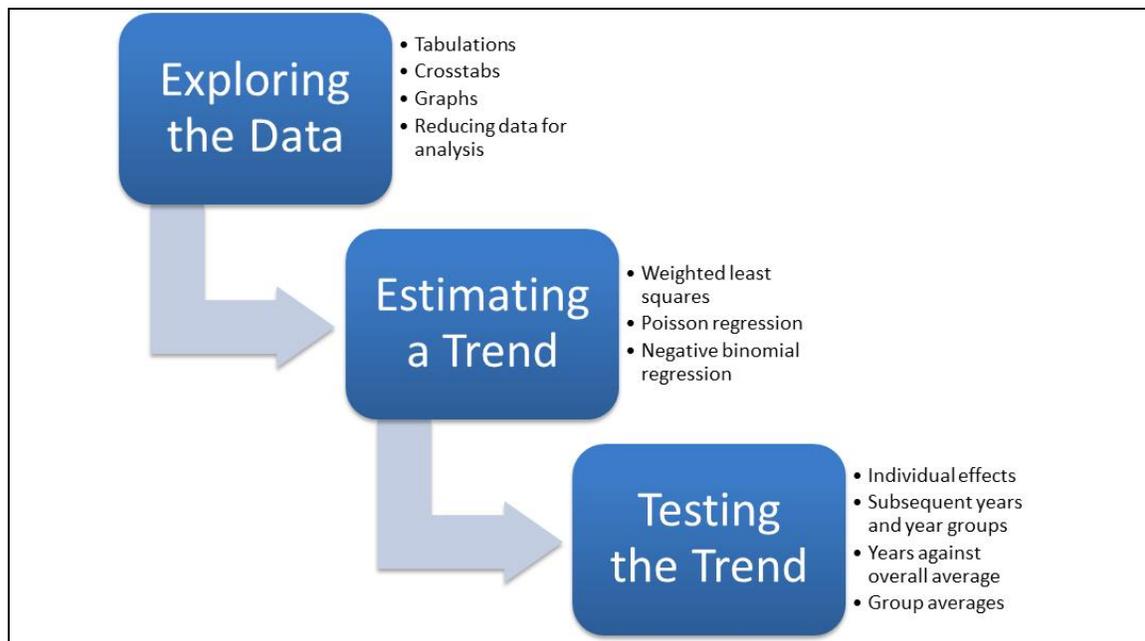
Incidents in UCR are included in UCRHCD if the presence of a bias motivation is determined by an investigation. The *Training Guide for Hate Crime Data Collection* suggests a two-tiered process for identifying bias motivation and classifying the incident as a hate crime. The process requires the initial law enforcement officer or “Responding Officer” to identify the evidence for sources of bias, and refer it to a second law enforcement officer. The second officer or Second Level Judgment Officer/Unit is a specialist trained in bias motivation and hate crimes. The second officer or (in larger agencies) a unit of specialists makes a judgment on whether the incident constitutes a hate crime. The bias motivation for an incident can be identified (a) at the time of the incident; or (b) in a later investigation that can classify crimes that had not previously been classified as hate crimes. Crimes

that were originally classified as hate crimes can be reclassified as other types of crime. The bias-motivation component of an incident is included with the crime information in the UCRHCD.

The UCRHCD file contains incident-level records of hate crimes reported by participating agencies. Each record contains information about the incident, including type of crime, offender information, victim information, and bias motivation. For the analysis we aggregated the number of hate crimes by state, and year for the period 2000 to 2011. Separate datasets were created for All Hate Crimes, Anti Hispanic Hate Crimes, and all Anti Ethnic Hate Crimes.

We used the UCR data to examine trends in hate crimes nationally because this dataset has the largest number of incidents reported and the largest number of anti-ethnic and anti-Hispanic incidents. We used both overall crime data reported to the UCR and Hate Crime Data for this analysis. The Hate Crime dataset contains the data used to identify the number of hate crimes in a year in a state. The overall UCR data were used to identify the number of reported arrests in a year in a state and this was used as a control variable in some of our analytic models. The overall crime data include files that provide the number of crimes at a reporting unit level by offenses and clearances by arrest and breakdowns by age, race, and sex. We merged the data from these two databases for analysis. Figure 4-1 summarizes the methodology used for analyzing the UCR data.

Figure 4-1 Overview of Methodology for UCR Data Analysis



The UCR hate crime datasets also contain incident-level records of hate crimes reported by participating agencies. Each record contains information about the incident including type of crime, offender information, victim information, and bias motivation. Table 4-1 lists the 21 types of hate crimes classified in the UCRHCD.

Table 4-1 Hate Crime Classification in UCR Hate Crime Data

Anti-White	Anti-Protestant	Anti-Male Homosexual
Anti-Black	Anti-Islamic	Anti-Female Homosexual
Anti-American Indian	Anti-Other Religion	Anti-Homosexual (both)
Anti-Asian	Anti-Multi-Religious	Anti-Heterosexual
Anti-Multi-Racial	Anti-Atheism/Agnosticism	Anti-Bisexual
Anti-Jewish	Anti-Hispanic	Anti-Physical Disability
Anti-Catholic	Anti-Other ethnicity	Anti-Mental Disability

The objective of our analysis is to determine whether there are trends in hate crimes and specifically trends in hate crimes against Immigrants and Hispanic-Americans. The UCRHCD data as shown in Table 4-1 allow us to identify hate crimes against Hispanic-Americans, but does not allow us to identify crimes against the more general category of “immigrants.” This is a limitation of the UCR data, but this program still produces the best and most comprehensive dataset on hate crimes in the U.S. Therefore, we use this program’s data to identify trends in all hate crime and crimes targeting Hispanics.

Identifying trends implies determining whether there has been an increase or decrease in the number of hate crimes over time, and if these increases or decreases are limited to particular years. We aggregated the number of hate crimes by state and year for the period 1996 to 2011. Knowing that the UCR reporting program took several years to be implemented in a systematic manner and to achieve adequate national coverage, we chose to start the analytic time series in 1996. The data were aggregated at the state level because of heterogeneity in state hate crime statutes, population demographics, criminal justice infrastructure and record-keeping systems, and overall crime levels and trends.

We created separate datasets for “All Hate Crimes” and “Anti Hispanic Hate Crimes.” The former dataset simply included the number of incidents in a state in a year. For the latter dataset we selected the anti-Hispanic incidents alone.⁴ This resulted in a dataset of 663 records—one record for every state and the District of Columbia for 16 years from 1996 to 2011. We have one indicator variable for each state (51 in total) coded “1” for records containing the number of hate crimes for a particular state in a particular year, and “0” otherwise. Similarly, we have 16 indicator variables for the years from 1996 to 2011.

We used the same procedure to create a dataset of hate crimes occurring in each of the separate states analyzed. Analyses covered data within each state, since states are internally heterogeneous in terms of population demographics, nature of crime, geography, and other dimensions. To account for this heterogeneity we controlled for counties within states. This is similar to accounting for state-level heterogeneity by accounting for states within the country.

⁴ Appendix 1 describes the approach to selecting only the anti-Hispanic hate crimes.

For all states, counties were the best available approximation of heterogeneity, but this approach posed a problem in Texas. In this states, there are numerous counties with zero reported hate crimes over the fifteen year period. Nearly 80% of the 256 Texas counties report zero total hate crimes across all 15 years. We can hypothesize multiple explanations for this including the distribution of population groups within the counties and the location and distribution of population centers throughout the state. As a result, these counties have a virtual zero probability of reporting hate crimes. To account for this concern, we excluded these counties that reported zero hate crimes over the 15 year observation period.

4.1.1 Uniform Crime Reports by Age, Sex, and Race

We used the “Uniform Crime Reporting Program Data [United States]: Arrests by Age, Sex, and Race” dataset to identify the number of arrests in a state in a particular year. The number of arrests in a state is used as an indicator of the degree of police activity in a state. To produce the aggregated value we simply added up the number of reported arrests for each state for adults. We did not separate juvenile arrests because doing so would require us to separate the analysis into adults and juveniles and we are unable to do this using the UCR Hate Crime data. The UCRHCD does not include age information at the incident level for either offender or victim. Thus, we treat both juveniles and adults as equivalent groups in the arrest data, because we did not have comparable data in the UCRHCD data. This inclusion of juveniles is also appropriate on substantive grounds: the literature on hate crime and other forms of bias motivated incivility and violence finds juveniles and young adults as high-risk groups to both offend and to be victimized (e.g., Finkelhor et al., 2009).

There are several concerns with using arrest as an indicator of police activity. Among them is that arrest may reflect victim reporting to police, and police reporting of incident data, in addition to reflecting police activity levels. Moreover, both enforcement activity and police reporting of that activity can be disconnected from the local levels of hate crime. For example, it is known that some hate crimes are never reported to police, that some police departments are poorly equipped to identify and investigate potential or alleged hate crimes brought to their attention, and that police departments vary greatly in their ability to comply with data reporting program standards (or to report at all).

The UCRHCD data file did not have records for the following states (and the District of Columbia) in the listed years:

- Washington D.C. (1996, 1997, 1998, 2000)
- Florida (1996 - 2008)
- Kansas (1996, 1997, 1998, 1999)
- Montana (1996)
- Vermont (1996, 1997)
- Wisconsin (1998, 1999, 2000)

We dealt with the missing states by performing our analysis in two stages: first, we excluded all the above states and second, we analyzed the data only excluding the states in the years for which we did not have data. There were no significant differences between the trends estimated with and without the states that had missing years. We merged the UCR data by Age, Sex, and Race and the UCR Hate Crime data to produce one analytic dataset.

4.1.2 UCR Data Analysis

Data Exploration

Figure 4-1 demonstrates our approach to the data quality assessments and trend analyses. We began by exploring the data using tables and graphs to look for any discernible patterns in the number of hate crimes in total and against Hispanic Americans. Table 4-2 shows the number of hate crimes by year in total and specifically against Hispanic-Americans. We identified the following issues after inspecting the table:

- There appears to be a significant increase in the total number of reported hate crimes in the year 2001 compared to previous years, and this increase does not appear to exist in subsequent years.
- The first two years of the time series, 1996-1997, had the most reported hate crimes of any two-year period, aside from the anomalous peak year of 2001 and either adjacent year.
- The total number of reported hate crimes appears to drop from the 2001 value to a considerably lower value of 7,163 in 2005, followed by a slight increase in 2006-2008, and a dramatic drop off from 2008 to 2009 - 2011.
- The number of reported anti-Hispanic hate crimes does not appear to exhibit the dramatic increase in 2001, but does show some increase.
- The number of anti-Hispanic hate crimes appears to increase from 2005 through 2008 compared to previous years, before decreasing through to 2011.

For obvious and widely discussed reasons, the 2001 increase in hate crimes may have been a reaction to the terrorist attacks of 9/11, and if so, one would expect the spike in hate crimes to be against individuals of the Islamic religion, Arab ethnicity, or perceived Arab ethnicity. To examine this we looked at the distribution of the number of hate crimes by type in 2000, 2001, 2002, and 2003. Table 4-3 presents this distribution, and shows an over 300% increase in the number of Anti-“Other” Ethnicity hate crimes and a 1600% increase in the number of Anti-Islamic hate crimes in 2001 compared to 2000. We presume the increase in Anti-Other Ethnicity hate crimes is mostly composed of individuals of either Arab ethnicity or perceived to be of Arab ethnicity. Years 2002 and 2003 have Anti-Islamic and Anti-Other Ethnicity hate crimes that are higher than 2000 levels but these are considerably lower than 2001. The subsequent years never again reach the 2001 levels.

ASSESSMENT AND ANALYSIS OF SECONDARY DATA

Table 4-2 Distribution of Hate Crimes, 1996-2011 UCR Data

Year	Total Hate Crimes	Anti-Hispanic
1996	8759	566
1997	8048	491
1998	7751	483
1999	7875	466
2000	8063	559
2001	9730	599
2002	7462	481
2003	7489	426
2004	7649	476
2005	7163	522
2006	7726	576
2007	7624	595
2008	7783	562
2009	6612	486
2010	6628	534
2011	6222	405

Table 4-3 Hate Crimes by Bias Motivation 2000-2003

Bias Motivation	2000	2001	2002	2003
Anti-White	877	895	719	830
Anti-Black	2887	2900	2487	2550
Anti-American Indian	58	80	62	77
Anti-Asian	281	280	217	231
Anti-Multi-Racial	240	218	158	159
Anti-Jewish	1110	1044	931	927
Anti-Catholic	56	38	53	76
Anti-Protestant	59	35	55	49
Anti-Islamic	28	481	155	150
Anti-Other Religion	172	181	198	109
Anti-Multi-Religious	44	46	31	24
Anti-Atheism/Agnosticism	4	5	3	9
Anti-Hispanic	557	597	481	426
Anti-Other ethnicity	354	1501	622	600
Anti-Male Homosexual	896	980	825	783

ASSESSMENT AND ANALYSIS OF SECONDARY DATA

Bias Motivation	2000	2001	2002	2003
Anti-Female Homosexual	179	205	172	187
Anti-Homosexual (both)	183	174	223	247
Anti-Heterosexual	22	18	10	14
Anti-Bisexual	20	17	15	8
Anti-Physical Disability	20	12	20	24
Anti-Mental Disability	16	23	25	9

Estimating and Testing the Trend

We use a statistical procedure to model and test the trends identified above and to look for additional trends in the data. We applied three different types of models: (a) Ordinary Least Squares models, (b) Poisson Regression models, and (c) Negative Binomial Regression models. Ordinary least squares models are commonly used in criminal justice research, but we found were not best suited for this analysis. The outcome variable is the number of hate crimes in a year in a state. This type of data is a discrete count and a greater part of the distribution is skewed towards zero. Poisson models also use an assumption that the asymptotic mean is equivalent to the variance. Negative-Binomial models are also used to model data that are count data, but do not have the equality of mean and variance assumption. This difference in assumption allows the Negative-Binomial model to account for over-dispersion. Over-dispersion implies the true or asymptotic variance is greater than the mean.

The models were specified using two primary structural approaches. First, we used a model that did not control for states, and a dataset with only 13 observations (one for each year). This dataset simply added the number of crimes per state to a single value for the country. The result is a model that assesses the change from one year to the next. Second, we used a model that controlled for states and years and included records for each state in each year. The two models were specified as follows:

$$HC_T = \alpha + \beta_1 Time_T + e_T$$

Where,

- HC_T is the number of hate crimes in year T.
- $Time_T$ is a trend variable for year; Time = 1 if year = 1996, Time = 2 if year = 1997, Time = 3 if year = 1998 and so forth.

A trend variable for time was used in this specification to save degrees of freedom because the dataset has only 13 observations. This parameter was statistically significant, but this does not provide much insight into differences between years supporting identification and understanding of trends.

The second model specification was as follows:

$$HC_{ij} = \alpha + \sum_i \tau_i T_i + \sum_j \delta_j S_j + \beta A_{ij} + e_{ij}$$

HC_{ij} is the number of crimes in year i and state j

T_i is a dummy variable for year i

S_j is a dummy variable for state j

A_{ij} is the number of arrests in year i in state j

$i = 0$ to 12 (0 is excluded for Year 2000 ; $T_1 = 1996$ and $T_8 = 2008$)

$j = 1$ to 50 (total 51 including District of Columbia we exclude Wyoming)

The equation specifications were estimated using (a) linear, (b) Poisson, and (c) Negative Binomial models. The Poisson and Negative Binomial models were used to supplement the linear regression models. The linear regression model has an underlying normality assumption that is not usually met by data based on counts of events (such as the number of crimes) because counts tend to be skewed towards the zero end of the distribution. We estimated the models by both controlling for and excluding the number of arrests in a state in a year to control for the degree of law enforcement activity in a state. Additionally, we controlled for the state heterogeneity by also adjusting the variance using the inverse of the number of arrests as a weight. For the Poisson and Negative Binomial models we also specified the natural log of the number of arrests as an offset in the models. An offset is a variable that enters the equation on the right hand side with the parameter constrained to 1. The offset was used in all Poisson and Negative Binomial models that used the state and year dataset. For the regression models we used weighted least squares using the inverse of the number of arrests as a weight. The different specifications of these models are presented in Appendix B.⁵

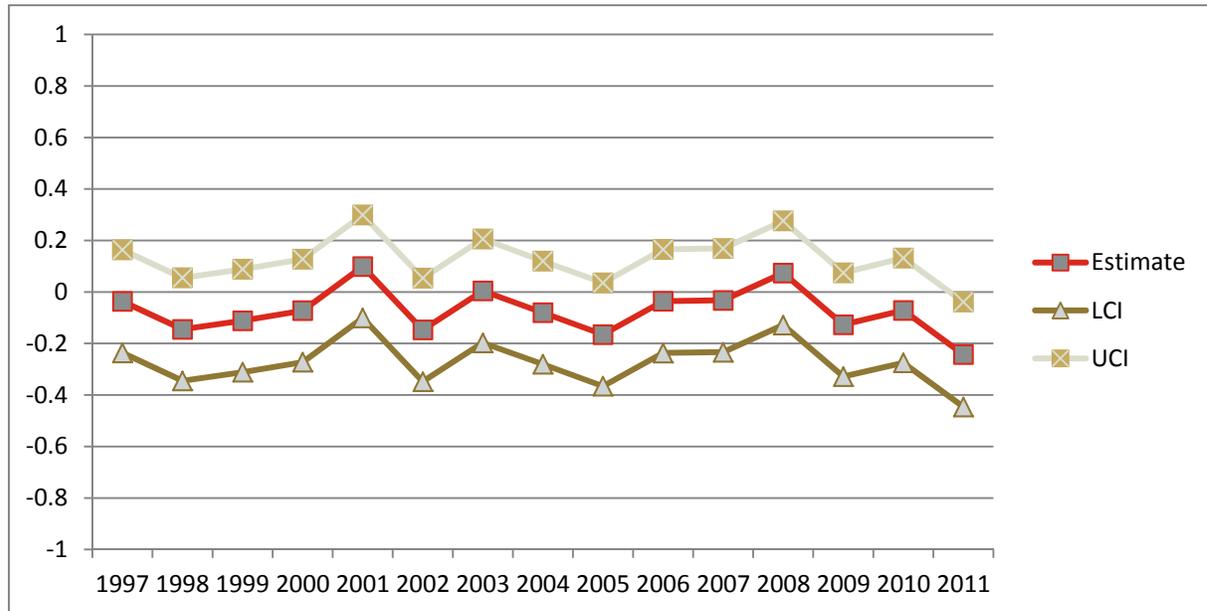
All of the above models were estimated twice: First, excluding the states with missing arrest information in all years, and second, only excluding them in the years when there was missing data. Ultimately, we estimated 90 separate models. Of these models, we determined that one of the Negative-Binomial models was best suited for this analysis. We arrived at this conclusion after using a formal likelihood ratio test to assess over-dispersion in the Poisson model.⁶ The final model used included dummy variables for years, dummy variables for states, and the number of arrests in a state in a year as a proxy for police activity. Table B-1 in Appendix B provides the results of this model for all hate crimes and Figure 4-2 visually illustrates the trend parameter estimates and confidence intervals. The figure shows some evidence of the increase observed in 2001 and of an increase

⁵ Results for all models tried are available on request and replication SAS code and data are also available on request.

⁶ For a detailed discussion of this likelihood ratio test see Cameron and Trivedi (1998), p.77-78.

culminating in 2008, followed by a decrease in 2011. The estimated effects, however, have large confidence intervals indicating uncertainty in the estimate. The table does not show statistically significant differences for the parameter for any year, but to analyze trends we need to test the year effect parameters over time and jointly as a trend.

Figure 4-2 Estimated Trend for All Hate Crimes using Negative Binomial Model (1997-2011)



We conducted a wide variety of statistical tests to examine trends. Directly examining statistical significance of parameter effects for the year dummy parameters is not insightful, as they only indicate the nature and degree of change from the comparison year. The general question of finding significant trends in this time series must be pursued as a set of questions in which different timeframes and reference points are used. For example, any year can be compared to the following year, or any set of years can be compared to a reference point either before or after the set of years examined. We performed statistical tests on each of the model specifications that included year dummies, to try to identify and assess the impact of various differences and linear combinations of differences in the time effects. We used the following combinations:

- Tests that compare differences in hate crimes in subsequent years.
- Joint tests of all years and subsets of years.
- Compared initial versus final, initial versus middle, and middle versus final years to look for statistical differences.
- Test years against the average of subsequent years to look for shifts at specific years.
- Finally, we test the effect for each year against the average of all other years to see if there is a statistical difference.

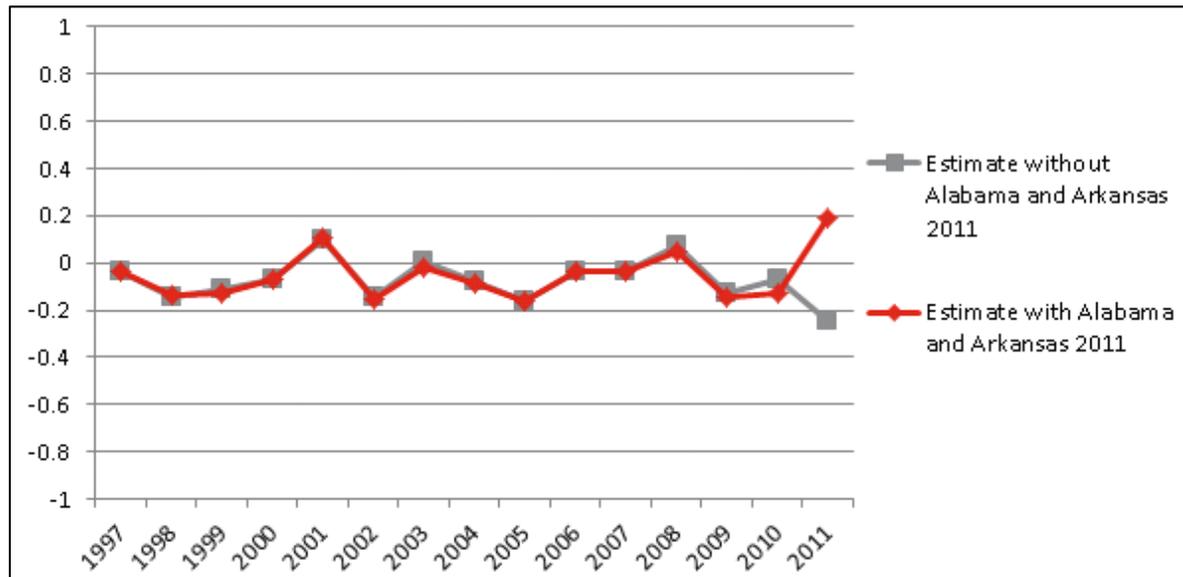
The above tests were run on all the models we estimated, and the results were similar. The results of the negative-binomial model are discussed only because it is our final model. Table B-2 in Appendix B shows the results of all these tests. The tests indicate that the 2001 effect observed in the descriptive tables appears to exist in the modeled data. There was a statistically significant increase (with 90% confidence) from 2000 to 2001, and decrease from 2001 to 2002. Group tests that compare 2001 and the years around it also show statistically significant differences (95% confidence). The tests comparing 2001 and the average of the subsequent years, and 2001 and average of all other years also found the 2001 spike to be statistically significant (90% confidence).

There is some evidence for an increase in hate crimes in the year 2008. The test comparing 2008 with the average of all other previous years shows an increase in 2008.⁷ To further check this model we re-estimated the model with a spline specification⁸ instead of “year” dummy variables and found an increase for 2001 compared to previous and a decrease on average from 2001. We also find that the test of 2008 compared to the average of the subsequent years is significant at $p \leq .01$. Finally, we see a substantial and statistically significant decrease in hate crimes from 2010 to 2011, with 2011 being the only year which demonstrates significance comparable to 2001 when compared to the averages of all other years. However, this is possibly an artifact of how two influential observations (i.e., states) were handled in 2011, and should be treated with caution. A large discrepancy was noticed after the models were produced after adding the 2011 UCR data. After examining the 2011 data, it was found that two states, Alabama and Arkansas, had extreme shifts in their data. Alabama saw a 700% increase in reported hate crimes in 2011, while Arkansas saw a 500% decrease in reported hate crimes in 2011. It was decided that the models should be run without these two “outliers.” Figure 4-3 illustrates the difference between the two models.

⁷ The parameterization for the test effect differs by test, and this complicates interpreting the direction of the effect. For example, a mean estimate in the test table that is >1 in some tests indicates an increase while in other tests this indicates a decrease. The tests were programmed using contrast matrices and these matrices are available on request for all tests.

⁸ Splines are generally defined as smooth polynomial functions that are piecewise-defined (e.g., Smith, 1979), and are useful in trend modeling as they can be used to test various curves for an optimal “fit” for any finite set of points.

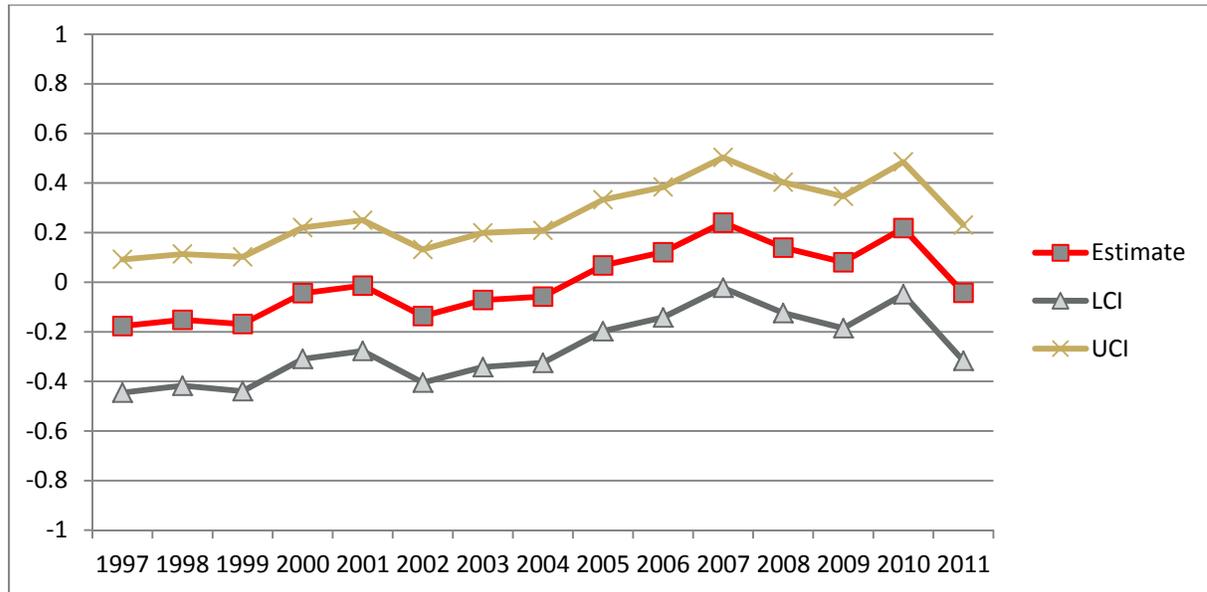
Figure 4-3 Comparison of Trends for All Hate Crimes using Negative Binomial Model (1997-2011) Outliers Excluded vs. Full Dataset



This result demonstrates two things. First are the complications in using the UCR data due to a low level of faith in many of the reporting counties and states. Furthermore, large variations from year-to-year within a state, as demonstrated in Alabama 2009-2011, lowered expectations about the reliability of UCR data. Assuming the UCR measured a true spike (i.e., an outbreak of hate crime in the state), it demonstrates the how sensitive the model is to influential observations within any year.

Anti-Hispanic Hate Crimes

We conducted the same analyses for anti-Hispanic hate crimes. We estimated all the models before again concluding that the negative-binomial model was the best choice, using the same testing criteria used on “the all hate crimes” analysis. The model again included dummy variables for years, states, and a variable measuring the number of arrests in a state during a year. The outcome variable is the number of hate crimes against Hispanic-Americans in the year within the state. Figure 4-4 shows the estimated effects and the Table B-4 in Appendix B provides the regression results. The figure does not show the characteristic increase in 2001 observed in the all-hate crimes data, but appears to show an upward trend beginning in 2004 and continuing thereafter, except for a dip in 2008 and 2011. The test results for 2007 versus subsequent and 2010 versus subsequent are significant at the .05 level, while the rest results for 1997 versus subsequent and 1999 versus subsequent are significant at the .10 level.

Figure 4-4 Estimated Trend in Anti-Hispanic Hate Crimes (1996-2011)

The test results for subsequent years and subgroups of years did not provide any statistically significant findings, but more complex tests comparing averages did produce substantive findings. The tests comparing averages of years 1996-1998, 1996-1999 versus subsequent, 1996-2000 versus subsequent, 1996-2001 versus subsequent, 1996-2002 versus subsequent, 1996-2003 versus subsequent, 1996-2004 versus subsequent, 1996-2005 versus subsequent, 1996-2006 versus subsequent, and 1996 – 2007 versus subsequent, all showed a statistically significant increase. The trend appears to show that on average the numbers of hate crimes against Hispanic-Americans are higher in the “2000 and onward” period, compared to the earlier period. This finding should be interpreted with considerable caution. There are numerous data reporting concerns with these data and we are making these inferences from relatively small numbers of crimes.

We reanalyzed these data using a model with splines and all the results disappeared. We also re-estimated this model for 2000 onwards using the proportion of Hispanics in a state from Census and American Community Survey estimates and the results disappeared. We are concerned that these results are very sensitive to the approach used to model specification (unlike the robustness of the “all hate crimes” results) and would urge considerable caution in interpreting the results as reflecting a true trend in incidence, especially considering the dramatic decrease between 2010 and 2011.

All Hate Crimes, State-Level Data

Given that most prevention efforts and responses by policy-makers and practitioners occur at the state and local levels, and trends can vary across population subgroups and type of bias motivation, it is important to develop data that can be disaggregated below the national level and into subgroups. In this study we were able to reliably estimate trend models in just two states - California and Texas - and only for all hate crimes. UCR data in California and Texas have sufficient statistical power to detect significant changes in steep or robust trends in overall hate crime levels, but the crimes cannot be divided into types, such as bias crime targeting any specific

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ethnicity. Estimates for anti-Hispanic hate crimes in all states had very large confidence intervals and were thus unreliable.

Figure 4-5 illustrates the trend for California. Table B-5 (Appendix B) provides the negative binomial regression parameter estimates, and Table B-6 provides the results of significance testing. The trends for California are similar to the national results. The increase in 2001 and the decline from 2001 to the average of the subsequent two years were statistically significant. The significance of the 2001 spike was confirmed in numerous tests, and was the only significant year in the yearly group tests. We also observe that average hate crimes levels in the 2000s have been lower than those in the previous decade, and have continued to trend downward. Yearly significance of this trend was present from 2002-2011 at the .05 significance level. We additionally observe this in all of the 1996 – 2011 versus the average of the subsequent years, as they are all significant at the .01 level. However, despite these trends, a visual inspection of California's trends reveals a modest downward trend from the 1990s to the next decade, followed by relative stability from 2002 to 2009.

Figure 4-5 All Hate Crimes in California Trend (1996 to 2011)

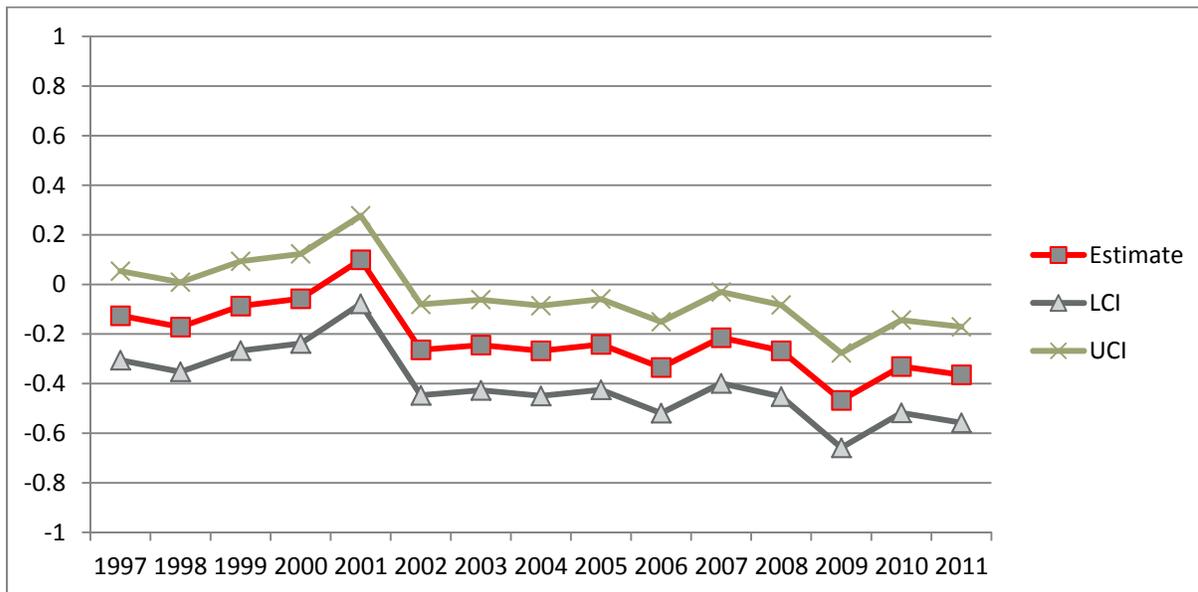
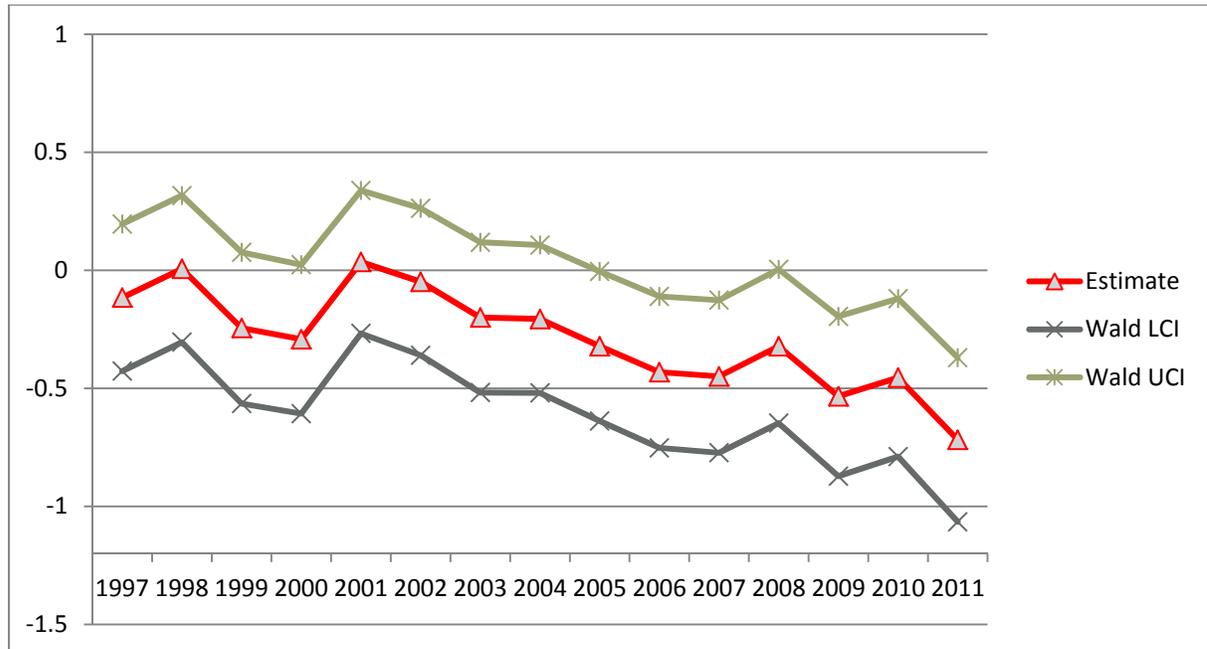
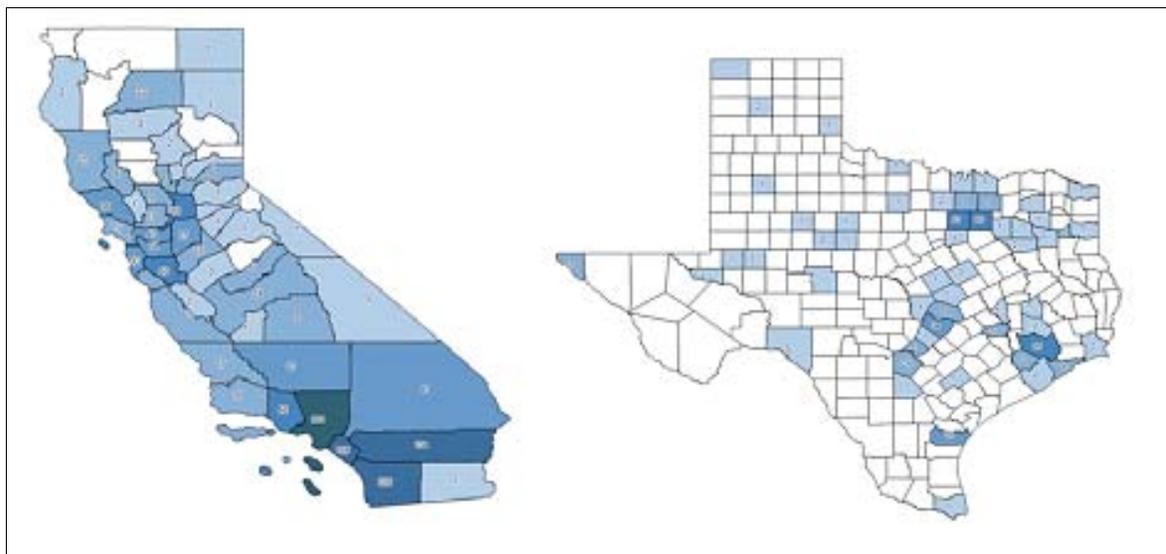


Figure 4-6 shows the results for Texas, and Table B-7 and B-8 provide the negative-binomial regression parameter estimates and test results, respectively. The results are similar to the California estimates, with an increase in hate crimes in 2001 followed by a gradual decrease. The increase in 2001 that is statistically significant in the 2001 versus subsequent test, as are 1996, 1998, 2002, 2004 and 2008. Furthermore, 2001 is significant in the 1996 – 2001 versus average of subsequent test; however, 1997 – 2009 were significant at the .01 level, meaning that 2001 is not distinct from the other years. Although there was a spike in 2001, hate crimes on average decreased in Texas from the beginning to the end of the time-series. The sharp drop at the end of the time series was significant: 2011 versus the average of all other years found a difference statistically significant at the .01 level. The decline is dramatic, showing a -0.6 decrease in the estimate from 1997 to 2011.

Figure 4-6 Estimated Trend of All Hate Crimes in Texas (1996-2011)

While we found statistical significance in hate crime trends in both Texas and California, we have substantial confidence in the validity of this statistical finding only in the latter. The key difference between the states is in the level of reporting at the county level. Counties are the units of observation for the purpose of modeling, and in Texas the majority of the counties reported no anti-Hispanic hate crimes between 1996 and 2010, just 22% of Texas counties (55 of 254) reported one or more such crimes in the entire 15-year span. Conversely, 85% of California counties (49 of 58) reported at least one anti-Hispanic hate crime between 1996 and 2010. The trend models are sensitive to outliers, and in Texas a very small number of counties contribute the bulk of the UCR data (the modal number of county-level hate crimes reported across a ten year span in Texas was zero), and a few populous counties (e.g., Harris, Bexar, Dallas) contribute nearly all of the data. What appear to be statewide trends may actually be the result of changes in policing practices or a few high-profile events in a small handful of the state's 254 counties. The disparity in county-level UCR reporting is illustrated in Figure 4-7, in which one or more hate crimes within the county is depicted by blue shading, and counties with zero anti-Hispanic hate crime reported to the UCR are un-shaded.

Figure 4-7 County-Level Reporting of Anti-Hispanic Hate Crime in California and Texas (1996-2011)



Consequently, we have more confidence in the California UCR data than those from Texas. Reporting is more evenly distributed across California counties, making it less likely that a few locations can skew results or propel aggregate trends. In addition, as we discuss below, the CHKS survey program provides time-series data on bias-motivated incidents, contributing a data stream that is independent of police activity and reporting; this survey data generally corroborate the UCR trends for California. No such confirmation was possible in Texas.

4.1.3 Summary of Findings from UCR Analyses

The following key findings were drawn from our analysis of UCR hate crime data:

- UCR data can be used for national hate crime trend analysis, with the appropriate caveats and only when examining all types of hate crime combined.
- We confirmed the significance of a national hate crime trend featuring a large increase after 9/11 and a return to baseline or lower levels in subsequent years. This finding is robust and was observed both at the national level and in separate analysis of California and Texas.
- We identified a statistically significant decrease in hate crimes on average between late 1990s and 2000s. This finding is visible in the California and Texas estimates, but is only clearly visible in the national estimates with the spline model.
- We observed an increase in anti-Hispanic hate-motivated incidents on average, but this result is very sensitive to model specification and disappears with some specifications of the model. The similarity in trends seen in several survey data streams increases confidence that the national UCR trends in hate reflect real incidence levels, and are unlikely to be mere artifacts of method or stochastic variation. Qualitative input from Phase 2 of the study provides some insights about the presence or magnitude of the trend.

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- With increased reporting levels over time and across locations, the UCR program would provide a stronger empirical foundation for determining whether the U.S. is experiencing trends in hate crime.
- UCR data on hate crime is difficult to use for state-level analysis. In only one state (California) do we have confidence that the trends reflect hate crime incidence, rather than being a potential artifact of trends in police activity or from influential outliers.

4.2 National Incident Based Reporting System

The RFQ for this project asked for an assessment of NIBRS data, and to use those data in trend analyses if suitable. We examined the availability of hate crimes data in NIBRS and determined they are unsuitable for analysis and comparison because of the gaps in agency reporting to NIBRS. Table 4-4 shows the number of total incidents, bias motivated incidents, and Anti-Hispanic bias motivated incidents in NIBRS. The number of bias motivated incidents reported in NIBRS is very small compared to the UCR hate crime data which indicates the lack of data reporting. The number of anti-Hispanic incidents in NIBRS is especially small which makes it unsuitable for the analysis. The data seem to suggest improved reporting trend. The data might be suitable for analysis if more states participate and data quality improves. As of 2013, the FBI reports that only one-third of the law enforcement agencies in the United States provide data to NIBRS, and the jurisdictions of participating agencies contain about 25 percent of the Nation's population. The Justice Research and Statistics Association, citing a survey by the Association of State Uniform Crime Reporting Programs, concludes that the coverage is slightly better: 43% of agencies reporting, covering 29 percent of the U.S. population. Both sources point to the same conclusion that NIBRS data may be useful for examining the characteristics and composition of reported hate crime incidents, but not national or state trends in the number of incidents.

Table 4-4 Number of Bias-Motivated Incidents in NIBRS Database

Year	Total Incidents	Number of Bias-Motivated Incidents	Anti-Hispanic Incidents
1996	1063356	727	59
1997	1460196	861	76
1998	1822504	991	66
1999	2136901	1156	57
2000	2616293	1518	84
2001	3232081	1825	97
2002	3418909	1670	80
2003	3597589	1976	132
2004	4036884	2420	146
2005	4562024	2383	166
2006	4847671	2833	187
2007	4945659	3022	223
2008	4959963	3017	181

4.3 National Crime and Victimization Survey

The NCVS is a nationally representative survey based on complex probability sampling and provides information about crime from the victim perspective. We were unable to use the NCVS for our analysis because we cannot identify individual hate crimes for a count using the data and could only identify the number of incidents that were bias motivated. Non-released corroboration questions are needed to identify specific hate crimes. The NCVS is also not useful for producing national trend models because we only have one data point for each year representing the total national number of hate crimes each year. In addition to these impediments at the national level, the NCVS is not useful for identifying hate crime trends at the state level because it is designed to be nationally representative⁹ (the sampling method and weighting scheme are designed to produce national estimates). While it is possible to construct state-level weights and conduct analyses at that level (e.g., Fay & Li, 2012; Lauritsen & Schaum, 2005; Planty, 2012), that approach is feasible when (a) the state-level samples of raw responses each year are sufficiently large to provide a viable foundation for estimates within states, and (b) data are available to support a state-level weighting approach. This first criterion alone eliminates the use of NCVS for state-level analysis of trends in hate crime. The nationwide sample of raw responses each year is typically less than 100 for all hate crime types combined (Table 4-5). Disaggregation of this small national number to the state level, or by type of bias motivation (e.g., anti-Hispanic), yields state samples too small to support analyzing the significance of trends.

Table 4-5 Raw Counts of Hate Crimes Reported in, and Estimates Produced by, NCVS

Year	Raw Incident Count	Weighted Number Hate Crime Incidents	Lower Confidence Limit	Upper Confidence Limit
2003	101	297546	268050.5	327040.7
2004	70	211579	193779.3	229379.1
2005	77	272580	227301.8	317857.5
2006	99	316087	271688.5	360485.3
2007	92	288897	265754.7	312039.9
2008	64	224108	203249.4	244967.2

Table 4-5 also presents estimates of the national number of hate crimes based on the NCVS. The estimated number of incidents averaging over 200,000 per year are much larger than the numbers of crimes known to police that are recorded in the UCR, which have never reached 10,000 in any year. Estimates derived from victimization surveys are typically higher than those derived from counts of crimes known to police, due to “attrition” in the latter due to victims often declining to report crimes to police, so this discrepancy in hate crime incidence based on UCR and NCVS data is in the expected direction.

⁹ We spoke to two officials at Bureau of Justice Statistics about using NCVS for hate crimes and they informed us about the issue with the corroboration questions.

4.4 California Healthy Kids Survey Data

The California Healthy Kids Survey (CHKS) is a companion to the California School Climate Survey and the California School Parent Survey. Together, they form the California School Climate, Health, and Learning Survey System. The CHKS is a survey administered voluntarily by schools on an annual basis to approximately 400,000 students in grades 5, 7, 9, and 11. Over 600 school districts typically participate, with a total enrollment representing about 87 percent of California's school population. School districts are not required to administer the survey, but doing so is required if districts want to be considered for additional federal funding through Title IV of the Improving America's Schools Act.

The core module for 7th, 9th and 11th grade students includes a question about being targeted for abuse on school property because of race, ethnicity, gender, sexual orientation, or disability. The survey does not address hate *crime* directly, but contains a measure providing a reasonable approximation: The survey instrument measures being harassed or bullied and asks students to select a reason for the incidents—including being targeted due to “race, ethnicity, or national origin.” Demographic information allows one to select Hispanic respondents and to calculate the prevalence of being targeted for harassment or bullying on the basis of victim ethnicity—therefore being a serviceable measure of anti-Hispanic incidents (although not all harassment or bullying incidents would rise to the level of a crime). The survey question reads as follows:

“During the past 12 months, how many times on school property were you harassed or bullied for any of the following reasons? [You were bullied if repeatedly shoved, hit, threatened, called mean names, teased in a way you didn't like, or had other unpleasant things done to you. It is not bullying when two students of about the same strength quarrel or fight.]”

The response options were “0 times,” “1 time,” “2 to 3 times,” or “4 or more times.” The response choices provided for students to indicate the perceived reasons for being targeted were:

- Your race, ethnicity, or national origin
- Your religion
- Your gender (being male or female)
- Because you are gay or lesbian or someone thought you were
- A physical or mental disability
- Any other reason

The annual data that were evaluated covered the academic years beginning in 2001 through 2011 (to simplify the presentation, we identify each year's data by the first year of the school year).

In Table 4-6 we summarize the sample composition by providing the breakdown of self-reported ethnicity by school year. As the table illustrates, there is a very high level of year-to-year variation. On deeper inspection, this is attributable to county-level (or possibly school-level) variance in survey administration. To protect the privacy of student respondents and perhaps individual schools, data are not provided to the public at the school or district level, so the variation in sample size and composition based on school participation cannot be accounted for.

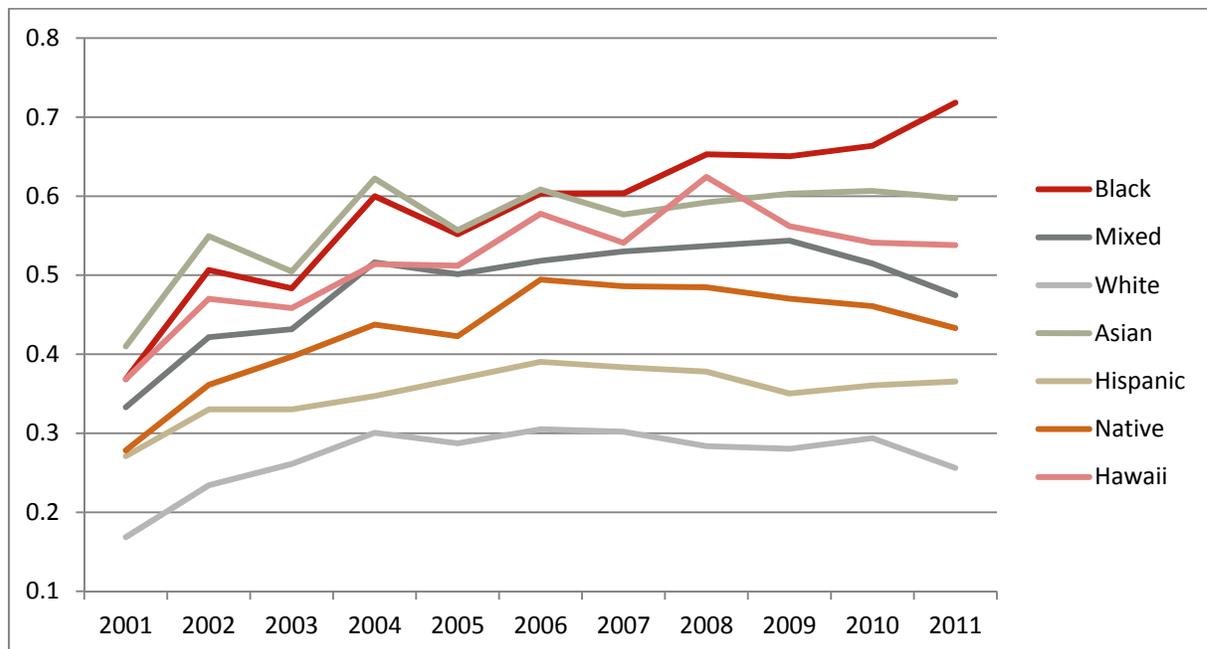
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Table 4-6 demonstrates this variance, with the highest level of reporting producing over 600,000 respondents in 2009, compared to the lowest levels, with a sample of less than 190,000 in 2002. Questions about why certain districts do or do not respond in certain years might be due to random variation, lack of funding, or some type of non-random self-selection effect, such as having to skip sets of years or participating only in alternate years due to budget constraints.

Table 4-6 Ethnicity, California Healthy Kids Survey 2001–2011

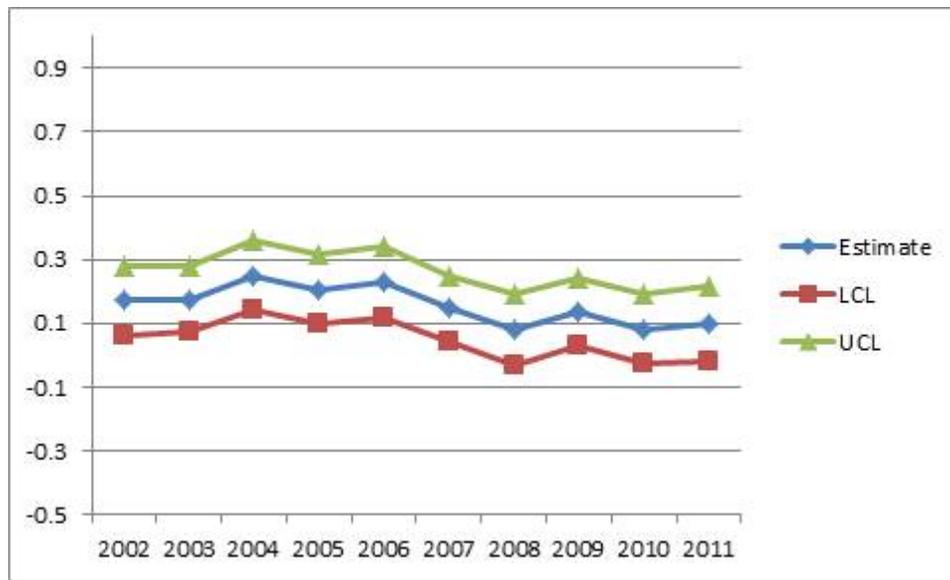
School Year	Ethnicity (Self-Reported) 2001 - 2011								
	Asian	Black	Hawaii	Hispanic	Missing	Multiple	Native	White	Total
2001	31,888	14,280	4,772	94,480	30,588	16,879	4,587	99,599	297,073
2002	15,303	7,893	3,218	66,984	19,460	10,094	3,228	60,861	187,041
2003	42,618	20,093	6,914	139,378	36,555	21,349	6,220	113,821	386,948
2004	20,224	12,918	4,994	120,304	25,538	14,270	4,697	74,485	277,430
2005	55,348	26,483	9,485	207,495	44,341	29,547	7,513	130,482	510,694
2006	20,707	11,923	4,692	115,048	21,227	15,793	3,838	66,517	259,745
2007	64,458	31,340	12,193	249,757	44,828	35,516	10,201	140,605	588,898
2008	28,455	14,031	4,933	126,829	20,649	17,323	4,858	66,548	283,626
2009	68,379	30,664	10,887	269,594	45,095	36,306	9,136	13,3152	603,213
2010	30,246	14,841	6,951	142,735	29,187	27,949	6,481	69,485	327,875
2011	40,257	13,803	6,965	169,028	9,554	40,120	6,049	89,150	374,926
Total	417,883	198,269	76,004	1,701,632	327,022	265,146	66,808	1,044,705	4,097,469

Figure 4-8 Trend of Reported Anti-Ethnicity Bullying (Incidents Divided by Number of Respondents), 2001-2011

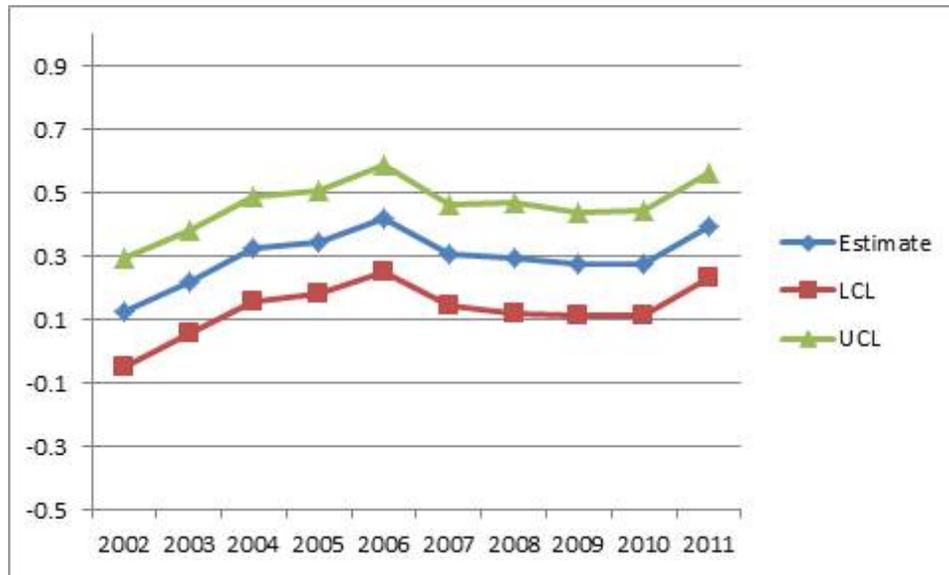


To address the categorical response schema, we imposed a decision rule treated answers of “2 or 3 times” in the past year as three times, and “4 or more” as four times. Figure 4-8 depicts the incidence of ethnic bullying that was targeting toward the ethnicity of the respondent (based on respondent’s perceptions of why they were bullied or harassed). From a visual inspection, it appears as though trends are relatively stable over time, though some subgroups, such as Black and Asian, show dramatic increases since 2001 in bullying perceived to target respondent ethnicity. While the trends are relatively stable, they generally trend slightly upward across the decade. Using the same negative binomials as described above for the analysis of UCR data, we checked for statistically significant differences in the year trend. Figure 4-8 presents the negative binomial for all ethnic bullying from 2001-2011. Both Figures 4-9 and 4-10 use the natural log of the prevalence of bullying as an offset, and prevalence as a control variable, where prevalence is defined as the number of students ethnically bullied overall. Observing different levels of victimization across racial/ethnic categories in the CHKS data is consistent with the research literature on abuse among adolescents, which finds that ethnicity plays a role in vulnerability to being targeted for bullying (e.g., Sawyer et al, 2008; Sun Hong & Espelage, 2012).

Figure 4-9 Estimated Trend of All Ethnic Bullying, Negative Binomial Model (2002-2011)



With large annual samples, statistical significance can be found in modest changes over time, and the numerous models of hate-motivated bullying and harassment found year-to-year changes and larger trends to be statistically significant. However, it is clear from Figures 4-9 and 4-10 that there were no sharp drops or spikes from year-to-year, and that there was a very modest trend upward in the first half of the time series through 2006, followed by a decline. The levels stabilized or slightly fluctuated through 2010, then increased in 2011.

Figure 4-10 Estimated Trend of Anti-Hispanic Ethnic Bullying, Negative Binomial Model (2002-2011)

To further test the model and tease out a causality for what caused ethnic bullying, we introduced an Ethnic Fractionalization variable. This is a variation of the Ethno-Linguistic Fractionalization (ELF) Index extensively used in political science (specifically comparative politics). The fractionalization index is measured as follows, where p_i refers to the proportion in the population of the i th ethnic or linguistic group:

$$EF = 1 - \sum_{i=1}^n p_i^2$$

Because our data includes “Multiple” as a racial category, we created two EF indexes, one which includes the “multiple” response as a distinct ethnicity and one which does not include those who include “multiple” as their ethnicity. Ultimately, we chose the latter EF index, as “multiple” is both vague and not a distinct category of fractionalization. In order to account for the excluded students who reported their race as “multiple,” we introduced a control:

$$MultProp = \frac{\text{Number of Student's who reported Multiple as their ethnicity}}{\text{Total Number of Students}}$$

Compared to the estimation in Figure 4-10, we see a less pronounced curvature from 2002 to 2006, though there is still a similar trend upwards (Figure 4-11). The 2008 school year also demonstrates the same decrease in ethnic bullying that we observed in the other model. While each year is individually significant, we did not find any comparative year trend significance aside from a test of 2001 versus the average of 2002 through 2011. We found that the EF index is statistically significant with a positive coefficient. This may suggest that the effect of homogeneity of a community on racial perceptions and/or bias-motivated behavior is significant at not only a macro or institutional level, but also within small sub-communities, such as schools.

Figure 4-11 Estimated Trend of All Ethnic Bullying when controlling for Ethnic Fractionalization, Negative Binomial Model (2002-2011)

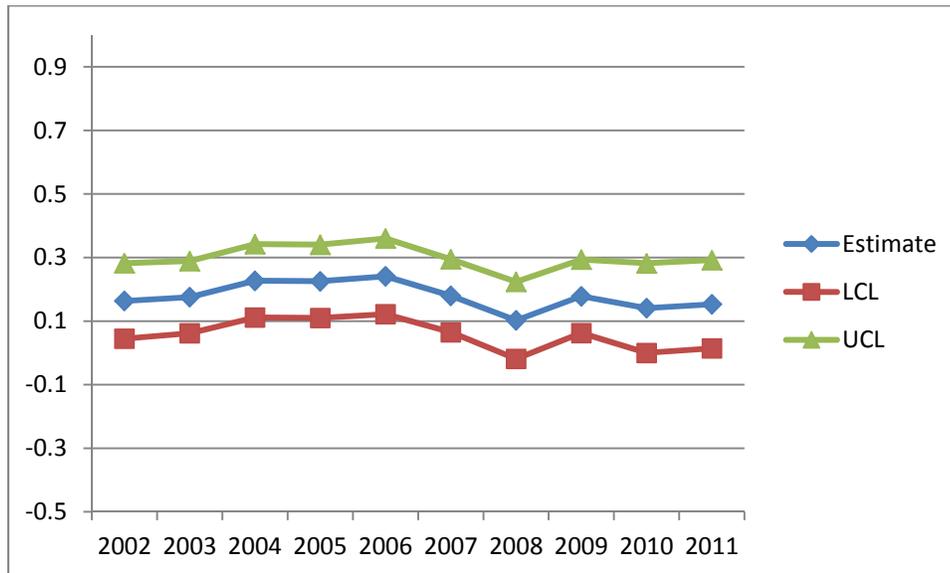


Table 4-7 shows the result of running all of the “ethnic proportion” variables as controls independently. When they are all part of the estimation equation together, we see far more significance. However, this may be an artifact of collinearity, and even if it is not, it is difficult to interpret the result. The coefficients presented in this Table show that generally, no ethnic group’s representation in the sample has disproportionately significant influence on the number of bias incidents targeting ethnicity.

Table 4-7 P-values and Estimate Values of Ethnic Proportion Variables as a Control in a Negative Binomial Model as Detailed in Figure 4-10 and Figure 4-11

Proportion of Ethnic Group	With EF2	Without EF2
Multiple	-0.7790 (0.3653)	-0.0309 0.9689
Black	-0.0660 (0.9207)	0.1736 (0.7907)
Indigenous / Native	-0.3592 (0.5442)	-0.6152 (0.3059)
White	0.2211 (0.2704)	0.2854 (0.1498)
Asian	0.5106 (0.2655)	0.7325 (0.0919)
Hispanic	0.0162 (0.9403)	-0.1967 (0.2604)
Hawaiian / Pacific Island	-2.8862 (0.1385)	-1.6628 (0.3762)

4.4.1 Comparing California UCR and CHKS Trends in Anti-Hispanic Incidents.

While the sample sizes in the UCR for anti-Hispanic hate crime were too small to test statistical significance in trends, we wanted to explore whether the trends of raw counts in UCR data exhibit trends that are consistent with the trends observed in the CHKS data. This approach treats the trends as anecdotal or qualitative observations, rather than statistically significant, an approach justified by the assumption that convergence among multiple indicators—each admittedly imperfect—is suggestive of an actual trend, while conflicting trends or an absence of trends observed in several source would provide no suggestion of a reliable trend.

Trends in UCR hate crimes against Hispanics (Figure 4-12) were compared to trends in CHKS responses (Figure 4-13) from Hispanic students (i.e., the annual proportion of all Hispanic respondents surveyed who said they were targeted to be bullied or harassed because of their ethnicity). The comparison produced provocative findings.

With the exception of the 2001-2003 periods, the two data streams show some trend similarity between 2004 and 2010: a modest, gradual increase from early in the decade through 2008 or so, then a decline in 2009, followed by stabilizing or increasing in 2010. It is only in 2011 that the two time-series diverge sharply, with UCR data showing a decrease while CHKS data shows a modest increase.

The UCR data for California for anti-Hispanic crimes are too unstable, and the two measures of hate motivated events too dissimilar, to attempt interpretations of what is occurring in the state. We present this comparison to explore the potential value in using two different types of data streams—crimes reported to police and victimization surveys—within one state. The trends from the two sources are similar enough to suggest these measures may be tapping into a common phenomenon: the abuse of others targeted on the basis of victim ethnicity.

Figure 4-12 Trends from Uniform Crime Report Data (Raw Counts)

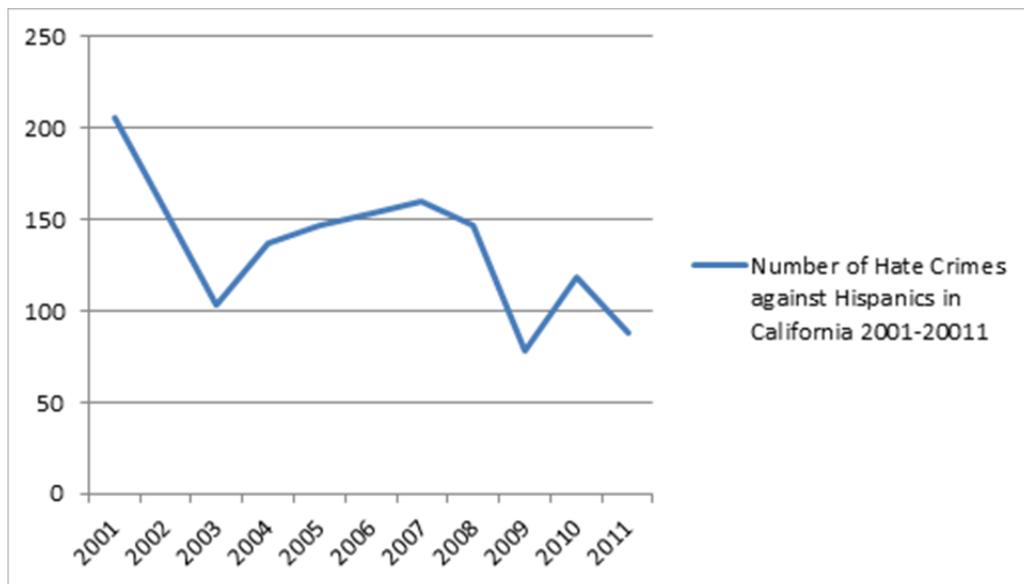
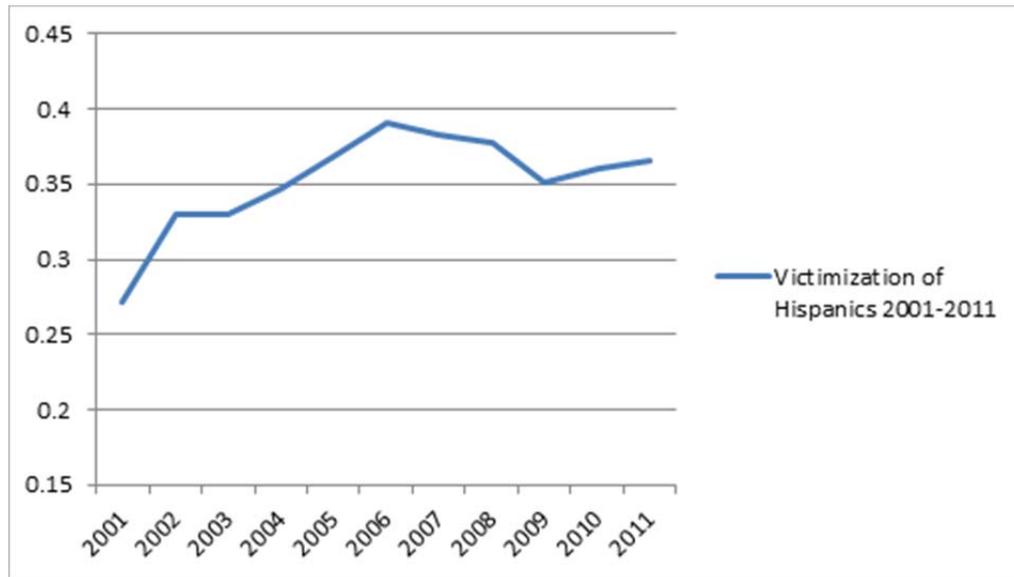


Figure 4-13 Trends from California Healthy Kids Survey (Proportion of Respondents)



4.4.2 Attempts to Corroborate Trends Observed in UCR and CHKS Data

Deeper exploration is required to arrive at inferences about the true level of, or trends in, anti-Hispanic abuses in the state. In an attempt to confirm the apparent increase in anti-Hispanic incidents from approximately 2002 to 2008 in California and the nation, we sought state-level and/or national time-series data from surveys that might shed light on racial climate, or attitudes toward immigrants or persons of different ethnicities. A source we were able to identify is a series of Gallup polls containing relevant survey measures and covering most of the necessary timeframe. We can hypothesize that if there were a real increase in the abuse of students perceived to be (or likely to be) immigrants, and not just stochastic variation or an artifact of method, one might expect to see a corresponding trend in measures of anti-immigrant opinions.

Figure 4-14 Perceived Relations between Whites and Hispanics: White Respondents (National Gallup Poll)

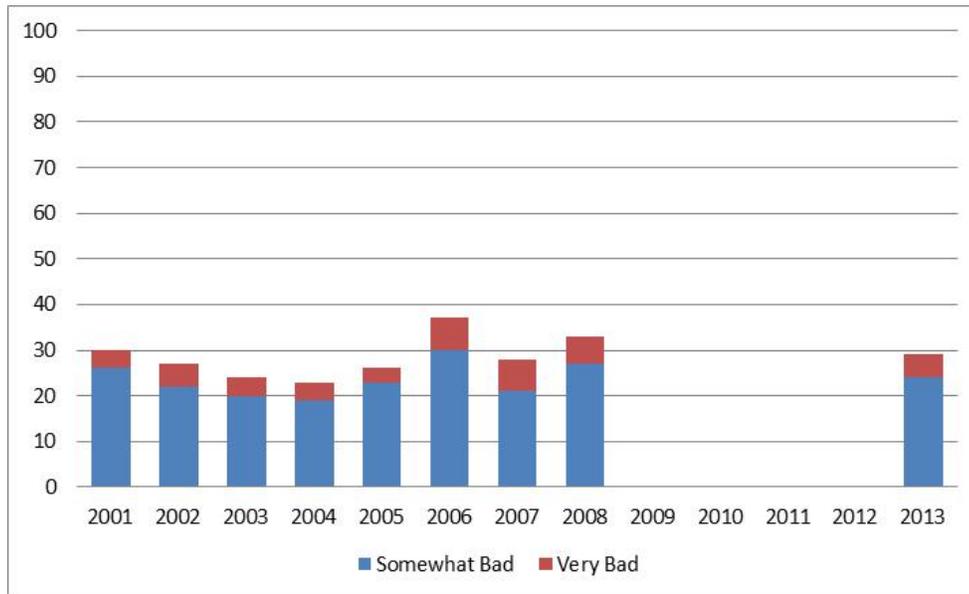
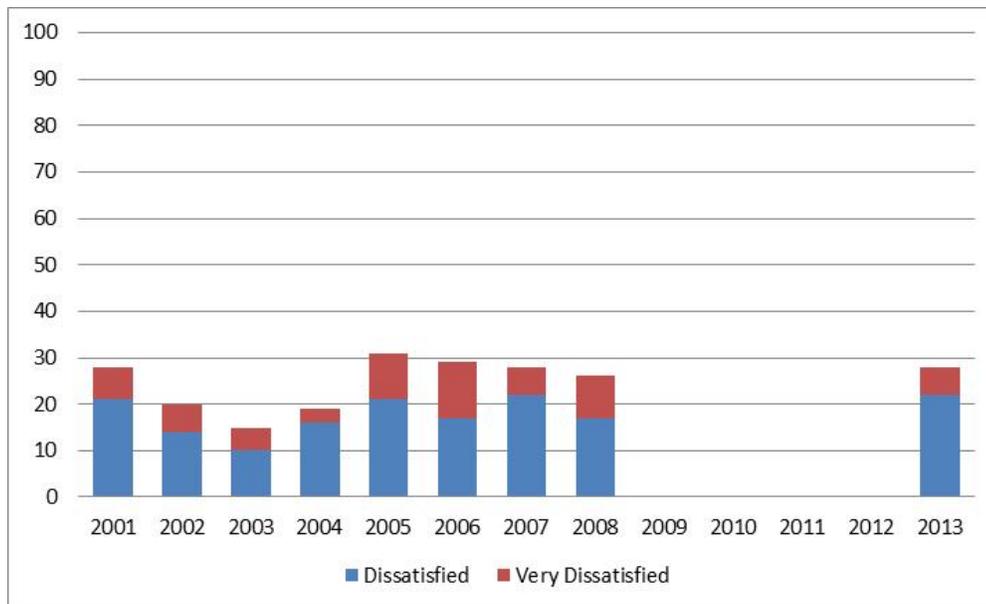


Figure 4-15 Satisfaction with Race Relations: Hispanic Respondents (National Gallup Poll)



As seen in Figures 4-14 and 4-15, trends in dissatisfaction with race relations between the White majority in the United States and those of Hispanic heritage are generally consistent with both the UCR data on hate crime and the CHKS data on anti-Hispanic bullying/harassment. All three time series show a spike in 2001, widely regarded to be a reaction to the terrorist attacks of September 11, followed by a return to baseline levels the following year. In the years between 2002/2003 and 2007/2008, there was an increase in hate crimes captured by police in the UCR data nationally and in California, an increase in bias-motivated bullying/harassment in California schools captured by the CHKS survey, and evidence of an increase in perceived tension or dissatisfaction in relations between Hispanics and other ethnicities, including those classified as white.

4.4.3 CHKS Proxy Measure of Immigrant Status: Student Participation in the Migrant Education Program

The CHKS contains an item asking students about their participation in the Migrant Education Program (MEP), which was explored for its potential to serve as a proxy for immigration status. The discovery of this measure is important for the pursuit of our present research objectives, since none of the national criminal justice data streams address the immigrant status of victims, or trends in bias motivated crimes targeting immigrants.

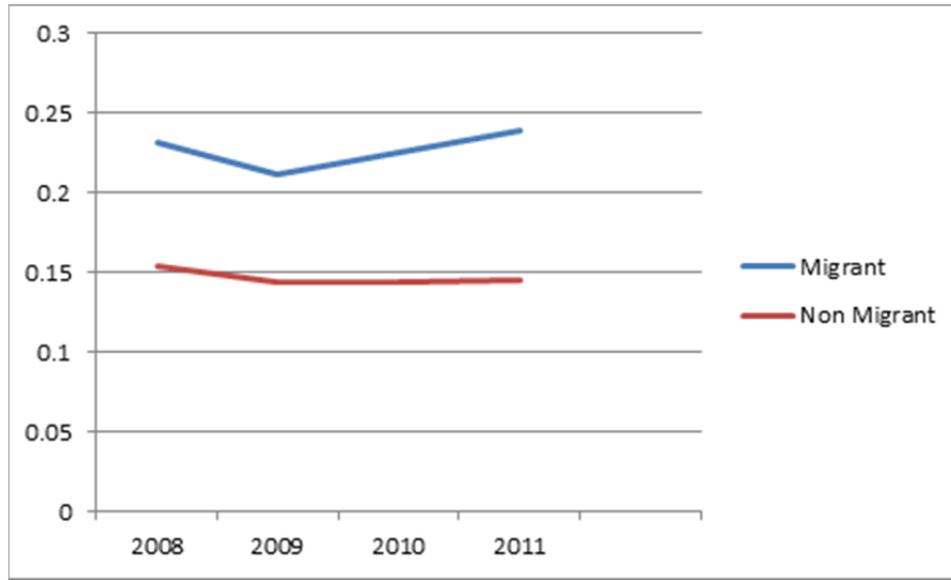
The MEP is a federally funded program that provides services to migrant children, intended for children in families employed in seasonal labor and who move frequently. While not all migrants are immigrants, there are indications that many respondents may be immigrants or the children of immigrants. For example, a California Legislative Analyst's Office Report (2013) finds that the "vast majority" of the state's MEP participants "are Latino and have limited proficiency in English." While this does not necessarily mean the vast majority are immigrants, it suggests that many are immigrants or the children of immigrants, rather than U.S. citizens or longstanding residents who simply move often within the country. Moreover, from the point of bias crime offenders targeting immigrants, it is reasonable to postulate that MEP participants are likely to be assumed by others to be immigrants—particularly if they do not speak English proficiently. The evidence suggests that MEP participation is a reasonable approximation of a measure of immigrant status.

We separated Hispanic students who did participate in the MEP from those who did not, and examined bullying/harassment perceived to be directed toward students on the basis of their race or ethnicity for the two groups. We found Hispanic students who participated in the Migrant program are victimized at a far higher rate than the rest of the Hispanic student population. We wanted to examine trends, but unfortunately, there is only a four-year time series at this time. We found virtually no substantial 2008-2011 trend among Hispanic students in general, but a large increase in anti-Hispanic incidents from 2009-2011 for Hispanics who participate in the MEP. This finding is consistent with the research literature, which finds that Latino third-plus generation immigrant students have increased risk of victimization by violence at school (Peguero, 2009), and that students who do not speak English as a first language are more likely to be bullied (e.g., Yu et al., 2003).

We attempt to validate or corroborate the MEP data as a measure of immigration by comparing it to another data source designed to produce estimates of undocumented immigrants. The Public Policy Institute of California (e.g., Hill & Johnson, 2011) and others produce estimates of the number of illegal immigrants in California using the number of Individual Taxpayer Identification Numbers (ITINs) granted by the IRS. The ITIN data can be aggregated at the county level (as are the CHKS data), and ITINs are considered reasonable proxies for undocumented residents: they are issued to

foreign nationals and others who have federal tax reporting or filing requirements and do not qualify for Social Security Numbers. Other individuals who need ITINs include dependents or spouses of resident aliens or nonresident alien visa holders (Internal Revenue Service, 2013).

Figure 4-16 Prevalence of Bias-Motivated Bullying Among Students Who Do vs. Do Not Participate in the Migrant Education Program: CHKS Data 2008-2011



To corroborate the MEP participation measure as a proxy for immigrant status, we examined the correlation between county-level ITINs and MEP participation. To do so we ran a population-controlled cross-sectional analysis comparing students per county who reported that their parents are part of MEP, and the number of ITINs granted per county. The results of this test were significant at very small alpha levels ($p \leq .001$). This finding, along with the evidence of English language competency levels, suggests that the MEP measure provides a reasonable approximation of immigrant status. Therefore, bullying or harassment levels among MEP participants, while far from an ideal measure of anti-immigrant hate crime, should provide some level of insight into bias motivated incivilities or incidents directed toward immigrant youth in California schools.

As seen in Figure 4-16, the uptick in bullying or harassment toward the end of the decade may be largely due to an increase in incidents directed toward those students who participate in the Migrant Education Program. While the timeframe is too truncated to support conclusions about trends, it is clear that the rates of abuse experienced by MEP participants far exceed those of other respondents.

4.5 Exploring Post-Estimation Adjustments to Account for Underreporting in Hate Crime Estimates

At the request of NIJ and analysts at the Bureau of Justice Statistics, our research team explored ways in which post-estimation adjustments could be applied to state-level estimates of hate crime in an attempt to compensate for the underreporting of hate crimes to police, and consequently, to the UCR. The results of this exploratory exercise are presented in Appendix C. The Appendix briefly describes

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challenges posed in attempting to disaggregate UCR data below the national level, and offers an outline of a potential means of improving state-level estimates. The proposed solution is a starting point for developing and applying an adjustment, and provides a conceptual framework. It might be useful if data could be acquired that are appropriate to support the adjustment. However, we were unable to identify appropriate data. We offer this discussion to inform readers of the steps taken in this study to maximize the utility of the hate crime data. Although the results were not encouraging due to a lack of suitable data, this presentation might provide a template for pursuing adjustments if adequate data were to be identified—and at minimum, may illustrate the lack of promise in these adjustments, and suggest that other paths may be more productively pursued.

5. Assessing the Quality of Hate Crime Time Series Data

Phase II of the project was designed to understand why the national hate crime statistics may be inadequate to answer the research questions posed in this project and to identify ways data might be collected to pursue answers to the question of whether hate crimes targeting immigrants and Hispanic-Americans are increasing. In consultation with NIJ, the research team assembled and convened an advisory committee and held a series of expert panels to help understand the challenges of collecting accurate data on hate crimes as well as the dynamics of hate crimes against immigrants and Hispanic Americans and the perceived impact of these dynamics on interpreting officially reported data on hate crime victimization.

The findings from this input are detailed below, but briefly, we found that expert panel and workgroup members expressed concerns about the occurrence of hate crimes against immigrants and Hispanic Americans. There were mixed opinions about whether such abuses had risen substantially over the past decade, but agreement that a large number of immigrants and Hispanic Americans are victims of bias-motivated crimes and other acts of discrimination. Confirmed by panelists were number of limitations of existing data collection systems to capture information about hate crimes targeting immigrants and Hispanic Americans, including over-reliance on data requiring that victims report to the police and the police to recognize incidents were bias-motivated, and victimization surveys lacking questions about the respondent's immigration status. Questions could be added to victimization surveys relatively easily, but measurement of immigrant status is far more difficult to add to police data streams. While panelists would like to see anti-immigrant hate crime measures in police data, they were concerned that the steps necessary to acquire that information would have negative consequences and remain unlikely to produce the desired data. For example, police asking about a victim's immigration status might further reduce the likelihood that immigrant victims or witnesses would report these crimes to police.

5.1 Expert Input Regarding Findings and Recommendations

The series of panels was conducted in different places and included a variety of experts who approach the research question from a wide range of perspectives. Six different types of expert panels were convened to provide information about the day-to-day experiences of front-line practitioners in law enforcement, victim services and immigration advocacy in dealing with the identification and reporting of hate crimes against immigrants and Hispanic Americans. The expert panels included:

- Policy makers experienced in crafting legislation and developing policies to improve data and services to underserved populations;
- Two groups of line officers experienced in investigating hate crimes (one from the Northeast and one from the Southwest);
- Advocacy organization leaders representing agencies that work with immigrants and Hispanics;
- Methodologists experienced in collecting data on underreported crimes as well as from hard to reach communities.

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- Immigrant Service Providers experienced in working with immigrant and Hispanic victims of hate crimes;
- Health Care Service Providers experienced in providing medical services to immigrants and Hispanic-Americans; and

Panel discussions provide opportunities for gathering expert knowledge from a diverse group of stakeholders about any given topic. The panels generally consist of groups of five to ten individuals who were identified by their peers in the field as having some specialized knowledge about hate crime victimization, hate crime identification and reporting and the victimization of immigrant populations. Each of the panels was given a set of topics to deliberate upon. The conversation in the panels was free flowing and took advantage of each panel's area of expertise. Panelists were asked to speak freely about their experiences and the challenges that they identified in their area of expertise. The expert panels were intended to help us understand questions such as the following:

- What are the current practices about obtaining and recording information on immigrant status in hate crimes and how do these practices differ by jurisdiction?
- Under what conditions do victims perceive crimes against them as motivated by bias based on their immigrant status or perceived status?
- What concerns do immigrant or Hispanic American hate crime victims have about reporting these crimes to the police or reporting on victimization surveys?
- What factors lead the police to identify crimes as motivated by anti-immigrant or anti-Hispanic American bias? How do the police investigate crimes where anti-immigrant bias motivation was suspected and how are these incidents classified in existing crime reporting programs?
- How do police deal with hate crimes that have multiple bias motivations such as religion and ethnicity?
- What role do various legislative or policy initiatives regarding immigration play in promoting or inhibiting reporting of hate crimes against immigrants or Hispanics?

Each expert panel engaged in a discussion guided by a set of objectives and a facilitator. Participants shared their experience and opinions bearing upon our primary Phase II research questions about the adequacy of current data, and solicited suggestions for ways to acquire data that are more accurate, reliable, and complete. Most expert panels were conducted in person but the policymaker's panel was conducted as a Webinar. Panelists were provided confidentiality protections and the identities of individual experts who participated in the panels were also protected. Extensive notes were taken during each expert panel meetings. At the end of the panels, all notes and corresponding panel materials were analyzed for within and across panel themes.

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Table 5.1 Overview of Expert Panel Composition

Expert Panel	Regions	Types of Agencies/Organizations
Health Care Workers and Immigrant Service Providers	Northeast Midwest Southwest	<ul style="list-style-type: none"> • Domestic Violence/Sexual Assault service providers • Family care service providers • Health care service providers • Legal service providers • Social service providers • Youth service providers
Legal and Immigration Advocates	Northeast Midwest Southeast Southwest	<ul style="list-style-type: none"> • Hispanic civil rights organizations • Human rights advocacy centers • Nonpartisan civil rights organization • Nonpartisan educational institutes
Local Law Enforcement	Northeast Southwest	<ul style="list-style-type: none"> • Civil Rights Unit • Hate Crimes Unit • Patrol officers
Methodologists		<ul style="list-style-type: none"> • College/University researchers • Federal government researchers • Non-profit researchers
Policy Makers	Northwest Midwest Southwest Southeast	<ul style="list-style-type: none"> • Civil rights counsel • District attorneys • Human rights experts • Legislative staff

In addition we convened an advisory panel of experienced individuals who have worked on this issue from a wide variety of perspectives. Members who served on the advisory panel included the following individuals:

- Abed Ayoub, Director of Policy and Legal Affairs, American Arab Anti-Discrimination Committee
- Scott Decker, Professor and Director of the School of Criminology and Criminal Justice at Arizona State University
- Jessica Gonzalez, Vice President of Policy and Legal Affairs, National Hispanic Media Coalition
- Michael Lieberman, Washington Counsel, Anti-Defamation League
- James Nolan, Professor, Department of Sociology and Anthropology, West Virginia University
- Mark Potok, Senior Fellow, Southern Poverty Law Center
- Darrel Stephens, Executive Director, Major Cities Chiefs of Police
- Corinne Yu, Managing Policy Director, The Leadership Conference on Civil and Human Rights

The advisory panel convened once at the beginning of Phase 2 of the project to help frame the challenges with existing data collection mechanisms and once after the convening of the expert panels

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to review preliminary findings and provide feedback about recommended data collection strategies. The advisory panel was intended to provide guidance during the study and help us answer some of the following questions:

- What are the major challenges to obtaining a reliable national and state-level estimate of the level and trends in hate crimes against immigrants and Hispanics?
- What broad data collection strategies would be most effective in providing a reliable national and state-level estimate of the level and trends in hate crimes against immigrants and Hispanics?
- What role should criminal justice agencies and national and local advocacy agencies play in obtaining, measuring and reporting data on national and state-level estimate of the level and trends in hate crimes against immigrants and Hispanics?

5.2 Descriptive Overview

5.2.1 Expert Panel Summaries

Expert Panel: Policy Makers

Purpose

To convene individuals involved with crafting legislation and developing policies to improve data and services to underserved populations at the state or local level. This expert panel was conducted as a webinar. The focus of the webinar was on existing legislation regarding immigration and hate crimes, problems with current legislation and ideas for improvement, and issues around identifying and recording hate crime in accordance with existing legislation.

Summary of Discussion

The participants on the panel indicated that hate crimes against Hispanics and Latinos are a significant issue in their communities but there was very little consensus or idea about whether there has been any increase of incidents in recent years. Each participant expressed the importance of understanding the under-reporting of hate crimes from victims—particularly from immigrant groups—in estimating the overall trends in hate crime. The participants said that many factors influence non-reporting such as when police officers ask about immigration status, fear of repercussions from a “toxic” community perception of immigrants, and when law enforcement involves ICE in their investigation. Panel members reported that victims often report their victimization to their schools, churches, advocacy organizations, and health care workers rather than reporting to law enforcement. To improve reporting and relations between law enforcement and victims of hate crimes, our panel discussed several “promising practices.” First, each expressed the importance of “bridge-building” which includes educating the community so that they feel secure in reporting their incidents to the police. This includes not just information sharing but improving or repairing existing relationships. Along with bridge-building, others expressed the need for coalition building that involves local law enforcement, human rights workers, and minority group advocates. Education was stated by nearly every participant as a key practice that would improve the reporting of hate crime and the response to victims’ needs. This would include educating both the community and law enforcement in identifying hate crime when it happens and reporting it to the proper authorities. It also means educating law enforcement to be sensitive to the issues facing the victims of such crimes. Finally, the group suggested revisiting the voluntary nature of reporting hate crimes by police

departments. They expressed their views that tracking hate crimes and reporting those crimes to the FBI should be mandatory.

Expert Panel: Local Law Enforcement Line Officers

Purpose

To gather information from police about their day-to-day experiences as first responders; to identify challenges faced in determining whether bias motivated any particular crime; and to suggest tactics for overcoming obstacles to gathering more complete and accurate reporting of hate crime (particularly those targeting Hispanic and/or immigrants).

Summary of Discussion

Two expert panels of line officers from police departments were held in a large city in the Northeastern United States, and another large city in the Southwest. Police officers who participated represented multiple communities and a number of participants worked in the agency's hate crime unit. Most officers in both panels reported that they had never investigated a hate crime targeting either Hispanics or immigrants that was motivated by bias toward immigrants during their career. Most expert officers believed these crimes occurred in their community but they did not believe these crimes were likely to be reported to their agencies. The policy across the majority of police departments was to not ask crime victims about their immigration status. In most cases, police officers are required to complete reports about whether or not there existed bias motivation in the crime. It was noted by a couple of experts that hate crimes targeting those perceived to be immigrants might in some cases be recorded as anti-Hispanic or Anti-Muslim crimes. Yet, police officers acknowledged a number of challenges faced by their officers and agencies in identifying a crime as a hate crime including budget cuts, court dismissals, and lack of training among officers. In addition, police officers noticed an underreporting of crimes from the Hispanic and immigrant community due to a number of barriers that they face. These barriers included cultural awareness, fear/mistrust of police, language limitations, and residential instability. Therefore, Hispanic and immigrant residents primarily report crimes to community organizations such as church groups and service providers.

Northeast Law Enforcement Panel

Although some departments represented in the panel conducted in the Northeastern U.S. have started implementing changes to policies and practices designed to improve reporting of crimes by Hispanic and immigrant residents, the participating officers in this expert panel made a number of recommendations for additional improvements. First, increasing the presence of police officers both on the streets and at community events involving immigrants would promote trust among immigrant residents regarding police officers, and would therefore be expected to increase the level of crime reporting by immigrants. Second, officers recommended providing officers with incentives to encourage them to participate in community events or attend language classes to help them connect with their communities. Third, departments should implement an additional filter to determine whether or not cases were bias motivated based on narratives. This might involve using technology or other approaches to improve the identification of hate crimes by first responding officers. Finally, police departments should provide their officers with continuous training throughout their career to improve the reporting of crimes by police officers as potentially bias-motivated and improve the communication between new immigrant residents and police officers.

Southwest Law Enforcement Panel

The participating officers in the Southwest reported that their departments have been working on building relationships through outreach with immigrant communities. In one agency the Community Response Bureau is responsible with connecting with groups by attending community meetings, educating residents about how to behave when confronted with a police officer, and paying attention to new groups of immigrants moving into the area to understand and respond to their needs. However, the cultural and language barriers faced by immigrant residents continue to be a problem, especially with new groups of immigrants. The police department trains their officers about hate crimes in the academy and provides in-service training to officers about new groups moving into the area. Unfortunately, officers are still faced with a severe lack of translators as new groups move into their communities.

Expert Panel: Legal and Immigration Advocates

Purpose

An expert panel with representatives from advocacy organizations involved in working with issues of national concern regarding immigrant populations was organized to identify alternative sources of data collection on hate crimes against immigrants and Hispanic-Americans, as well as provide recommendations on policies and practice to help improve current methods of data collection. As a result, the following themes and recommendations emerged from the discussion with representatives from the advocacy organizations:

Summary of Discussions

According to advocacy organization representatives, hate crimes against Hispanic-Americans and immigrants have increased over the last few years. However, immigrants face a number of barriers when it comes to reporting crimes such as cultural differences, language barriers, and a fear and/or mistrust of the police. These barriers lead to an underreporting of crime by immigrants and Hispanic-Americans to law enforcement agencies.

In order to obtain a better understanding of hate crimes, participants recommended that crimes, in general, should be examined at different levels based on the incident, individual, and community where the crime takes place. Crime incidents are often scrutinized at the incident level based on the language used when the crime took place. In most cases, further scrutiny is needed by law enforcement to determine whether or not hateful speech and/or behavior was used when the crime took place was in fact an indicator in order to determine whether or not the crime was a result of bias motivation. Additionally, panelists suggested that police officers should work to acquire a better understanding of the numerous barriers to police reporting, including the challenges facing victims trying to determine whether the crime committed against them was bias motivated. The challenges faced by immigrant residents, such as cultural, language, and mistrust, should be understood and taken into account by police when faced with immigrant victims and crimes occurring in immigrant enclaves. Finally, hate crimes in different communities should be examined based on their socio-demographic makeup in order to better understand hate crimes. Communities with pro-immigrant city officials, local immigrant service providers, and progressive local law enforcement may be more likely to help with the reporting of hate crimes targeting the immigrant residents. On the other hand, communities faced with anti-immigrant legislation, few immigrant service providers, and tense relations between immigrant residents and local law enforcement may require a different approach in order to increase the reporting of their hate crimes. Furthermore, participants recommended

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examining different groups among immigrants to gain a better understanding about hate crimes such as crimes that occur at the workplace, between different ethnic groups, against day laborers, and between first-, second-, and third-generation immigrants. Advocates in our expert panel spoke about hate crimes that they had heard about where legal members of certain ethnic groups would target illegal members of the same group for robbery or fraud because they believed that these victims would not report to law enforcement.

Advocacy representatives presented various alternative data collection strategies, but also discussed the limitations faced by each alternative measure. First, some advocacy organizations have collected data on immigrant victims for their clients, but due to the cost and time to collect this data, have discontinued the data collection. However, advocacy organizations may be able to act as a source from which data could be collected on incidents of hate crime within a local community given their relationship to community organizations. Second, certain immigrant groups are more likely to report hate crimes to clergy members or other faith-based organizational members based on their relationship. However, collecting data from faith-based organizations would require willingness to participate from their faith-based organization and training to collect the data in a systematic form. Third, advocacy representatives suggested immigrant service providers may be a source from which reports of hate crime could be collected due to their relationships with the immigrant residents in the local community and data collection capacities that may already be in place due to the need to provide documentation for billing purposes. On the other hand, advocacy representatives acknowledged that not all immigrant service providers are the same regarding their level of services and trust among the community. Therefore, caution should be placed in selecting immigrant service providers to collect data from regarding hate crimes against immigrants and Hispanic Americans. Finally, our panelists thought that data collection from local police departments may improve with better training on the reporting of hate crimes, the adoption of immigrant-friendly policies and practices, easier access to professional interpreters and translators, and improved community relations with the immigrant residents. However, departments will continue to face levels of mistrust from community members as long as they are linked to law enforcement such as border patrol and ICE agents.

Overall, advocacy organization representatives suggested that a community survey would be the best approach to gaining a better understanding on the trends in hates crimes against immigrants, Hispanic Americans, and those perceived to be immigrants. A survey conducted at the community level that accounts for both the local context and historical context might provide the most accurate depiction of the occurrence of hate crimes in that community. Advocacy organization representatives emphasized the need to account for the socio-demographic makeup of communities, which would affect the occurrence of hate crimes as well as the reporting of hate crimes in that community. For example, communities with a large Asian population may differ in their reporting of hate crime in comparison to communities with a large Hispanic population. The passage of immigrant legislation, whether local or statewide, will influence the likelihood of immigrant residents to report hate crimes. Additionally, the policies and practices of law enforcement working with ICE through the various agreements formed (e.g., Secure Communities) will also affect the likelihood of immigrant residents from reporting crimes to police officials. Therefore, accounting for these various events taking place in the community will provide a better understanding of the trends in hate crimes against immigrants, Hispanic Americans, and those perceived to be immigrants.

Expert Panel: Health care workers and immigrant service providers

Purpose

Two expert panels were convened to gain a better understanding on trends in hate crimes against immigrants and Hispanic Americans during the National Council of La Raza annual conference. The first expert panel was made up of health care service providers, who provide medical services to immigrants and Hispanic Americans in their communities. The second expert panel was made up of immigrant service providers, who provide a variety of services to their constituents including employment, housing, and legal assistance. Members from both panels represented organizations from across the United States including communities in Alabama, Arizona, California, the District of Columbia, Illinois, Michigan, Pennsylvania, and Texas. Experts were asked about the trends in hate crimes in their communities and to provide information on best practices, as well as recommendations for future policies.

Findings

The majority of panel members reported that they had witnessed a growth in hate crimes against immigrants and Hispanic Americans in their communities. Panel members provided the following reasons to explain the rise in hate crimes:

- **Anti-immigrant legislation.** Following the passage of anti-immigrant legislation, the reporting of hate crime incidents increased in communities largely affected by the new legislation. For example, panel members reported that Alabama's anti-immigrant bill, HB 56, led to an increase in attacks, both verbal and physical, against immigrants and Hispanic Americans. Service providers spoke of the need for increased funding to allow them to fully serve their constituents including providing service to hate crime victims. Additionally, immigrants and Hispanic Americans were less likely to approach agencies and/or organizations to report any hate crimes due to fear of retaliation.
- **Community Friction.** An influx of immigrants and Hispanic Americans into African American communities has led to friction between residents. Similar to what other communities have seen as non-white residents move into previously all white neighborhoods, some panel members reported a number of attacks by African Americans against immigrants and Hispanic Americans, which included racial/ethnic slurs.
- **Housing Discrimination.** Some panel members mentioned discrimination against immigrants and Hispanic Americans in housing complexes following a growth in the immigrant and Hispanic American residents in the community. Both, Black/African American and White landlords of apartment complexes on occasion refused to rent apartments to immigrant and Hispanic Americans simply because of their perceived immigration status.
- **Medical Services.** Health care service providers noted an increase in reporting of crimes against immigrant and Hispanic Americans based on reports from medical staff regarding assaults against various family members. Medical service providers generally encouraged victims to report to law enforcement, but provided families with the services they needed regardless of their decision to report the crime.
- **School Bullying.** Panelists reported that immigrant and Hispanic American youth have experienced an increase in hate crimes at schools. Most incidents escalate from bullying, which in some schools is ignored by teachers and school administrators. Additionally, expert panels

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commented that parents are ignorant of such incidents and, therefore, they are left unreported. One expert panel shared an example of a case of long term bullying that was ignored and led to the death of a youth in her community.

In response to a growth in attacks against immigrants and Hispanic Americans, panel members have had success in the implementation of some programs in order to alleviate some of the fear and tension within their communities. The following major themes emerged from the promising practices:

- **Police collaboration.** Some panel members have highlighted the importance of developing partnerships with local police officers to decrease some of the fear and tension in communities. One panel member provided an example of collaborating with police officers in her community to meet with residents and respond to some individual incidents before they escalated into violent crimes among residents.
- **Public Awareness and Education Campaigns.** Panel members cited the importance of educational campaigns to increase awareness in communities about hate crimes since this may be a completely new concept to many immigrants. On the one hand, immigrants and Hispanic Americans are often unaware that certain incidents can be reported as hate crimes and, on the other hand, local police officers are ignorant about how some incidents may actually be hate crimes without asking the right questions and investigating the motives for some attacks. For example, as a result of further prodding about the circumstances of the event that led them to seek medical services, health care service providers are sometimes able to determine whether the individual was a victim of an attack.
- **Hotline.** Due to the heightened fear among immigrants and Hispanic Americans about reporting hate crimes to law enforcement, some of the organizations panel members reported that they had created hotlines to receive calls for a broad range of services including victim services. While residents are unlikely to report to law enforcement, they are more likely to report to service providers though they may never agree to approach law enforcement despite the organization's encouragement.
- **Mediation.** Some hate crime incidents panel members reported were a result of a misunderstanding between community residents. For example, one panel member cited attacks against immigrant and Hispanic American residents in housing developments by African American residents as a result of misinformation about the other group. The service provider was able to reduce hate crimes by holding events involving all residents to meet each other and change false impressions held about each other's racial/ethnic group.

In addition to promising practices, panel members provided a series of recommendations for future policies and practices that might help to improve the reporting of hate crimes against immigrants and Hispanic Americans. These recommendations included the following:

- **Community Engagement.** Panel members view community engagement as a key ingredient to increase reporting of hate crimes against immigrants and Hispanic Americans, as well as to decrease the level of hate crimes occurring. By engaging community members, the levels of fear felt by immigrant and Hispanic American residents can be decreased and, in turn, residents are more likely to report hate crimes.

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- **Partnership with Churches.** Leaders of places of worship generally have a lot of trust among immigrants and Hispanic Americans in some community. While some panel members encouraged reaching out to leaders in religious organizations to collect data on hate crimes against immigrants and Hispanic-Americans, a few panel members expressed concerns about the passive role some leaders of religious faiths and faith-based organizations have played in addressing problems faced by immigrants and Hispanic Americans.
- **Police Training.** Panel members agreed that law enforcement should be trained to identify hate crime cases and work with communities made up of immigrants and Hispanic Americans. Cultural and language barriers prevent immigrants and Hispanic Americans from reporting crimes against them to local law enforcement. Expert panel members believe that it is key for law enforcement to connect with both community leaders and members to gain their trust and respond to the community's needs by first understanding what barriers exist.
- **Programming and Outreach.** Because of the national focus on anti-immigrant legislation and immigrant reform, it is important to reach out to immigrant and Hispanic American residents through social media avenues that they utilize to educate them about hate crimes and the reporting of crimes in general. In addition, it is key to educate them about the implications of anti-immigrant legislation and their rights, especially with regards to their rights as victims and the reporting of crimes.
- **School/Teacher Collaboration.** With an increase in bullying incidents containing some bias motivation by the bullies against immigrant and Hispanic American youth at schools, panel members encouraged data collection at schools of bullying incidents motivated by biases against immigrants and Hispanic American youth. Teachers and school administrators are often a good source depending on the level of trust they have with immigrant and Hispanic American students. However, in some cases, teachers and school administrators may themselves be the perpetrators of hate incidents against youth.

Expert Panel: Methodologists

Purpose

An expert panel of methodologists from federal and non-federal agencies working with hate crime data and/or victim data concerning immigrant and Hispanic American populations was convened in order to identify alternative methods to allow for better measurements of hate crimes against immigrants and Hispanic Americans.

Summary of Findings

Participants in the panel agreed that there are various limitations to current data collection efforts due to a number of factors including difficulties with obtaining information about immigration status, immigrants viewed as a hidden population, different policies and practices across various law enforcement agencies, and the small sample size immigrants represent in most communities. In response to these limitations, participants suggested alternative sources from which data could be collected and compared as a possibility to improve our understanding of hate crimes against immigrants. First, participants suggested adding questions about immigration to the National Crime Victimization Survey similar to those asked by the American Community Survey administered by the U.S. Census Bureau, which captures information on the foreign born population. Additionally, including questions on attitudes of police and perceptions of crime within community would provide

information on risk of crime within certain areas. This information might also be geo-coded to gain a better understanding about perceptions in the different communities across the United States. Second, the National Incident Based Reporting System (NIBRS) is limited in national scope, but could be used to select communities where a survey on hate crimes could be conducted to add more depth to the available data. Third, immigrant and service providers could aid with the data collection efforts given the right survey instrument and training. Furthermore, data collection by service providers could be triangulated with the police department's reports. Finally, participants suggested using social media as a tool to gather indicators on how to frame questions to improve the reporting of hate crimes and/or help select communities where hateful speech is used. In addition, the information found through social media could also be geo-coded to understand different community perspectives.

Overall, participants recommended that the best approach to improve our understanding of hate crimes against immigrants and Hispanic Americans may be to collect information through a community survey to screen for crimes with bias motivation. Using techniques such as capture-recapture and respondent-driven sampling with hate crime victims and/or perpetrators, they could be used to measure attitudes and low level behaviors in addition to criminal activity that might be reportable. Communities would be selected based on their demographic characteristics, whether or not they are a high reporting community versus a low reporting community, the community's perception on immigration, historically immigrant communities, and integrated communities of Hispanic and immigrants. Findings from community surveys would not only provide measures of the prevalence of hate crimes in communities, but the types of hate crimes occurring among Hispanic-Americans and immigrants.

One concern that was discussed involved the realization that many immigrant victims may be unfamiliar with the term "hate crime" or the concept of bias-motivated crime. The group discussed the need for screening questions that would help a victim determine whether hate or bias contributed to - or caused - what happened to them. Questions that were proposed included:

- Do you know why the person did this to you?
- Did the offender call you any names during the encounter?
- Did you receive threats before the incident?
- Have similar things happened to other people you know?

5.3 Synthesis of Feedback

In order to determine the extent to which trends in reported hate crimes against immigrants and Hispanic Americans reflected in national data collection systems represent accurate estimates, information was gathered from experts across different disciplines whose roles involve working with immigrants and Hispanic Americans. Although members of the expert panels expressed concerns about the occurrence of hate crimes against immigrants and Hispanic Americans, there were mixed opinions about whether - or by how much - they had risen over the past decade. However, experts agreed that a large number of immigrants and Hispanic Americans are victims of bias-motivated crimes and other acts of discrimination.

5.3.1 Corroboration of Phase I Findings

Expert panel members identified a number of limitations of existing data collection systems to capture information about hate crimes targeting immigrants and Hispanic Americans. Primary concerns of the panelists included that:

- Two of the major sources of federal hate crime data, data from the UCR and NIBRS, rely on victims to report victimization to the police and the police to recognize the incident was bias motivated. The panelists raised a number of challenges to both immigrant victims coming forward to report bias motivated crimes to the police and the ability of both the police and immigrant victims to recognize indications of bias motivation. As a result, the panelists cautioned that while the UCR and NIBRS provide important sources of information about bias-motivated crime, they are not reliable or accurate sources of data about the trends in actual victimization targeting immigrants or Hispanic Americans.
- Victimization surveys such as the NCVS do not include questions about the respondent's immigration status. Panelists noted other potential sources of data such as state or local victimization surveys and surveys in schools or communities that also did not include immigration status questions that would facilitate analysis of trends.
- It would be difficult to attempt to cross-validate any trends from UCR, NIBRS or victimization survey data on trends in hate crimes against immigrants or Hispanic Americans using data from victim service providers or health care workers. While these groups do receive reports of hate crimes they do not include hate crime screening question as part of their normal protocol. Additionally, the records of these various groups are often not comparable across organizations or within organizations over time or easily accessed.

While panelists lamented that neither UCR nor NIBRS include a category to capture immigration status either as a specific bias motivation or as a characteristic of victims, they were concerned that adding such information might further reduce the likelihood that immigrant victims or victims who might be perceived to be immigrants would report victimization to the police. Police panelists were similarly concerned about officers screening for immigrant status as a potential bias motivation. Such screening might require them to ask questions about immigration status which may conflict with departmental or municipal policies or further alienate immigrant victims from their local police departments. Panelists noted that in addition to conflict with policy, officers are usually uncomfortable asking potential victims questions about their immigration status.

5.3.2 Expert Perceptions about Increases in Victimization of Immigrants and Hispanics

Perceptions of trends in anti-immigrant hate crime and hate crimes against Hispanics

For the most part, experts could cite little firm evidence of changes in the number of hate crimes against immigrants and Hispanic Americans. Policymakers were generally uncertain about whether there had been a rise in these crimes in their communities, but all agreed that the anti-immigration efforts produced increased concern among immigrant residents about whether they would become targeted by members of the community as well as law enforcement. Police officers in our expert panels had encountered no increase in the reporting of hate crimes against immigrants and Hispanic Americans in their communities. While only a few police officers over the past 10 years had charged an individual for a hate crime in which the victim was targeted specifically for being an immigrant, the majority said they felt disconnected from their immigrant residents and that their reluctance to

trust and to report crimes to police stubbornly remained. Fear of deportation, difficulties in communication and education in how to identify a hate crime were among the reasons cited for the underreporting of such crimes.

Experts involved in advocacy work for immigrants and Hispanic Americans reported that they had observed an increase in the number of hate crimes over the last ten years, but this was based on information received from their constituency in their calls for help and their services. Immigrants service providers and health care service providers also witnessed a growth in hate crimes against immigrants and Hispanic Americans identified through their fieldwork as service providers to this target population. In some instances, service providers heard from other institutions such as churches, community centers, and schools about the growth in attacks against immigrants and Hispanic Americans. Yet, most reports of hate crimes were primarily recorded from the information they received as service providers.

Methodologists expressed pessimism about overcoming the limitations in current data collection systems, such as widespread underreporting of hate crimes across all targeted individuals. At the same time, experts involved in working with hate crime data expressed that changes in the level of hate crimes against immigrants and Hispanic Americans are likely to stand out in data collections at the community-level and may not be observable in national data.

Across multiple groups it was observed that we do not have a good understanding of the overall victimization of members of immigrant communities. Consequently, we do not have a well-informed understanding of how many (if any) of these crimes are motivated by anti-immigrant bias, adding to the challenges of identifying trends in these crimes targeting immigrants.

Perceptions of Hate or Bias Motivations

While our experts were not of one mind regarding trends in hate crimes against immigrants and Hispanic Americans, all panels agreed that immigrants and Hispanic Americans are susceptible to attacks as a result of a vulnerable position in society that invites crime. Many recent immigrants have limited facility with English and lack of knowledge about their legal rights, and a mistrust of police (particularly among undocumented immigrants). Immigrant and health care service providers witnessed a number of these cases based on information conveyed by the victim to their organization. Expert panelists felt that a large proportion of these incidents were a result of the victim's perceived vulnerability by those who might take advantage of them.

In communities where anti-immigrant sentiment is supported by the anti-immigrant legislation, the "toxic" community environment encourages the victimization of immigrants by casting doubt as to whether or not they have rights. Policymakers expressed concerns about the impact of the policies in these communities as motivating factors in attacks against immigrants both verbally and physically. Methodologists found that a spike in hate crimes following the September 11th terrorist attacks could be explained by the association between perceptions of threat and hate crimes. Therefore, anti-immigrant sentiment following debate on the immigration reform act could lead to an increase in hate crimes motivated by the perception of threat. The public call to protect the borders of the United States was believed to provide offenders with the incentive to attack immigrants and others perceived to be immigrants according to expert panel members. Prior research on hate crimes has indicated that some hate crime offenders choose their victims in part because they believe that no one will care about these people if they are targeted (Levin and McDevitt, 1993).

Perceptions of Most Common Perpetrators

According to the expert panel members, perpetrators of hate crimes against immigrants and Hispanic Americans are not limited to individuals, but communities and institutions that promote such behavior. Individual members of these communities and institutions may commit these crimes, but expert panel members observed several communities and institutions, such as schools and workplaces, turning a blind eye at these acts resulting in shared blame for the victimization.

Crimes committed against immigrants and Hispanic Americans were sometimes committed at the hands of those within the same ethnic group. Police officers reported cases where immigrants belonging to the same ethnic group robbed other immigrants, who they knew to be illegal and carrying large sums of cash on them or in their residences. In some cases, the immigrant perpetrators knew about the victim's situation and took advantage of their vulnerable status. Immigrant and health care service providers also noticed a large number of immigrants being targeted by other immigrants who held more advantageous positions because of their citizenship status and assimilation into American culture. However, hate crimes committed by members of other groups also occurred particularly in areas characterized by increasing demographic diversity. Expert panel members had received complaints from some housing developments primarily occupied by African American families based on the discrimination and hostility felt by new immigrant families moving into the development.

Although individuals are largely responsible for hate crimes, our expert panel members contended that these incidents could be facilitated or allowed to occur by communities and institutions unwilling to protect immigrants and Hispanic Americans against such crimes. Expert panel members received reports about some communities who acted in hostile ways towards immigrants and Hispanic Americans by creating community watch groups intended to protect legal resident from immigrants. Institutions were also reported to turn a blind eye particularly schools and workplaces when immigrants were being harassed in that setting. Immigrant service providers received a number of complaints from immigrant and Hispanic parents concerned with the treatment their child was receiving at schools by their peers and teachers. While immigrant families felt their children were bullied because of their status, they also felt that school administrators neglected to respond to these incidents due to their own biases. Similarly, expert panel members raised concerns about workplaces as hostile environments for immigrants and Hispanic Americans based on their perceived vulnerability. Additionally, workplace abuse motivated by bias was commonly underreported by victims due to fear of losing their jobs.

5.3.3 Challenges to Victim Reporting

As we have discussed above, there are numerous challenges facing those trying to identify and measure the extent of hate crimes targeting individuals because of their perceived immigration status. One set of challenges come from the victims themselves who may not understand that what is happening to them is a crime in the United States.

Participants in our expert panels reported that often victims may not even perceive the actions as a crime. Often victims believe that if they are attacked or victimized, it was their own fault. Particularly victims who have come to the United States from another country find that there many aspects of American culture that they do not understand.

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Immigrants are keenly aware of their immigration status and their societal location as different from Americans. According to our experts this sometimes results in them being unaware of their rights and seeing their victimization as just part of being in America. Menjivar and Bejarano (2004) speak of immigrants having a bifocal lens, that is, they view their current situation in America through the lens of their previous country. In hate crimes this may present a particular problem for identification, if for example there was no hate crime legislation in their home country they may be quite unaware of any such protection in this country.

Merry (1990) has written about the concept of legal consciousness of immigrant groups. Her research indicates that many immigrants see the role of the legal system as it was in their home country. In many countries the police are not involved in solving neighborhood disputes so when immigrants come to the U.S. they do not understand that police may play that role here. These perceptions may exacerbate the reluctance of immigrants who are targeted for crimes based on their perceived immigration status to not see police as a place to turn for assistance.

Immigrants to the United States face a wide range of victimization, some of which may be bias-motivated. Often, immigrants feel that a bias-motivated incident is simply part of a broader pattern that includes not being paid at fair rates, not having access to affordable housing, and not being able to obtain a driver's license.

Even victims who do recognize that they are being targeted in a bias motivated crime may be afraid to come forward and report the victimization to police. There are many reasons for this but the primary reason is a fear of being deported. Immigrants, including many who are in the United States legally, believe that going to the police will result in them being deported. There are a number of reasons for this, but generally it is based on negative experiences in which police became associated with efforts to discover and deport undocumented person, rather than being seen as a source of help and support. Many immigrants believe that if the police know who they are, it is just a matter of time before they will be deported. Panelists said this is true even for many legal immigrants, some of whom have family members who are in the U.S. illegally, or are considering bringing an undocumented family member to this country.

One frustration for many in law enforcement is that for many immigrants they see all police as the having the same priorities and functions, whether they are agents from ICE, state police departments, or municipal police officers. Consequently, local police attempting to develop better relationships with immigrant groups face a difficult task, if members of those communities see police as local extensions of (or close collaborators with) ICE agents. The proposed solutions include educational components that teach local groups about the many levels and complex roles of law enforcement in the United States.

A number of the experts we met with spoke about how the media is a cause of much confusion in the groups they work with. They reported that their clients do pay attention to media reports particularly when these reports are dealing with stories about legislative changes regarding immigration status. Unfortunately our experts reported that due to the unfamiliarity with the American justice system by many of their clients they do not take away the correct interpretation of the story. For example, a story about another state passing legislation to require identification to be carried at all times may be interpreted as applying to them and their families.

5.3.4 Challenge to Police Reporting

In addition to the challenges victims face reporting hate crimes to the police, the expert panels with police practitioners identified specific challenges that police face identifying hate crimes against immigrants and reporting such crimes when they are identified. It is important to note that while officers in our expert panels were designated to investigate hate crimes in their jurisdiction, few had any direct experience investigating hate crimes that were specifically targeting immigrants or Hispanic residents based on their immigration status. Major challenges are identified below.

Lack of victim reports about victimization

Line officers and detectives in both expert panels indicated that they believed immigrants in the communities they serve were generally reluctant to report all crimes to the police. As indicated above officers suggested that immigrant and Hispanic community members who might be perceived as immigrants feared the police based on perceptions about the police in their own county and feared that reporting victimization would be expose them to immigration status checks and potentially deportation. While these experts thought that immigrants were victimized at higher rates, they said they seldom receive reports of victimization from immigrant community members. The cases they did hear about generally involved property crimes such as burglaries and thefts or violent crimes such as assaults or robberies. Expert panel members noted that even in property and violent crimes immigrant victims are reluctant to call the police. When immigrant victims do call the police, the victims generally have no other alternatives. In these cases the police are truly the last hope.

Administrative and investigative barriers to identification and reporting of hate crimes

The police expert panel participants identified a number of administrative barriers and challenges of current investigative practices that impede identifying potential bias motivated crimes against immigrants or Hispanic community members.

Language barriers were one of the most fundamental detriments to determining bias motivation or identifying bias crime victims. Expert panel members acknowledged that there were likely many potential victims that were unable to communicate the complexities of bias motivation to officers who did not speak their native language. They indicated that it was easier to work with victims when the responding officer speaks the language and is familiar with the culture of the potential victim. Expert panel members came from agencies with varying foreign language capacities. Some agencies had a few patrol officers on every shift that could speak Spanish fluently while others had some shifts with no Spanish-speaking officers. In these cases, officers on patrol had to use language lines or call in officers to respond to a case involving a Spanish-speaking victim. Most expert panel members came from agencies with very little capacity to communicate with community members in languages other than Spanish or English. As a result, immigrant victims commonly had to communicate their situation through broken English or the use of a language line translator. A few expert panel members noted that children were often the best translators for their parents, but one can imagine the difficulties and potential negative costs of translating bias motivation through a victim's child or relative.

Officers also reported that they were either prevented from asking potential victims about their immigration status or felt uncomfortable asking questions about immigration status issues for fear that individuals would be reluctant to provide information to the police or to come forward to report crime out of a fear of deportation or challenges of their immigration status. As a result, officers may not have known that a hate crime victim was an immigrant and may not have asked questions about

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whether or not immigration status was a motivation in the bias incident. More problematically, some expert panel members believed that the inability of line officers to ask about immigration and their discomfort discussing immigration status issues lead to officers missing potential indicators that a crime was bias motivated. As a result, hate crimes against immigrants even when reported to the police, may be misclassified as not bias motivated.

Officers in both expert panels suggested that one of the most promising areas to improve reporting of crime by immigrant community members and those who may be perceived as being immigrants was through community policing officers. Officers who developed a relationship with leaders in immigrant communities were the ones who were most likely to be informed about a criminal incident within the community.

One source of frustration articulated by our police experts was that if an officer developed a strong relationship with an immigrant community the positive perception of that officer seldom transferred to the rest of the officers in the agency. This was evident when a popular officer was promoted or transferred and the new liaison officer had to re-start the long process of developing relationships and gaining trust. Expert panel members suggested that immigrant community members who were victimized or those who they informed about the victimization were unlikely to call the police directly, but would be most willing to discuss victimization with someone who was trusted by members of their community. Expert panel members expressed concern that funding for and support of community policing was diminishing in their jurisdiction.

Expert panel members suggested that line officers in their agencies receive little training about how to correctly identify bias motivation. As a result, in those cases where victims report a crime to the police, the reporting officers are not routinely collecting information that would help identify bias motivation. For example, officers may not be appropriately trained to ask questions that would probe bias motivation and do not accurately record information on incident reports that would signal evidence of potential bias motivation. As with all bias motivated crimes, some agencies struggle to ensure that incidents with bias motivation indicators are appropriately forwarded to specialist investigators to make a bias crime determination.

In situations where officers are able to communicate with a potential victim and identify a bias motivated incident through proper screening techniques, agencies commonly cannot track crimes motivated by bias toward immigrants or those perceived to be immigrants. Some agencies represented on the expert panels had a single checkbox or pull-down menu to record that the incident was bias motivated or not. Other agencies represented by the expert panels recorded the specific bias motivation on an incident report. In none of the agencies represented on the expert panels did officers have the ability to indicate a bias motivation based on immigration status. Expert panel members were in fact unclear how they would record an incident where the bias motivation was immigration status. Officers indicated that they might indicate a racial and ethnically motivated crime or bias based on religion depending on the characteristics of the victim and the facts of the incident.

Cultural and community barriers to identification of hate crimes

Officers lamented the distant relationship between police officials and members of the immigrant community. While some experts suggested that a community policing officer, often from the same ethnic group as the immigrant community, can make inroads in developing a trusting relationship with immigrant groups, most offices do not have that trust or level of comfort. As noted above, while

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Hispanic and immigrant community members were often not willing to report crimes to the police, they were more willing to speak with a community policing officers or community action officers about victimization. But officers in the expert panels lamented that community policing faced cuts as municipal budgets tightened and community-policing models were being replaced with other “smart policing” initiatives. As a result, community policing officers had less time to devote to developing trust among community members and some neighborhoods completely lost their community policing officer and thus the only person acting as a liaison between the police and the immigrant community. The expert panel members suggested that moving away from community policing would likely decrease the trust between police and immigrant communities and reduce the venues through which immigrant community members felt comfortable reporting crimes.

Expert panel members suggested that immigrant communities often had high levels of residential instability. As a result, even when officers developed trusting relationship with community leaders and their members, residents commonly moved and officers had to begin the trust-building process anew with new immigrant residents.

Officers with experience investigating hate crimes suggested that their fellow officers have at times misperceived victims as offenders. Expert panelists also noted that while they have not seen many hate crimes targeting immigrants (in some cases, have never investigated a hate crime targeting someone based on their immigration status), they suspect that bias motivated incidents may arise in ethnic enclaves where disputes over property and neighborhood issues may escalate into bias motivated crimes. Expert panel members reported few incidents of skinheads or other hate groups targeting immigrants or Hispanic community members. Instead, they saw conflicts bubble up from disputes among people who lived in close proximity to each other, sometimes from the same ethnic group and sometimes from different groups.

Summary of expert panel input

- Many hate crimes targeting immigrants and Hispanics are not reported to the police. The reasons that these crimes are not reported include; lack of language skills and cultural awareness by law enforcement, fear of deportation by victims, lack of understanding of the American justice system and legal protections.
- Data on hate crimes against immigrants and Hispanics will continue to be difficult to collect in part because the concept of a hate crime is unknown to many victims and thus they do not identify the crime or see themselves as victims.
- While few of our experts could say if hate crimes against immigrants and Hispanic were increasing due to anti-immigrant sentiment in local communities, most agreed that these anti-immigrant sentiments were causing increased fear of crime in both the immigrant and Hispanic communities.
- Hate crimes against immigrants and Hispanics do occur more frequently than official records indicate but these hate crimes are only one component of a much larger pattern of violence and discrimination targeting immigrants and Hispanics.
- While hate crimes against immigrants and Hispanics are committed by individuals many offenders are empowered by anti-immigrant actions by municipalities, states or local institutions and by institutions such as police or schools who may ignore crimes targeting these groups.

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- Police experts all recommended that innovative and ongoing outreach efforts need to be implemented between the local police and immigrant groups in their community. These outreach efforts will lead to better understanding, increased trust and better report of hate crimes and other crimes as well.

6. Discussion and Recommendations

This project's analysis of data from federal collection programs such as the UCR, NIBRS and NCVS found that each produces excellent data for certain kinds of research, but have substantial limitations for the very specific purpose of assessing the significance of trends. Agency participation in NIBRS is too limited to provide national coverage, and the small number of raw responses underlying estimates from NCVS produce large confidence intervals and prohibits state-level analyses. UCR data are the most suitable, and can detect statistical significance of trends at the national level, and within one state – California – for all hate crime types combined.

None of the national systems allow for modeling trends in bias motivated crimes against immigrants, because they do not currently include any measure of immigrant status. There are many potential challenges to including an immigration category in these data systems—namely concern that including information about immigration status will reduce participation in victimization surveys and more dangerously reduce victim willingness to report crimes to the police.

Even if federal data collection programs were to add designations for immigration status, they would remain limited sources of information about patterns or changes in hate crimes against immigrant groups. Existing Federal data collection systems require users (whether the police or individuals completing surveys) to understand, recognize and report an incident as bias motivated. Data from police are likely of limited validity since hate crime victimization may not be accurately reported to police, and police may not recognize or record bias motivation when a crime is reported. Similarly, self-report victimization surveys such as the NCVS will not capture bias-motivated crimes if victims do not understand the concept of a hate crime, or recognize that hate or bias was the motivation behind the offenses committed against them.

The underreporting of anti-immigrant hate crimes is the result of two major challenges. First, many victims fail to report hate crimes to police either because they do not recognize the victimization as a crime or because they fear the implications of reporting to the police. Secondly, once a victim does come forward, the crime may not be recognized as bias motivated by the local police because of lack of training or language difficulties. Immigrants, whether documented or undocumented, may be fearful of reporting victimization to the police out of concern about their immigration status. Police in expert panels we convened reported receiving few reports of hate crimes against immigrants or Hispanic Americans and indicated that a crime would likely not be uncovered unless the victim proactively reported their victimization to the police. Immigrants also may not understand the concept of bias motivated crimes. Panel members suggested that immigrants face numerous forms of victimization and exploitation and often come to expect that they will experience hardship based on bias. These collective experiences undermine the ability of victims to identify what is happening to them as a bias motivated crime for which they have a right to be protected.

Police in expert panels we convened indicated that officers are commonly uncomfortable or prohibited by policy to ask questions about immigration status that might help law enforcement identify a bias motivated hate crime against an immigrant or Hispanic American. Police panelists noted challenges to police accurately identifying hate crimes in communities where the police do not have open lines of communication and established trust with immigrant groups. This condition may be exacerbated in an era where funding for community policing has been reduced. Police also

reported facing serious challenges communicating with individuals to discern whether their victimization was bias motivated due to a lack of foreign language capacities within their organizations. Officers commonly utilize phone-based language lines to communicate with immigrants and Hispanic Americans who do not speak English as their first language.

Police, health care and advocacy panelists indicated that crime victims from immigrant communities are more likely to report victimization to a local community group, church or advocacy organization that may or may not help facilitate reporting the victimization experience to the police. While these organizations may be rich sources of information about hate crimes that are not reported to the police they commonly have less formal or unstructured systems for keeping records.

One additional important consideration for understanding hate crimes against immigrants is the definition of anti-immigrant hate crimes. It is clear from the research reported here that some hate crimes are motivated by anti-immigrant bias. Some individuals are targeted for victimization because they are perceived to be immigrants, their actual immigration status is not relevant. For these offenders immigrants are not the same as legal residents and thus a more likely target for violence. The belief that immigrants may not report victimization to the police makes the targeting of this group even more likely. However in the case of anti-immigrant hate crimes the victim almost always holds a position as a member of another protected group. They may be targeted based on their race, ethnicity or religion, but also perceived by perpetrators as an immigrant, further enhancing the bias motivation. It is unlikely that an offender attacks a victim based on the victims perceived immigration status alone and not also in part based on the race or ethnicity. If a police officer is investigating a crime as bias motivated it may be less important that they attempt to portion out the various levels of bias motivation than it is to understand that many offenders target victims on the basis of multiple characteristics.

It is clear from the information provided to us from our experts that there is universal belief that many hate crime victims who are targeted because of their perceived immigration status are not reporting to the police and are thus not represented in national UCR and NIBRS data. The exact number of such victims is unknown as is the question of whether the number of anti-immigrant hate crimes are increasing or decreasing. It is also universally agreed by our experts that increased outreach by police and other organizations will be necessary to empower these victims to come forward and report. Finally it was agreed that training for both police and community members will be necessary for these outreach efforts to be effective.

6.1 Conclusions and Recommendations

After reviewing the current state of data on hate crimes against immigrants and Hispanics and the challenges to improving that data it appears that pursuing both a short-term and a long-term solution might be the best approach for answering the question of whether hate crimes against these groups are increasing. In the long term, having law enforcement collect the data on these crimes as part of the existing national hate crime reporting system would offer the best solution. This process would treat these bias motivated crimes just like other bias motivated crimes and it would provide a national support system for victims of these crimes similar to other hate crime victims. Whether a new classification is necessary is still an open question since the vast majority of anti-immigrant hate crimes can be reported through an existing category (e.g. Anti-Hispanic or Anti-Asian) but this research revealed that very few anti-immigrant hate crimes are being identified nationally and helping

to better prepare police across the country to identify these crimes and assist victims would be an important outcome. The challenges identified above particularly those involving victims reluctance to report crimes and police sensitivity about requesting information regarding immigration status may take some time to overcome. Consequently, we are recommending initiating a process of overcoming those challenges by training and outreach efforts, but are also including short term strategy of conducting a series of more limited studies that can more quickly provide answers about the current level of bias motivated victimization of immigrants and Hispanics.

6.1.1 Suggestions for Improving Data on Hate Crimes vs. Immigrants and Hispanics

Training on How to Identify Hate Crimes

For bias crimes to be reported by victims and witnesses, and then to be captured as events contained in the national hate crime reporting system, a number challenges must be overcome. First, very few of the police experts we spoke with had ever dealt with a reported hate crime targeting immigrants or those perceived to be immigrants, although most believe that such crimes were occurring in their communities. With so little experience in investigating and recording hate crime within police agencies across the U.S., there is a need for training to increase police awareness about the existence of these crimes and how to address them. Training should be developed or adapted from existing hate crime training programs to deal specifically with hate crimes against immigrants and Hispanics. This training could be developed in conjunction with national law enforcement organizations such as IACP or PERF, both of which have previously made hate crimes a priority issue for their members. These trainings would discuss some of the major problems faced by immigrants, including difficulty finding employment and housing. The training would focus on describing the potential types of crime victimization experienced most often by immigrants, barriers to reporting, and suggestions for outreach activities to build relationships with immigrant groups.

Cultural Awareness Training

All training should include a cultural awareness component. This could include a section that could be focused on the groups who are living in that particular community. One way this has been done effectively in the past has been to include members of the local community as part of the training. These community members could talk about their culture as well as their experience as immigrants. The kind of issues that would be important to include would be a discussion of the structure and role of law enforcement in immigrants' home countries, and their perceptions of the integrity of the police they have dealt with before coming to the United States. Additionally, it would be important to discuss whether hate crimes are recognized in their home country, and how this kind of crime would have been handled. This kind of training would help American officers to understand the experience of potential victims, and should include suggested strategies for building relationships between police and members of immigrant communities.

A component of the training should include a refresher on how line officers might identify any crime as hate motivated with particular emphasis on those crimes where an immigrant or a Hispanic is targeted. Some of the indicators responding officers might be encouraged to look for include an assault where the victim had no idea why they were attacked. In the case of a robbery or larceny an indicator might be where the victim believes that other members of their community might also have been targeted. A third indicator might involve the timing of an incident, for example if the attack occurred during a local debate about immigration reform or after a highly publicized incident involving an immigrant and there is no clear alternative motivation officers might investigate if bias

was the motivation. It is important to recall that having an indicator of bias does not mean the crime was bias motivated. The indicator acts as a trigger to elicit additional investigation by a trained bias crime investigator. The crimes should be investigated as part of a two tier investigative system as recommended by the FBI. In this investigative system responding officers are trained to look for bias indicators and to flag the incident as potentially bias motivated. Those incidents that are flagged are then investigated by officers or detectives who have been trained in hate crime investigations. This approach frees responding officers from having to make a decision on the motivation of the crime at the time of the initial investigation, and allows officers more experienced in hate crime investigations to follow-up. In one of our expert panels an officer described a promising practice that could enhance the two-tier process that was originally developed by the FBI in the 1990s. In this agency all incident reports are run through a computerized search process that looks for key words. This search algorithm looks for bias language such as racial, ethnic or homophobic slurs or language in the incident report concerning bias or hate. If any language associated with bias is identified the incident report is forwarded to the hate crime unit for review. In this agency the incident reports contain a check off box for the responding officer to indicate that the incident might be bias motivated, but not all officers remember to check the box in all incidents. According to officers from this agency, computerized searches through incident reports have identified cases that turned out to be hate crimes, but were not originally routed to the hate crime unit for investigation.

This training might review case studies and overviews of hate crimes that have targeted specific groups. For example, in the 1990s very few hate crimes were reported by members of LGBTQ communities. There was significant distrust of the police, a belief that police were not motivated to take crimes committed against persons identifying with LGBTQ groups, and a feeling held by many that nothing could be done to stop these crimes. Only after a great deal of training and outreach to LGBTQ groups by local police and prosecutors did reporting of hate-motivated acts improve.

Another important element of relationship-building involves police processing of reported hate crimes. When a member of the LGBTQ community reported a hate crime to the police, the rest of that community would watch to see how police reacted. If police treated the victim with respect and investigated the crime seriously, that sent a message that law enforcement were practicing what they had preached in outreach sessions. This would build trust, and other victims became motivated to come forward. This process took a number of years to build trust between the LGBTQ community and local police. We would expect a similar process will be necessary in dealing with hate crimes targeting immigrants and Hispanics.

This training should be made available to all law enforcement officers, but should initially focus on officers designated to investigate other forms of hate crimes. These officers can serve as local experts about all types of bias-motivated crimes, and could serve as the point of contact for some of the outreach efforts targeting immigrant communities. Once trained, these officers can lead local training efforts within their organization.

Increase Number of Officers Speaking Spanish and Other Languages, and Availability of Interpreters and/or Translators

Another issue raised by our police panelists was the lack of officers who are proficient in Spanish and other languages. When responding to victims who do not speak English, police officers (particularly those from smaller agencies) may not have the capacity to call someone who can translate. Our experts said that in those cases officers often try to find a neighbor who speaks English, or often they

might ask a child in the house to translate. This can be a particularly problematic situation, since the victim may be reluctant to discuss their victimization in front of others (particularly with neighbors and their own children). Agencies have identified several ways to handle these situations. For example, many agencies are using telephone language lines to reach interpreters, and there are applications on hand-held devices that can be helpful – although clearly not optimal solutions. Additionally, it was noted that officers can return to the victim at a later time with an interpreter to gather details about the incident (it was suggested that not having an appropriate translation system can sometimes serve as a trigger for a follow-up investigation).

Increased outreach to immigrant and Hispanic communities

A number of our expert panel members stressed the need for outreach programs geared to local immigrant and Hispanic communities. A lesson learned by police when other groups have been targeted in hate crimes (e.g. LGBTQ, Arab, or Muslim) is that the police must go out to these communities and not expect them to come to the police. Programs offered in conjunction with a local immigrant service provider or a local church can be successful in achieving an audience and having someone trusted by the local community vouch for the sincerity of police efforts. In a number of our expert panels we were told about the key role churches play in the immigrant and Hispanic community and the value of incorporating members of local clergy in outreach efforts.

One issue that must be addressed during outreach efforts involves educating the community about the various levels of law enforcement in America and the relationship among various law enforcement organizations. Many immigrant and Hispanic members of our communities come to the United States from countries with a single national police force, and the fact that the United States has more than 18,000 individual police agencies can be difficult to comprehend, or to navigate. Additionally, the notion that a local police agency can follow policies different from those guiding Federal law enforcement organizations is confusing to many immigrants. As a consequence, many immigrants assume that deportation policies followed by ICE must also be used by local police. To foster trust of local police and reduce fears that local interactions to report victimization will trigger deportation processes, it is important to educate local community members that all police agencies do not follow the same set of policies. Additionally, it is important to inform community members about the role of local police in addressing immigration issues (which is usually minimal, and tangential to the core mission of local law enforcement).

Through existing community policing programs most police agencies in the United States have developed outreach that work for their particular community. These efforts can be adjusted to address the immigrant and Hispanic community members. The one major barrier is language, but this barrier can generally be overcome by leveraging resources within the community. Some promising practices that were recommended by members of our expert panels included partnering with local churches or social service providers, utilizing local cable news stations that cater to immigrants or Hispanics, or establishing special units within citizen police academies that pursue problem-solving collaborations with immigrant or Hispanic community members.

Other actions by stakeholders

In addition to law enforcement, other stakeholders could take steps to improve reporting of hate crimes targeting immigrants and Hispanics, specifically service providers, educators and employers could play a crucial role in assisting victims.

Service providers

Most of the hate crime victims we heard about in this study had been involved in some way with a local service provider or NGO. Additionally many service providers told us about crimes including hate crimes that their clients had revealed to them. Given this we recommend that service providers include a couple of questions about victimization including the motivation for victimization in their regular screening protocol. These questions must be broad enough to allow victims to report even if they do not understand that the actions are illegal under American law.

In addition, we recommend that service providers begin conversations with local law enforcement in an effort to develop protocols where a victim can report crimes to the local police and not risk being reported to immigration authorities. While not all law enforcement agencies will be willing to develop such a protocol many will and there are templates that exist across the country.

School personnel

Many hate crimes targeting immigrants and Hispanics occur in schools or are reported by students in schools. Just as they do with Anti-African American or Anti-Semitic hate crimes school officials must be vigilant to identify any anti-immigrant hate crimes that involve their students. When such incidents occur or are reported by students as happening to them or their families, schools should establish a protocol for reporting to the local police. School Resource Officers and other school based law enforcement officers can be most helpful in designing such a protocol.

Employers

A third group who could help with reporting are the employers themselves. Most employers value their employees and would not want them to be targeted in criminal activity by other employees or others in the community. Employers could hold periodic “know your rights” sessions with local civil rights groups or members of the local police. They could also encourage reporting of any victimization through existing human resources pathways.

Pursuing Alternative Sources of Data

In all of our expert panels we discussed the possibility of developing data collection systems that are an alternative to the UCR system that “rolls up” data starting at the level of local police. In each expert panel we asked if a victim did not want to tell the police about a hate crime that occurred to them who might they tell. The most common responses were family members, local clergy, local health care providers, and staff from local agencies that provide services to immigrants and Hispanics. In conversations with members of these groups nearly all responded that they had in fact had community members come to them to ask how they might handle a situation that could have been hate motivated. Unfortunately while each group may see some hate crime victims are significant barriers to utilizing each group as a regular hate crime reporting source. One major involves the representativeness of data from organizations. All groups provide services to specified populations, such as sub-sets of potential immigrant or Hispanic hate crime victims. Churches focus first on the needs of their congregation, so data from local churches will often be limited to (or skewed toward) congregants and the demographics of the immediate area. This is also often true for service provider agencies, which focus their services on specific groups and providing specific services (e.g., employment, housing). While healthcare providers offer services to a wide range of community members, the limitation they face is in treating only those hate crimes that produce injury, and are unlikely to be in a position to record other crimes such as larceny, vandalism, or arson.

Pilot Studies Using Alternative Data Providers and Methodology

One suggestion from the methodologist session was to conduct localized victimization surveys or attach additional questions to current surveys as a way to get data in the shorter term about the incidence and prevalence of hate crimes targeting immigrants.

National Hate Crime Estimates

As discussed above, the NCVS already asks about motivations for crimes, and whether bias was a motivating factor. BJS is currently considering revisions to the survey instrument and adding more information about the immigration status of the victim. Such additions would be helpful in determining national rates and trends. There are concerns that adding too much detail about immigration status would lower overall participation rates, particularly among high-risk populations for bias crime victimization. These concerns need to be seriously considered, and techniques used for asking about status that will not reduce response rates. Our expert panelists suggest that members of the local clergy and service providers can provide valuable guidance regarding the best ways to ask questions about immigration status.

Another potential source of data would be the recently implemented Department of Education Civil Rights Data Collection Project. This initiative is new, but has recently been expanded to include bullying and violence targeting GLBTQ youth. This survey might include questions about immigration status and perceived motivation for attacks or bullying.

It is useful to note that some criticism of current hate crime research focuses on the reliance upon aggregate data on crimes, and uses relatively little individual-level data on victims or offenders. This impairs the formulation of theories of hate crime causes and consequences. Better victim survey data could provide information on the factors that contribute to victimization and the impact of that victimization.

Adding Questions to Existing Surveys

A number of additional surveys are currently being implemented across the country. As we have indicated above the California Healthy Kids Survey is a useful source of data on bias motivated bullying. In addition to Healthy Kids survey the Youth Risk Behavior Surveillance System (YRBSS) may be another source of data on bullying and violence targeted at school age youth. This survey is implemented in school districts across the country and could be modified to obtain data about anti-immigrant violence.

Local Victimization Surveys

A number of colleges and universities and some communities conduct local victimization surveys periodically. While the sampling frame and survey instruments may need additional scrutiny these could provide additional venues for obtaining data on anti-immigrant hate crimes at a relatively low cost.

Targeted Community Surveys

Another approach could provide for NIJ, BJS or other agencies to fund a set of local victimization surveys. These surveys could be completed in a representative sample of communities or could be focused on (or would oversample) a set of communities with large immigrant populations. One benefit of this approach is that the local community context can be known in detail: e.g., changes over time in the diversity of the community, whether there had been a public debate around immigration

issues, and some measures of the current relationship between the local police and members of their immigrant community. An additional benefit of this targeted approach might be to provide opportunities to test questions of convergent validity. For example, a community might be selected in which good alternative sources of data exist, such as hospitals or social service providers. In this way, the data from the alternative sources could be compared to assess the degree of convergence and corroborate findings.

These surveys could employ alternative sampling approaches such as Respondent Drive Sampling (RDS) that has proven effective in reaching hidden or hard to reach populations in the area of human trafficking (Zhang 2012) and drug use (Heckathorn, 1997; 2002). This kind of approach could prove to be effective in identifying victims from communities (and immigrant enclaves within communities) where traditional household survey administration is more challenging. In addition, local surveys could productively employ local “champions,” such as members of the clergy and representatives from local service providers, to market the survey and encourage participation.

This localized approach could also include tests of the effectiveness of specific screening questions to elicit responses from victims. One concern that has emerged is the realization that many immigrant victims may be unfamiliar with the term “hate crime” or the concept of bias-motivated crimes. For these victims, specific follow-up questions could help identify bias motivations. Questions that may be productive include: (a) Do you know why the person did this to you? (b) Did the offender call you any names during the encounter? (c) Did you receive threats before the incident? (d) Have similar things happened to other people you know?

Exploring Novel Sources of Data for Tracking Bias-Motivated Crime and Related Incidents

Advances in communications technology and social media have created opportunities to explore new ways of measuring crime and other negative behaviors motivated by hate or bias. Lessons may be learned from the applications of these technologies in other fields. For example, in an attempt to improve upon traditional methods of detecting influenza outbreaks, Ginsberg and colleagues (2008) developed a method of analyzing data from Google search queries. They found that the relative frequency of certain queries is highly correlated with the percentage of physician visits in which a patient presents with symptoms consistent with influenza. This allows for search query data to support accurate estimation of the current level of weekly influenza activity in each region of the United States, with a reporting lag of approximately one day. Analyses of Google data provide results that are highly correlated with those of traditional surveillance systems based on treatment data gathered by healthcare providers (e.g., Ortiz et al., 2011), are far less costly, and provide a means of monitoring trends in close to real time. It is possible that patterns exist in web searches conducted by both offenders and victims of hate or bias motivated crime, and that trends in search terms may reflect trends in incidence and prevalence.

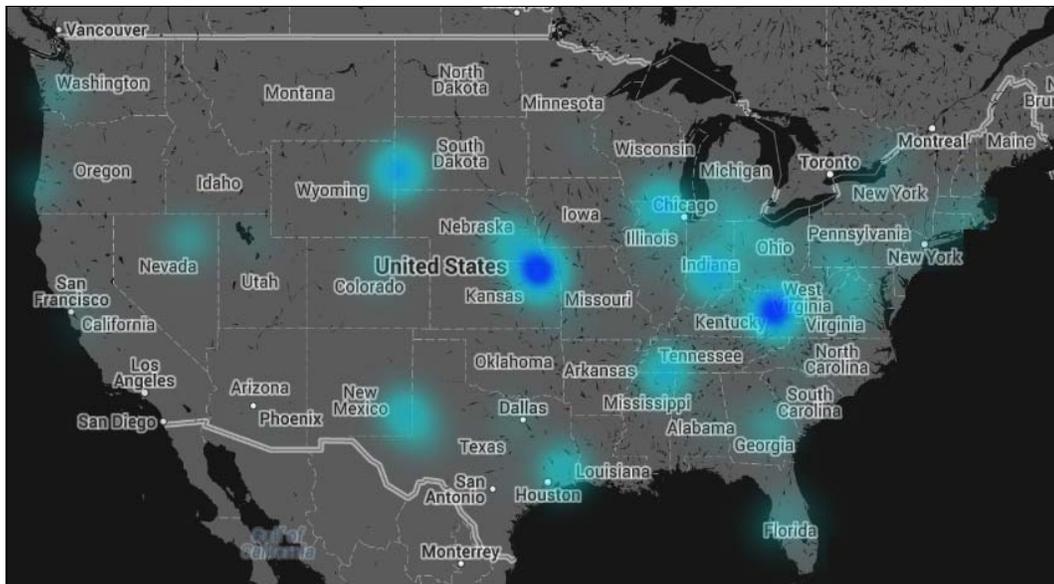
Data from social media sources such as Twitter, Facebook, and Instagram, may provide similar opportunities to identify trends by monitoring terms and following “chatter.” For instance, the Twitter monitoring site, MappyHealth.com, hypothesized that social data could predict outbreaks of disease. Some tools have already proved valuable for the substance abuse field. Crowdsourcing street drug prices (through StreetRx), has recently been cited in The Journal of Medical Internet Research. The RADAR Systems corporation has been managing data collection and reporting for StreetRX.com and has participated in a study to validate this information (Dasgupta, 2013). StreetRx data may be used

for current levels and trends in illicit drug prices. The Journal of Clinical Toxicology revealed that search data may have provided an opportunity to monitor the rise in usage of “bath salts” as an illicit drug at a national and regional basis (Yin & Ho, 2012).

An encouraging exploration of such possibilities is the coding and mapping of data from Twitter reflecting “hate speech” appearing in tweets (Stephens, 2013). A research team from Humboldt State University obtained data from Twitter (via the DOLLY project at University of Kentucky) and used them to produce maps of communications containing selected 'hate words' used in an anti-social manner (Stephens, 2013). The team searched all geo-tagged tweets in North America between June 2012 and April 2013, and found tens of thousands containing racial or homophobic slurs.

Researchers manually coded each tweet to determine if the offensive words were used in a positive, negative or neutral manner. Only tweets used in an explicitly negative way were retained for use in producing heat maps. Over 150,000 tweets were found to contain hateful speech. The coded data were aggregated by county and “normalized” by the total twitter traffic in each county. Weighted and normalized data were used to generate heat maps illustrating the variability in the proportion of all tweets that contained hateful communication (Stephens, 2013). For example, Figure 6-1 presents a heat map of concentrations of tweets containing an epithet used against people of Hispanic heritage.

Figure 6-1 Heat Map of Tweets Containing Anti-Hispanic Hate Speech



Source: Stephens, M. (2013). *Geography of Hate: Geotagged Hateful Tweets in the United States*. Humboldt University. Screen capture of map acquired December, 2013 at: http://users.humboldt.edu/mstephens/hate/hate_map.html

The data from Twitter have substantial limitations, and at this point represent an intriguing possibility that may be pursued, rather than the emergence of a new, reliable data stream about hate crime. The key limitation is that less than five percent of the tweets are from accounts that are location-identified. With such a small proportion of tweets geo-tagged, there is great potential that a selection bias exists for those that are tagged. While such limitations argue for caution when interpreting the results of Twitter data analysis and mapping, emerging technologies and novel data sources can be expected to

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present challenges. Further study of the utility of non-traditional data and information sources should reveal ways of improving the data collected, or making adjustments to offset potential biases.

Appendix A. References

- Addington, L. (2008). *Current Issues in Victimization and the NCVS's Ability to Study Them*. Prepared for presentation at the Bureau of Justice Statistics Data User's Workshop, February 12, 2008, Washington, DC.
- Ansari, S., & He, N. (2012). Convergence revisited: A multi-definition, multi-method analysis of the UCR and the NCVS crime series (1973-2008). *Justice Quarterly*, DOI:10.1080/07418825.2012.718355.
- Anti-Defamation League (2003). *State Hate Crimes / Statutory Provisions*. New York, NY: Anti-Defamation League.
- Anti-Defamation League. (2012). *Statement by Anti-Defamation League Senate Judiciary Subcommittee on Constitution, Civil Rights and Human Rights on Hate Crimes and the Threat of Domestic Extremism*. Available at: <http://www.adl.org/assets/pdf/combating-hate/Senate-Judiciary-Subcommittee-HCPA-statement.pdf>
- Balboni, J.M. & McDevitt, J. (2001). Hate Crime Reporting: Understanding Police Officer Perceptions, Department Protocol and the Role of the Victim: Is There Such a Thing as a "Love Crime?" *Justice Research and Policy*, 3:1-28
- Barnes, A. & Ephross, P.H. (1994). The impact of hate violence on victims: emotional and behavioral responses to attacks. *Social Work*, 39(3):247-251.
- Barreto, M. A., Manzano, S., and Segura, G. (2012). *The Impact of Media Stereotypes on Opinions and Attitudes Towards Latinos*. Available at: <http://www.nhmc.org/sites/default/files/LD%20NHMC%20Poll%20Results%20Sept.2012.pdf>
- Bell, J. (2002). *Policing Hatred: Law Enforcement, Civil Rights, and Hate Crime*. New York: New York University Press.
- Berk, R.A., Boyd, E.A., and Hammer, K.A. (2003) Thinking More Clearly About Hate Motivated Crimes. In Perry, B (Ed) *Hate and Bias Crime*, 49-60.
- Bleich, Erik. 20007. Hate Crime Policy in Western Europe. *American Behavioral Scientist*, 51(2):149-165.
- Boomgaarden, H.G. & Vliegthart, R. 2007. Explaining the Rise of Anti-Immigrant Parties: The Role of News Media Content. *Electoral Studies*, 26:404-417.
- Boyd, E.A., Berk, R.A. & Hammer, K.A. (1996) Motivated by Hatred or Prejudice: Categorization of Hate Motivated Crimes in Two Police Divisions. *Law and Society Review*, 30:819-850.
- California Department of Education. (2003). *Bullying at School*. Counseling and Student Support Office, California Department of Education. Available at: <http://www.cde.ca.gov/ls/ss/se/documents/bullyingatschool.pdf>

- California Legislative Analyst's Office. (2013). *Migrant Education Program*. Presented to Assembly Budget Subcommittee No. 2 on Education Finance. Available at: <http://www.lao.ca.gov/handouts/education/2013/Migran-Education-Program-42313.pdf>
- Cameron, A.C. & Trivedi, P.K. (1998). *Regression Analysis of Count Data*. New York: Cambridge University Press.
- Ceobanu, A.M. & Escandell, X. 2008. East is West? National Feelings and Anti-Immigrant Sentiment in Europe. *Social Science Research*, 37:1147-1170.
- Constantini, C. (2011). Anti-Latino Hate Crimes Rise As Immigration Debate Intensifies. *Huffington Post*, October 18. Available at : http://www.huffingtonpost.com/2011/10/17/anti-latino-hate-crimes-rise-immigration_n_1015668.html?view=print&comm_ref=false
- Constantini, C. (2013). National Politics Can Inspire Hate Crimes, Expert Says. *FusionNet*, May 16, 2013. Available at: <http://fusion.net/justice/story/national-politics-inspire-hate-crimes-expert-11241>
- Copeland, L., & Wolfe, L.R. (1991). *Violence Against Women as Bias Motivated Hate Crime: Defining the Issues*. Center for Women Policy Studies.
- Craig, K.M., & Waldo, C.R. (1996). "So what's a hate crime anyway?" Young adults' perceptions of hate crimes, victims, and perpetrators. *Law and Human Behavior*, 20(2):113-129.
- Dasgupta, N., Freifeld, C., Brownstein, J., Menone, C., Surratt H., Poppish, L., Green, J., Lavonas, E., & Dart, R. (2013) Crowdsourcing Black Market Prices for Prescription Opioids. *Journal of Medical Internet Research*. 15(8):e178.
- Davis, R.C. & Henderson, N.J. (2003) Willingness to report crimes: The role of ethnic group membership and community efficacy. *Crime and Delinquency*, 49:564-580.
- Davis, R., Erez, E., & Avitabile, N. (1998). Immigrants and the criminal justice system: An exploratory study. *Violence and Victims*, 13:21-30.
- Davis, R. & Erez, E. (1998). *Immigrant Populations as Victims: Toward a Multicultural Criminal Justice System*. National Institute of Justice, Research in Brief.
- Devoe, J.F. & Bauer, L. (2011). *Student Victimization in U.S. Schools: Results From the 2009 School Crime Supplement to the National Crime Victimization Survey*. National Center for Education Statistics. Available at: <http://nces.ed.gov/pubs2012/2012314.pdf>
- Dharmapala, D. (2004). Penalty enhancement for hate crimes: an economic analysis. *American Law and Economics Review*, 6(1):185-207.
- Ehrlich, H.J. (1994). Campus Ethnoviolence. In Pincus, F.L. and Ehrlich, H.J. (Eds) *Race and Ethnic Conflict*, 279-290.
- Eitle, D. & Taylor, J. (2008). Are Hispanics the new threat: Minority group threat and fear of crime in Miami-Dade County. *Social Science Research*, 37(4):1102-1115.

- Federal Bureau of Investigation. (2013). *NIBRS Frequently Asked Questions*. Retrieved 12/26/13 from: http://www.fbi.gov/about-us/cjis/ucr/frequently-asked-questions/nibrs_faqs
- Felix, E.D., Sharkey, J.D., Green, J.G., Furlong, M.J., & Tanigawa, D. (2011). Getting Precise and Pragmatic About the Assessment of Bullying: The Development of the California Bullying Victimization Scale. *Aggressive Behavior*, 37:234–247.
- Finkelhor, D., Turner, H., Ormrod, R., Hamby, S., & Kracke, K. (2009). *Children's Exposure to Violence: A Comprehensive National Survey*. Office of Juvenile Justice Delinquency and Prevention, Juvenile Justice Bulletin.
- Finn, P. & McNeil, T. (1988). *Bias Crime and the Criminal Justice Response*. (Prepared under NIJ #. OJP-86-002). Cambridge, MA: Abt Associates Inc.
- Gallup Polling Center. (2013). *Race Relations*. (Prepared by the Gallup Polling Center) <http://www.gallup.com/poll/1687/Race-Relations.aspx>.
- Garofalo, J. & Martin, S. (1993). The Law Enforcement Response to Bias-motivated Crimes. Pp. 64-80 in *Bias Crime: American Law Enforcement and Legal Responses*, edited by Robert J. Kelly. Chicago, IL: Office of International Criminal Justice, University of Illinois, Chicago
- Ginsberg, J., Mohebbi, M.H., Patel, R.S., Brammer, L., Smolinski, M.S., & Brilliant, L. (2008). Detecting influenza epidemics using search engine query data. *Nature*, 457:1012-1014.
- Google.org. (2013). *Flu Trends*. Available at: <http://www.google.org/flutrends/about/how.html>
- Haas, S. M., Nolan, J.J., Turley, E. & Stump, J. (2011). *Assessing the Validity of Hate Crime Reporting: An Analysis of NIBRS Data*. Charleston: WV: Criminal Justice Statistical Analysis Center.
- Harlow, C.W. (2005). *Hate Crime Reported by Victims and Police*. U.S. Department of Justice, Bureau of Justice Statistics. Available at: <http://www.bjs.gov/content/pub/pdf/hcrvp.pdf>
- Heckathorn, D.D. (1997). Respondent-Driven Sampling: A New Approach to the Study of Hidden Populations. *Social Problems*, 44(2):174-199.
- Heckathorn, D.D. (2002). Respondent-Driven Sampling II: Deriving Valid Population Estimates from Chain-Referral Samples of Hidden Populations. *Social Problems*, 49(1):11-34.
- Hensley, J.J. (2011). Racial hate crimes surge 39% in Phoenix. *Arizona Republic*, Nov. 17. Available at: <http://www.azcentral.com/arizonarepublic/news/articles/20111116phoenix-racial-hate-crimes-surge.html>
- Herek, G.M., Gillis, J. R., & Cogan, J.C. (1999). Psychological sequelae of hate crime victimization among lesbian, gay, and bisexual adults. *Journal of Consulting and Clinical Psychology*, 67(6): 945-951.
- Herek, G.M., Gillis, J.R., Cogan, J.C., & Glunt, E.K. (1997). Hate crime victimization among lesbian, gay, and bisexual adults. *Journal of Interpersonal Violence*. 12:195-215.

- Herek, G.M., Cogan, J.C., & Gillis, J.R. (2002). Victim experiences in hate crimes based on sexual orientation. *Journal of Social Issues*, 58 (2):319-339.
- Herek, G.M. (2009). Hate crimes and stigma-related experiences among sexual minority adults in the United States: Prevalence estimates from a national probability sample. *Journal of Interpersonal Violence*, 24(1):54-74.
- Hill, L.E., & Johnson, H. P. (2011). *Unauthorized Immigrants in California: Estimates for Counties*. San Francisco, CA: Public Policy Institute of California.
- Hopkins, D.J. (2010). Politicizing Places: Explaining Where and When Immigrants Provoke Local Opposition. *American Political Science Review*, 104(1): 40-60.
- Human Rights Campaign. (2003a). *Hate Crimes*. (www.hrc.org)
- Human Rights Campaign. (2003b). *Background Information on the Local Law Enforcement Enhancement Act*. www.hrc.org.
- Internal Revenue Service. (2013). *SPEC Tax Data*. Available through Brookings EITC interactive: www.brookings.edu
- Jenness, V., & Grattet, R. (2001). *Making Hate A Crime: From Social Movement to Law Enforcement*. Russell Sage Foundation, New York.
- Justice Research and Statistics Association. (2012). *Status of NIBRS in the States*. Available at: http://www.jrsa.org/ibrcc/background-status/nibrs_states.shtml
- Lauritsen, J.L. & Schaum, R.J. (2005). *Crime and Victimization in the Three Largest Metropolitan Areas, 1980-1998*. Washington, DC: U.S. Department of Justice, Bureau of Justice Statistics. NCJ 208075.
- Leadership Conference on Civil Rights Education Fund. (2009). *Confronting the New Faces of Hate: Hate Crimes in America*. Retrieved 3/3/13 from: http://www.protectcivilrights.org/pdf/reports/hatecrimes/lccref_hate_crimes_report.pdf
- Lemons, S. (2011). Phoenix Hate Crimes Rise 125 Percent from 2006 to 2010. *Phoenix New Time*, June 6. Available at: http://blogs.phoenixnewtimes.com/bastard/2011/06/phoenix_hate_crime_stats_up_10.php
- Levin, J. & McDevitt, J. (1993). *Hate Crimes: The Rising Tide of Bigotry and Bloodshed*. New York: Plenum.
- Levin, J. & McDevitt, J. (2002). *Hate Crimes Revisited: America's War on Those Who Are Different*. Cambridge, MA: Westview Press.
- Levin, J. & Nolan, J. (2011). *The Violence of Hate: Confronting Racism, Anti-Semitism, and Other Forms of Bigotry, 3rd Edition*. Boston, MA: Pearson Education, Inc.
- Fay, R.E. & Li, J. (2012). *Rethinking the NCVS: Subnational Goals through Direct Estimation*. Presented at the 2012 Federal Committee on Statistical Methodology Conference, Washington, DC, January 10-12, 2012. Available at: http://www.fscsm.gov/12papers/Fay_2012FCSM_I-B.pdf

- Londoño, E., & Vargas, T. (2007). Robbers Stalk Hispanic Immigrants, Seeing Ideal Prey. *Washington Post*. Available at: <http://www.washingtonpost.com/wp-dyn/content/article/2007/10/25/AR2007102502740.html>.
- Los Angeles Commission on Human Relations. (2013). *2012 Hate Crime Report*. Available at: <http://humanrelations.co.la.ca.us/hatecrime/hatecrimearchivereports.htm>
- Martin, S. E. (1995). A cross burning is not just an arson: Police social construction of hate crimes in Baltimore County. *Criminology*, 33(3):303–326.
- Massey, D.S. & Sanchez, M. (2010). *Brokered Boundaries: Creating Immigrant Identity in Anti-Immigrant Times*. New York: Russell Sage Foundation.
- McDevitt, J & Balboni, J. (2003) Hate Crimes Victimization: A Comparison of Bias and Nonbias-Motivated Assaults. In Sgarzi, J.M. and McDevitt, J. (Eds.) *Victimology*, pp. 189-204.
- McDevitt, J., Balboni, J., & Bennett, S. (2000). *Improving the Quality and Accuracy of Bias Crime Statistics Nationally*. The Bureau of Justice Statistics.
- McDevitt, J., Balboni, J., Garcia, L., & Gu, J. (2001). Consequences for victims: a comparison of bias- and non-bias-motivated assaults. *American Behavioral Scientist*, 45:697-713.
- McDevitt, J. Cronin, S. Balboni, J., Farrell, A., Nolan, J., & Weiss, J. (2003). *Bridging the Information Disconnect in Bias Crime Reporting*. Washington DC: Bureau of Justice Statistics, U.S. Department of Justice.
- McLaren, L. M. 2003. Anti-Immigrant Prejudice in Europe: Contact, Threat Perception, and Preferences for the Exclusion of Migrants. *Social Forces*, 81(3):909-936.
- McLaren, L., & Johnson, M. (2007). Resources, group conflict and symbols: explaining anti-immigration hostility in Britain. *Political Studies*, 55(4):709-732.
- McPhail, B.A. (2002). Gender Bias Hate Crimes: A Review. *Trauma, Violence, and Abuse: A Review Journal*, 3:2, 125-143.
- McVeigh, R., Welch, M.R. & Bjarnason, T. (2003). Hate Crime Reporting As a Successful Social Movement Outcome. *American Sociological Review*, 68:843-867.
- Menjívar, C. and Bejarano, C.L. (2004). Latino Immigrant' Perceptions of Crime and Police Authorities in the United States: A Case Study from Phoenix Metropolitan Area. *Ethnic and Racial Studies*, 27:120-148.
- Merry, S.E. (1990). *Getting Justice and Getting Even: Legal Consciousness among Working-Class Americans*. Chicago: University of Chicago Press.
- Michels, S. (2008). Hate Crimes Tied to Immigration Debate? *ABC News*, March 8. Available at: <http://abcnews.go.com/TheLaw/story?id=4421921&page=1>
- Mikelberg, A. (2011). Anti-Latino hate crime surges in 2010; 66.6% of ethnic-bias victims were of Hispanic origin versus 45% in 2009. *New York Daily News*, November 15. Available at:

<http://www.nydailynews.com/news/crime/anti-latino-hate-crime-surges-2010-66-6-ethnic-bias-victims-hispanic-origin-45-2009-article-1.977650#ixzz2imSitcMi>

National Coalition of Anti-Violence Programs. (2006). *Anti-Lesbian, Gay, Bisexual and Transgender Violence in 2005*. Annual Report New York 2006

National Hispanic Media Coalition. (2012). *The Power of Media to Breed Hate, Impact Health and Shape Opinions*. Washington, DC. <http://nhmc.org/sites/default/files/NHMC%20Executive%20Summary%20of%20Reports%20and%20Poll%20Sept.2012.pdf>

Nolan, J.J. & Akiyama, Y. (1999). An Analysis of factors that affect law enforcement participation in hate crime reporting. *Journal of Contemporary Criminal Justice*, 15:111-127.

Nolan, J.J. & Akiyama (2002) Assessing the Climate for Hate Crime Reporting in Law Enforcement Organizations. *The Justice Professional*, 15:87-103.

Nolan, J.J.; McDevitt, J.; Cronin, S., & Farrell, A. (2004). Learning to See Hate Crimes: A Framework for Understanding and Clarifying Ambiguities in Bias Crime Classification. *The Justice Professional*, 17:91-105.

Nolan, J. (2010). *The Violence of Hate: Confronting Racism, Anti-Semitism, and Other Forms of Bigotry* (3rd Edition). Boston, MA: Pearson Allyn and Bacon.

Noriega, C.A. & Iribarren, F.J. (2011). *Quantifying Hate Speech on Commercial Talk Radio: A Pilot Study*. Los Angeles, CA: UCLA Chicano Studies Research Center. Available at: <http://nhmc.org/sites/default/files/Quantifying%20Hate%20Speech%20on%20Commercial%20Talk%20Radio%20-%20First%20Study%20Nov.2011.pdf>

Noriega, C. A., Iribarren, F. J., Lenihan, R., Young, A., & Ramirez, H.P. (2012). *Social Networks for Hate Speech: Commercial Talk Radio and New Media*. Los Angeles, CA: UCLA Chicano Studies Research Center. Available at: http://nhmc.org/sites/default/files/Social%20Networks%20for%20Hate%20Speech_UCLA%20CSRC.pdf

Ojito, M. (2013). Words Matter in Immigration Debate. *Miami Herald*, June 22. Available at: <http://www.miamiherald.com/2013/06/22/3464270/words-matter-in-immigration-debate.html>

Organization for Security and Co-operation in Europe. 2013. *Hate Crimes in the OSCE Region: Incidents and Responses: Annual Report for 2012*. Warsaw, November 2013. Available at: <http://www.osce.org/osceannualreport>

Ortiz, J.R., Zhou, H., Shay, D.R., Neuzil, K.M., Fowlkes, A.L., & Goss C.H. (April 27, 2011). Monitoring Influenza Activity in the United States: A Comparison of Traditional Surveillance Systems with Google Flu Trends. *PlosOne*. Accessed December 22, 2013 at: <http://www.plosone.org/article/info:doi%2F10.1371%2Fjournal.pone.0018687>

Peguero, A.A. (2009). Victimization of the Children of Immigrants: Latino and Asian American Student Victimization. *Youth & Society*, 41(2):186-208.

- Pehrson, S., Vignoles, V. L., & Brown, R. 2009. National Identification and Anti-Immigrant Prejudice: Individual and Contextual Effects of National Definitions. *Social Psychology Quarterly*, 72(1):24-38.
- Perry, B. (2001). *In the Name of Hate: Understanding Hate Crime*. Routledge, New York 2001.
- Perry, B. (2002). Defending the color line: Racially and ethnically motivated hate crime. *American Behavioral Scientist*, 46:27-50.
- Planty, M. (2012). *Approaches to Estimating Subnational Victimization Estimates*. Presented at the 2012 Federal Committee on Statistical Methodology Conference, Washington, DC, Jan. 10-12, 2012. Available at: http://www.fcs.gov/12papers/Planty_2012FCSM_I-B.pdf
- Quillian, L. (1995). Prejudice as a response to perceived group threat: Population composition and anti-immigrant and racial prejudice in Europe. *American Sociological Review*, 60:586–611.
- Rincon, Y. (2013). *Possible Rise in Anti-Hispanic Hate Crimes a Concern*. *Latin American Herald Tribune*. Available at: <http://www.laht.com/article.asp?ArticleId=383591&CategoryId=12395>
- Sandholtz, N., Langton, L., & Planty, M. (2013). *Hate Crime Victimization 2003-2011*. Washington, DC: Bureau of Justice Statistics. Available at: <http://www.bjs.gov/content/pub/pdf/hcv0311.pdf>
- Sawyer, A.L., Bradshaw, C.P., & O’Brennan, L.M. (2008). Examining Ethnic, Gender, and Developmental Differences in the Way Children Report Being a Victim of “Bullying” on Self-Report Measures. *Journal of Adolescent Health*, 43:106–114
- Schneider, S.L. 2008. Anti-Immigrant Attitudes in Europe: Outgroup Size and Perceived Ethnic Threat. *European Sociological Review*, 24(1):53-67.
- Sewell, A. (2013). Hate crimes in L.A. County drop to second-lowest level in 23 years. *Los Angeles Times*, October 2, 2013. Available at: <http://www.latimes.com/local/la-me-hate-20131003,0,4795170.story>
- Shively, M. (2005). *Study of Literature and Legislation on Hate Crime in America*. Prepared for the National Institute of Justice, Office of Justice Programs, U.S. Department of Justice.
- Shively, M., McDevitt, J., Cronin, S., & Balboni, J. (2001). *Understanding the Prevalence and Characteristics of Bias Crime in Massachusetts High Schools*. Northeastern Center for Criminal Justice Policy Research.
- Shively, M., & Mulford, C.F. (2007). Hate Crime in America: The Debate Continues. *National Institute of Justice Journal*, 257:8-13.
- Smith, P.L. (1979). Splines as a useful and convenient statistical tool. *American Statistician*, 33(2):57-62.
- Southern Poverty Law Center (1989). *Hate Violence and White Supremacy: A Decade Review, 1980-1990*. Montgomery, AL: Southern Poverty Law Center.

- Southern Poverty Law Center. (2009). *Climate of Fear: Latino Immigrants in Suffolk County, N.Y.* Available at: http://www.splcenter.org/sites/default/files/downloads/publication/splc_suffolk_report.pdf
- Stephens, M. (2013). *Geography of Hate: Geotagged Hateful Tweets in the United States*. Humboldt University. Available at: http://users.humboldt.edu/mstephens/hate/hate_map.html
- Stephan, W.G., Renfro, C.L., Esses, V.M., Stephan, C.W., & Martin, T. 2005. The Effects of Feeling Threatened on Attitudes Toward Immigrants. *International Journal of Intercultural Relations*, 29:1-19.
- United State House of Representatives. (2009). *Departments of Transportation and Housing and Urban Development, and Related Agencies Appropriations Act, 2010*. House Report 111-366, December 8. Available at: <http://www.gpo.gov/fdsys/pkg/CRPT-111/hrpt366/pdf/CRPT-111hrpt366.pdf>
- U.S. Department of Justice (1997). *Training Guide for Hate Crime Data Collection*. Washington, D.C.: Uniform Crime Reporting.
- Van der Brug, W. 2003. Protest or Mainstream? How the European Anti-Immigrant Parties have Developed into Two Separate Groups by 1999. *European Journal of Political Research*, 37:77-102.
- WestEd. (2011). *California Healthy Kids Survey, Student Well-being in California, 2008-10: Statewide Results*. WestEd Health and Human Development Program for the California Department of Education. Available at: http://chks.wested.org/resources/Secondary_State_0810_Main.pdf
- Yin, S., & Ho, M. (2012). Monitoring a Toxicological Outbreak Using Internet Search Query Data. *Journal of Clinical Toxicology*, (50): 818-822.
- Yu, S., Huang, Z., Schwalberg, R., Overpeck, M., & Kogan, M. (2003). Acculturation and the Health and Wellbeing of U.S. Immigrant Adolescents. *Journal of Adolescent Health*, 33(6):479-488.
- Zhang, S.X. (2012). *Looking for a Hidden Population: Trafficking of Migrant Laborers in San Diego County*. Prepared for the National Institute of Justice, Office of Justice Programs, U.S. Department of Justice. Available at: <https://www.ncjrs.gov/pdffiles1/nij/grants/240223.pdf>

Appendix B. Model Specifications and Test Results**Selecting Anti-Hispanic Hate Crimes**

Incidents were coded as anti-Hispanic hate crimes if the following was true:

if $BIASMO1 = 32$ or $BIASMO2 = 32$ or $BIASMO3 = 32$ or $BIASMO4 = 32$ or $BIASMO5 = 32$ or $BIASMO6 = 32$ or $BIASMO7 = 32$ or $BIASMO8 = 32$ or $BIASMO9 = 32$

Models Estimated

We estimated the following model specifications:

- Model 1: Linear Regression with Year Trend variable for year-level dataset
- Model 2: Poisson Regression with Year Trend variable for year-level dataset
- Model 3: Negative-Binomial Regression with Year Trend variable for year-level dataset
- Model 4: Unweighted Least Squares Regression with Year Trend Variable and State Dummy Variables in State and Year Level Dataset
- Model 5: Weighted Least Squares Regression with Year Trend Variable, State Dummy Variables, and controlling for arrests in State and Year Level Dataset
- Model 6: Weighted Least Squares Regression with Year Dummy Variables, and State Dummy variables in State and Year Level Dataset
- Model 7: Weighted Least Squares Regression with Year Dummy Variables, State Dummy variables and controlling for arrests in State and Year Level Dataset
- Model 8: Poisson Regression with Year Trend Variable and State Dummy Variables in State and Year Level Dataset
- Model 9: Poisson Regression with Year Trend Variable, State Dummy Variables and Controlling for Arrests in State and Year Level Dataset
- Model 10: Poisson Regression with Year Dummy Variables, and State Dummy variables in State and Year Level Dataset
- Model 11: Poisson Regression with Year Dummy Variables, State Dummy variables And controlling for arrests in State and Year Level Dataset
- Model 12: Negative-Binomial Regression with Year Trend Variable and State Dummy Variables in State and Year Level Dataset
- Model 13: Negative-Binomial Regression with Year Trend Variable, State Dummy Variables and Controlling for Arrests in State and Year Level Dataset
- Model 14: Negative-Binomial Regression with Year Dummy Variables, and State Dummy variables in State and Year Level Dataset
- Model 15: Negative-Binomial Regression with Year Dummy Variables, State Dummy variables and controlling for arrests in State and Year Level Dataset

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

All of the above models were estimated twice—first, excluding the states with missing arrest information in all years, and second, only excluding them in the years when there was missing data. In addition we also reran the final selected models replacing the dummies with splines to see if it changed the results, Results for all the models and replication code is available on request.

All Hate Crimes – National

Table B-1 Parameter Estimates for Negative Binomial Model for All Hate Crimes Nationally from 1996 to 2008

Parameter	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	-28.265	1443.91	0	0.9844
2011	-0.2427	0.1039	5.45	0.0195
2010	-0.0715	0.1037	0.47	0.4908
2009	-0.1268	0.1028	1.52	0.2172
2008	0.0739	0.1031	0.51	0.4734
2007	-0.0324	0.1027	0.1	0.7524
2006	-0.0357	0.1026	0.12	0.7281
2005	-0.1651	0.1023	2.6	0.1065
2004	-0.0803	0.1021	0.62	0.4317
2003	0.0042	0.1029	0	0.9675
2002	-0.1471	0.1026	2.06	0.1514
2001	0.0992	0.102	0.95	0.3306
2000	-0.0724	0.1021	0.5	0.4783
1999	-0.1115	0.102	1.2	0.2743
1998	-0.1449	0.102	2.02	0.1555
1997	-0.0363	0.1021	0.13	0.7221
1996	0	0	.	.
st_flg_1	17.5906	1443.91	0	0.9903
st_flg_2	21.5225	1443.91	0	0.9881
st_flg_3	20.4384	1443.91	0	0.9887
st_flg_4	24.1832	1443.91	0	0.9866
st_flg_5	21.1043	1443.91	0	0.9883
st_flg_6	21.4357	1443.91	0	0.9882
st_flg_7	21.3044	1443.91	0	0.9882
st_flg_10	19.3414	1443.91	0	0.9893
st_flg_11	20.7443	1443.91	0	0.9885
st_flg_12	21.6312	1443.91	0	0.988
st_flg_13	20.5201	1443.91	0	0.9887
st_flg_14	20.1501	1443.91	0	0.9889

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Table B-1 Parameter Estimates for Negative Binomial Model for All Hate Crimes Nationally from 1996 to 2008

Parameter	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
st_flg_16	21.4398	1443.91	0	0.9882
st_flg_17	19.0539	1443.91	0	0.9895
st_flg_18	21.3227	1443.91	0	0.9882
st_flg_19	21.3557	1443.91	0	0.9882
st_flg_20	22.5301	1443.91	0	0.9876
st_flg_21	22.1651	1443.91	0	0.9878
st_flg_22	21.5824	1443.91	0	0.9881
st_flg_23	17.5619	1443.91	0	0.9903
st_flg_24	20.6698	1443.91	0	0.9886
st_flg_26	20.6738	1443.91	0	0.9886
st_flg_27	20.8572	1443.91	0	0.9885
st_flg_28	20.9932	1443.91	0	0.9884
st_flg_29	22.48	1443.91	0	0.9876
st_flg_30	19.9603	1443.91	0	0.989
st_flg_31	22.5588	1443.91	0	0.9875
st_flg_32	20.2256	1443.91	0	0.9888
st_flg_33	20.4704	1443.91	0	0.9887
st_flg_34	21.6521	1443.91	0	0.988
st_flg_35	20.3247	1443.91	0	0.9888
st_flg_36	21.4084	1443.91	0	0.9882
st_flg_37	20.702	1443.91	0	0.9886
st_flg_38	21.1984	1443.91	0	0.9883
st_flg_39	20.7399	1443.91	0	0.9885
st_flg_40	21.1918	1443.91	0	0.9883
st_flg_41	21.1539	1443.91	0	0.9883
st_flg_42	21.8168	1443.91	0	0.9879
st_flg_43	20.7151	1443.91	0	0.9886
st_flg_45	21.5292	1443.91	0	0.9881
st_flg_46	21.5761	1443.91	0	0.9881
st_flg_47	20.9023	1443.91	0	0.9885
st_flg_49	19.6453	1443.91	0	0.9891
st_flg_50	19.8769	1443.91	0	0.989
arrests	0	0	51.5	<.0001
Dispersion	0.2006	0.013		

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Table B-2 Test Results for Negative Binomial Model

Label	Mean Estimate	Chi-Square	Pr > ChiSq
testall	0.9643	0.13	0.7221
2011-2010	0.8427	2.69	0.101
2010-2009	1.0569	0.29	0.5914
2009-2008	0.8181	3.83	0.0502
2008-2007	1.1122	1.08	0.2989
2007-2006	1.0033	0	0.9744
2006-2005	1.1382	1.63	0.2022
2005-2004	0.9187	0.7	0.4022
2004-2003	0.919	0.69	0.4068
2003-2002	1.1634	2.18	0.1398
2002-2001	0.7816	5.87	0.0154
2001-2000	1.1872	2.87	0.0902
2000-1999	1.0399	0.15	0.7
1999-1998	1.0339	0.11	0.7432
1998-1997	0.8971	1.13	0.2878
1997-1996	0.9643	0.13	0.7221
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.9643	0.13	0.7221
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	0.8971	1.13	0.2878
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998	1.0339	0.11	0.7432
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999	1.0399	0.15	0.7
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000	1.1872	2.87	0.0902
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001	0.7816	5.87	0.0154
2011= 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002	1.1634	2.18	0.1398
2011= 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003	0.919	0.69	0.4068
2011= 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004	0.9187	0.7	0.4022

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-2 Test Results for Negative Binomial Model

Label	Mean Estimate	Chi-Square	Pr > ChiSq
2011= 2010 = 2009 = 2008 = 2007 = 2006 = 2005	1.1382	1.63	0.2022
2011= 2010 = 2009 = 2008 = 2007 = 2006	1.0033	0	0.9744
2011= 2010 = 2009 = 2008 = 2007	1.1122	1.08	0.2989
2011= 2010 = 2009 = 2008	0.8181	3.83	0.0502
2011= 2010 = 2009	1.0569	0.29	0.5914
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.9643	0.13	0.7221
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	0.8971	1.13	0.2878
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998	1.0339	0.11	0.7432
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999	1.0399	0.15	0.7
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000	1.1872	2.87	0.0902
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001	0.7816	5.87	0.0154
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002	1.1634	2.18	0.1398
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003	0.919	0.69	0.4068
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004	0.9187	0.7	0.4022
2010 = 2009 = 2008 = 2007 = 2006 = 2005	1.1382	1.63	0.2022
2010 = 2009 = 2008 = 2007 = 2006	1.0033	0	0.9744
2010 = 2009 = 2008 = 2007	1.1122	1.08	0.2989
2010 = 2009 = 2008	0.8181	3.83	0.0502
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.9643	0.13	0.7221
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	0.8971	1.13	0.2878
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998	1.0339	0.11	0.7432

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-2 Test Results for Negative Binomial Model

Label	Mean Estimate	Chi-Square	Pr > ChiSq
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999	1.0399	0.15	0.7
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000	1.1872	2.87	0.0902
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001	0.7816	5.87	0.0154
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002	1.1634	2.18	0.1398
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2004 = 2003	0.919	0.69	0.4068
2009 = 2008 = 2007 = 2006 = 2005 = 2004	0.9187	0.7	0.4022
2009 = 2008 = 2007 = 2006 = 2005	1.1382	1.63	0.2022
2009 = 2008 = 2007 = 2006	1.0033	0	0.9744
2009 = 2008 = 2007	1.1122	1.08	0.2989
2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.9643	0.13	0.7221
2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	0.8971	1.13	0.2878
2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998	1.0339	0.11	0.7432
2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999	1.0399	0.15	0.7
2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000	1.1872	2.87	0.0902
2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001	0.7816	5.87	0.0154
2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2003 = 2002	1.1634	2.18	0.1398
2008 = 2007 = 2006 = 2005 = 2004 = 2003	0.919	0.69	0.4068
2008 = 2007 = 2006 = 2005 = 2004	0.9187	0.7	0.4022
2008 = 2007 = 2006 = 2005	1.1382	1.63	0.2022
2008 = 2007 = 2006	1.0033	0	0.9744
2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.9643	0.13	0.7221
2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	0.8971	1.13	0.2878
2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998	1.0339	0.11	0.7432

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-2 Test Results for Negative Binomial Model

Label	Mean Estimate	Chi-Square	Pr > ChiSq
2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999	1.0399	0.15	0.7
2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000	1.1872	2.87	0.0902
2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001	0.7816	5.87	0.0154
2007 = 2006 = 2005 = 2004 = 2003 = 2002	1.1634	2.18	0.1398
2007 = 2006 = 2005 = 2004 = 2003	0.919	0.69	0.4068
2007 = 2006 = 2005 = 2004	0.9187	0.7	0.4022
2007 = 2006 = 2005	1.1382	1.63	0.2022
2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.9643	0.13	0.7221
2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	0.8971	1.13	0.2878
2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998	1.0339	0.11	0.7432
2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999	1.0399	0.15	0.7
2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000	1.1872	2.87	0.0902
2006 = 2005 = 2004 = 2003 = 2002 = 2001	0.7816	5.87	0.0154
2006 = 2005 = 2004 = 2003 = 2002	1.1634	2.18	0.1398
2006 = 2005 = 2004 = 2003	0.919	0.69	0.4068
2006 = 2005 = 2004	0.9187	0.7	0.4022
2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.9643	0.13	0.7221
2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	0.8971	1.13	0.2878
2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998	1.0339	0.11	0.7432
2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999	1.0399	0.15	0.7
2005 = 2004 = 2003 = 2002 = 2001 = 2000	1.1872	2.87	0.0902
2005 = 2004 = 2003 = 2002 = 2001	0.7816	5.87	0.0154
2005 = 2004 = 2003 = 2002	1.1634	2.18	0.1398
2005 = 2004 = 2003	0.919	0.69	0.4068
2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.9643	0.13	0.7221

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-2 Test Results for Negative Binomial Model

Label	Mean Estimate	Chi-Square	Pr > ChiSq
2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	0.8971	1.13	0.2878
2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998	1.0339	0.11	0.7432
2004 = 2003 = 2002 = 2001 = 2000 = 1999	1.0399	0.15	0.7
2004 = 2003 = 2002 = 2001 = 2000	1.1872	2.87	0.0902
2004 = 2003 = 2002 = 2001	0.7816	5.87	0.0154
2004 = 2003 = 2002	1.1634	2.18	0.1398
2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.9643	0.13	0.7221
2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	0.8971	1.13	0.2878
2003 = 2002 = 2001 = 2000 = 1999 = 1998	1.0339	0.11	0.7432
2003 = 2002 = 2001 = 2000 = 1999	1.0399	0.15	0.7
2003 = 2002 = 2001 = 2000	1.1872	2.87	0.0902
2003 = 2002 = 2001	0.7816	5.87	0.0154
2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.9643	0.13	0.7221
2002 = 2001 = 2000 = 1999 = 1998 = 1997	0.8971	1.13	0.2878
2002 = 2001 = 2000 = 1999 = 1998	1.0339	0.11	0.7432
2002 = 2001 = 2000 = 1999	1.0399	0.15	0.7
2002 = 2001 = 2000	1.1872	2.87	0.0902
2001 = 2000 = 1999 = 1998 = 1996	0.9643	0.13	0.7221
2001 = 2000 = 1999 = 1998 = 1997	0.8971	1.13	0.2878
2001 = 2000 = 1999 = 1998	1.0339	0.11	0.7432
2001 = 2000 = 1999	1.0399	0.15	0.7
2000 = 1999 = 1998 = 1997 = 1996	0.9643	0.13	0.7221
2000 = 1999 = 1998 = 1997	0.8971	1.13	0.2878
2000 = 1999 = 1998	1.0339	0.11	0.7432
1999 = 1998 = 1997 = 1996	0.9643	0.13	0.7221
1999 = 1998 = 1997	0.8971	1.13	0.2878
First versus Last or 2008 - 1997 = 0	0.7845	5.45	0.0195
Last versus Middle or 2008 - 2003 = 0	0.9254	0.56	0.4534
First versus Middle or 2003 - 1996 = 0	0.9228	0.62	0.4317
1996 versus average of subsequent	1.0753	0.94	0.3329
1997 versus average of subsequent	1.0397	0.27	0.6057

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Table B-2 Test Results for Negative Binomial Model

Label	Mean Estimate	Chi-Square	Pr > ChiSq
1998 versus average of subsequent	0.9277	1	0.3173
1999 versus average of subsequent	0.9558	0.36	0.5477
2000 versus average of subsequent	0.9935	0.01	0.9308
2001 versus average of subsequent	1.1991	5.81	0.016
2002 versus average of subsequent	0.9305	0.89	0.3466
2003 versus average of subsequent	1.0934	1.35	0.246
2004 versus average of subsequent	1.0055	0.01	0.9434
2005 versus average of subsequent	0.9115	1.42	0.234
2006 versus average of subsequent	1.0452	0.31	0.5759
2007 versus average of subsequent	1.0612	0.54	0.4641
2008 versus average of subsequent	1.2472	6.9	0.0086
2009 versus average of subsequent	1.0307	0.12	0.7344
average of 1996-97 versus average of subsequent	1.0587	1.06	0.3027
average of 1996-98 versus average of subsequent	1.0095	0.04	0.8406
average of 1996-99 versus average of subsequent	0.9932	0.03	0.8725
average of 1996-2000 versus average of subsequent	0.9928	0.03	0.8562
average of 1996-2001 versus average of subsequent	1.0388	1	0.3173
average of 1996-2002 versus average of subsequent	1.0163	0.19	0.6642
average of 1996-2003 versus average of subsequent	1.0345	0.85	0.3554
average of 1996-2004 versus average of subsequent	1.0319	0.72	0.3969
average of 1996-2005 versus average of subsequent	1.0071	0.03	0.8521
average of 1996-2006 versus average of subsequent	1.0173	0.19	0.6651
average of 1996-2007 versus average of subsequent	1.0321	0.55	0.4578
average of 1996-2008 versus average of subsequent	1.102	4.24	0.0395
average of 1996-2009 versus average of subsequent	1.107	3.31	0.0688

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-2 Test Results for Negative Binomial Model

Label	Mean Estimate	Chi-Square	Pr > ChiSq
Test 1996 vs. average of all other years	1.0753	0.94	0.3329
Test 1997 vs. average of all other years	1.0345	0.2	0.6519
Test 1998 vs. average of all other years	0.9213	1.21	0.272
Test 1999 vs. average of all other years	0.9547	0.39	0.5334
Test 2000 vs. average of all other years	0.9954	0	0.9509
Test 2001 vs. average of all other years	1.1954	5.81	0.0159
Test 2002 vs. average of all other years	0.9191	1.27	0.2596
Test 2003 vs. average of all other years	1.0802	1.06	0.3039
Test 2004 vs. average of all other years	0.9871	0.03	0.8605
Test 2005 vs. average of all other years	0.9017	1.94	0.1634
Test 2006 vs. average of all other years	1.0352	0.22	0.6425
Test 2007 vs. average of all other years	1.0388	0.26	0.6105
Test 2008 vs. average of all other years	1.1636	4.06	0.0439
Test 2009 vs. average of all other years	0.9393	0.7	0.4024
Test 2010 vs. average of all other years	0.9964	0	0.962
Test 2011 vs. average of all other years	0.8301	5.93	0.0149
testall	0.9643	0.13	0.7221
2011-2010	0.8427	2.69	0.101
2010-2009	1.0569	0.29	0.5914
2009-2008	0.8181	3.83	0.0502
2008-2007	1.1122	1.08	0.2989
2007-2006	1.0033	0	0.9744
2006-2005	1.1382	1.63	0.2022
2005-2004	0.9187	0.7	0.4022
2004-2003	0.919	0.69	0.4068
2003-2002	1.1634	2.18	0.1398
2002-2001	0.7816	5.87	0.0154
2001-2000	1.1872	2.87	0.0902
2000-1999	1.0399	0.15	0.7
1999-1998	1.0339	0.11	0.7432
1998-1997	0.8971	1.13	0.2878
1997-1996	0.9643	0.13	0.7221
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.9643	0.13	0.7221

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-2 Test Results for Negative Binomial Model

Label	Mean Estimate	Chi-Square	Pr > ChiSq
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	0.8971	1.13	0.2878
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998	1.0339	0.11	0.7432
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999	1.0399	0.15	0.7
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000	1.1872	2.87	0.0902
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001	0.7816	5.87	0.0154
2011= 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002	1.1634	2.18	0.1398
2011= 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003	0.919	0.69	0.4068
2011= 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004	0.9187	0.7	0.4022
2011= 2010 = 2009 = 2008 = 2007 = 2006 = 2005	1.1382	1.63	0.2022
2011= 2010 = 2009 = 2008 = 2007 = 2006	1.0033	0	0.9744
2011= 2010 = 2009 = 2008 = 2007	1.1122	1.08	0.2989
2011= 2010 = 2009 = 2008	0.8181	3.83	0.0502
2011= 2010 = 2009	1.0569	0.29	0.5914
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.9643	0.13	0.7221

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Anti-Hispanic Hate Crimes (National)

Table B-3 Parameter Estimates for Anti-Hispanic Hate Crimes using Negative Binomial Model

Parameter	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	-30.988	5349.41	0	0.9954
2011	-0.1393	0.1392	1	0.3169
2010	0.217	0.1346	2.6	0.107
2009	0.0799	0.1341	0.35	0.5515
2008	0.1409	0.133	1.12	0.2895
2007	0.2374	0.1326	3.21	0.0733
2006	0.119	0.1326	0.81	0.3695
2005	0.065	0.1336	0.24	0.6266
2004	-0.0575	0.1345	0.18	0.669
2003	-0.0679	0.1365	0.25	0.6189
2002	-0.135	0.1353	1	0.3184
2001	-0.0128	0.1329	0.01	0.9231
2000	-0.045	0.1335	0.11	0.7358
1999	-0.1682	0.1366	1.52	0.2181
1998	-0.1518	0.134	1.28	0.257
1997	-0.1774	0.1354	1.72	0.1903
1996	0	0	.	.
st_flg_1	16.839	5349.41	0	0.9975
st_flg_2	21.8679	5349.41	0	0.9967
st_flg_3	20.1217	5349.41	0	0.997
st_flg_4	23.2413	5349.41	0	0.9965
st_flg_5	21.6128	5349.41	0	0.9968
st_flg_6	21.0168	5349.41	0	0.9969
st_flg_7	21.1792	5349.41	0	0.9968
st_flg_10	18.352	5349.41	0	0.9973
st_flg_11	21.6984	5349.41	0	0.9968
st_flg_12	21.1478	5349.41	0	0.9968
st_flg_13	20.3908	5349.41	0	0.997
st_flg_14	19.9875	5349.41	0	0.997
st_flg_16	21.1418	5349.41	0	0.9968
st_flg_17	17.9095	5349.41	0	0.9973
st_flg_18	20.1692	5349.41	0	0.997

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-3 Parameter Estimates for Anti-Hispanic Hate Crimes using Negative Binomial Model

Parameter	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
st_flg_19	20.0055	5349.41	0	0.997
st_flg_20	22.5537	5349.41	0	0.9966
st_flg_21	21.3415	5349.41	0	0.9968
st_flg_22	20.7826	5349.41	0	0.9969
st_flg_23	18.7766	5349.41	0	0.9972
st_flg_24	19.8541	5349.41	0	0.997
st_flg_26	21.0713	5349.41	0	0.9969
st_flg_27	21.3816	5349.41	0	0.9968
st_flg_28	20.289	5349.41	0	0.997
st_flg_29	21.8415	5349.41	0	0.9967
st_flg_30	20.3112	5349.41	0	0.997
st_flg_31	21.6329	5349.41	0	0.9968
st_flg_32	19.8757	5349.41	0	0.997
st_flg_33	19.5097	5349.41	0	0.9971
st_flg_34	20.8306	5349.41	0	0.9969
st_flg_35	19.9879	5349.41	0	0.997
st_flg_36	21.7452	5349.41	0	0.9968
st_flg_37	20.0716	5349.41	0	0.997
st_flg_38	21.0363	5349.41	0	0.9969
st_flg_39	20.3176	5349.41	0	0.997
st_flg_40	21.0008	5349.41	0	0.9969
st_flg_41	20.697	5349.41	0	0.9969
st_flg_42	21.4067	5349.41	0	0.9968
st_flg_43	21.1903	5349.41	0	0.9968
st_flg_45	20.7196	5349.41	0	0.9969
st_flg_46	21.4344	5349.41	0	0.9968
st_flg_47	19.4101	5349.41	0	0.9971
st_flg_49	19.9367	5349.41	0	0.997
st_flg_50	17.6459	5349.41	0	0.9974
arrests	0	0	15.72	<.0001
Dispersion	0.1806	0.0208		

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-4 Test Results on Negative-Binomial Model of Anti-Hispanic Hate Crimes Nationally

Label	Mean Estimate	Chi-Square	Pr > ChiSq
testall	0.8375	1.72	0.1903
2011-2010	0.7003	6.67	0.0098
2010-2009	1.147	1.07	0.302
2009-2008	0.9408	0.21	0.644
2008-2007	0.9079	0.55	0.4586
2007-2006	1.1258	0.83	0.3628
2006-2005	1.0554	0.17	0.6814
2005-2004	1.1303	0.84	0.3594
2004-2003	1.0105	0.01	0.939
2003-2002	1.0694	0.24	0.6244
2002-2001	0.885	0.83	0.3626
2001-2000	1.0327	0.06	0.8084
2000-1999	1.1311	0.81	0.3667
1999-1998	0.9838	0.01	0.9051
1998-1997	1.0259	0.04	0.8509
1997-1996	0.8375	1.72	0.1903
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.8375	1.72	0.1903
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	1.0259	0.04	0.8509
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998	0.9838	0.01	0.9051
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999	1.1311	0.81	0.3667
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000	1.0327	0.06	0.8084
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001	0.885	0.83	0.3626
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002	1.0694	0.24	0.6244
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003	1.0105	0.01	0.939
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004	1.1303	0.84	0.3594

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-4 Test Results on Negative-Binomial Model of Anti-Hispanic Hate Crimes Nationally

Label	Mean Estimate	Chi-Square	Pr > ChiSq
2011= 2010 = 2009 = 2008 = 2007 = 2006 = 2005	1.0554	0.17	0.6814
2011= 2010 = 2009 = 2008 = 2007 = 2006	1.1258	0.83	0.3628
2011= 2010 = 2009 = 2008 = 2007	0.9079	0.55	0.4586
2011= 2010 = 2009 = 2008	0.9408	0.21	0.644
2011= 2010 = 2009	1.147	1.07	0.302
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.8375	1.72	0.1903
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	1.0259	0.04	0.8509
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998	0.9838	0.01	0.9051
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999	1.1311	0.81	0.3667
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000	1.0327	0.06	0.8084
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001	0.885	0.83	0.3626
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002	1.0694	0.24	0.6244
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003	1.0105	0.01	0.939
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004	1.1303	0.84	0.3594
2010 = 2009 = 2008 = 2007 = 2006 = 2005	1.0554	0.17	0.6814
2010 = 2009 = 2008 = 2007 = 2006	1.1258	0.83	0.3628
2010 = 2009 = 2008 = 2007	0.9079	0.55	0.4586
2010 = 2009 = 2008	0.9408	0.21	0.644
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.8375	1.72	0.1903
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	1.0259	0.04	0.8509
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998	0.9838	0.01	0.9051
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999	1.1311	0.81	0.3667
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000	1.0327	0.06	0.8084

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-4 Test Results on Negative-Binomial Model of Anti-Hispanic Hate Crimes Nationally

Label	Mean Estimate	Chi-Square	Pr > ChiSq
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001	0.885	0.83	0.3626
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002	1.0694	0.24	0.6244
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003	1.0105	0.01	0.939
2009 = 2008 = 2007 = 2006 = 2005 = 2004	1.1303	0.84	0.3594
2009 = 2008 = 2007 = 2006 = 2005	1.0554	0.17	0.6814
2009 = 2008 = 2007 = 2006	1.1258	0.83	0.3628
2009 = 2008 = 2007	0.9079	0.55	0.4586
2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.8375	1.72	0.1903
2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	1.0259	0.04	0.8509
2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998	0.9838	0.01	0.9051
2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999	1.1311	0.81	0.3667
2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000	1.0327	0.06	0.8084
2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001	0.885	0.83	0.3626
2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002	1.0694	0.24	0.6244
2008 = 2007 = 2006 = 2005 = 2004 = 2003	1.0105	0.01	0.939
2008 = 2007 = 2006 = 2005 = 2004	1.1303	0.84	0.3594
2008 = 2007 = 2006 = 2005	1.0554	0.17	0.6814
2008 = 2007 = 2006	1.1258	0.83	0.3628
2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.8375	1.72	0.1903
2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	1.0259	0.04	0.8509
2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998	0.9838	0.01	0.9051
2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999	1.1311	0.81	0.3667
2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000	1.0327	0.06	0.8084

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-4 Test Results on Negative-Binomial Model of Anti-Hispanic Hate Crimes Nationally

Label	Mean Estimate	Chi-Square	Pr > ChiSq
2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001	0.885	0.83	0.3626
2007 = 2006 = 2005 = 2004 = 2003 = 2002	1.0694	0.24	0.6244
2007 = 2006 = 2005 = 2004 = 2003	1.0105	0.01	0.939
2007 = 2006 = 2005 = 2004	1.1303	0.84	0.3594
2007 = 2006 = 2005	1.0554	0.17	0.6814
2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.8375	1.72	0.1903
2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	1.0259	0.04	0.8509
2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998	0.9838	0.01	0.9051
2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999	1.1311	0.81	0.3667
2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000	1.0327	0.06	0.8084
2006 = 2005 = 2004 = 2003 = 2002 = 2001	0.885	0.83	0.3626
2006 = 2005 = 2004 = 2003 = 2002	1.0694	0.24	0.6244
2006 = 2005 = 2004 = 2003	1.0105	0.01	0.939
2006 = 2005 = 2004	1.1303	0.84	0.3594
2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.8375	1.72	0.1903
2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	1.0259	0.04	0.8509
2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	0.9838	0.01	0.9051
2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999	1.1311	0.81	0.3667
2005 = 2004 = 2003 = 2002 = 2001 = 2000	1.0327	0.06	0.8084
2005 = 2004 = 2003 = 2002 = 2001	0.885	0.83	0.3626
2005 = 2004 = 2003 = 2002	1.0694	0.24	0.6244
2005 = 2004 = 2003	1.0105	0.01	0.939
2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.8375	1.72	0.1903
2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	1.0259	0.04	0.8509
2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998	0.9838	0.01	0.9051
2004 = 2003 = 2002 = 2001 = 2000 = 1999	1.1311	0.81	0.3667
2004 = 2003 = 2002 = 2001 = 2000	1.0327	0.06	0.8084

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Table B-4 Test Results on Negative-Binomial Model of Anti-Hispanic Hate Crimes Nationally

Label	Mean Estimate	Chi-Square	Pr > ChiSq
2004 = 2003 = 2002 = 2001	0.885	0.83	0.3626
2004 = 2003 = 2002	1.0694	0.24	0.6244
2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.8375	1.72	0.1903
2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	1.0259	0.04	0.8509
2003 = 2002 = 2001 = 2000 = 1999 = 1998	0.9838	0.01	0.9051
2003 = 2002 = 2001 = 2000 = 1999	1.1311	0.81	0.3667
2003 = 2002 = 2001 = 2000	1.0327	0.06	0.8084
2003 = 2002 = 2001	0.885	0.83	0.3626
2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.8375	1.72	0.1903
2002 = 2001 = 2000 = 1999 = 1998 = 1997	1.0259	0.04	0.8509
2002 = 2001 = 2000 = 1999 = 1998	0.9838	0.01	0.9051
2002 = 2001 = 2000 = 1999	1.1311	0.81	0.3667
2002 = 2001 = 2000	1.0327	0.06	0.8084
2001 = 2000 = 1999 = 1998 = 1996	0.8375	1.72	0.1903
2001 = 2000 = 1999 = 1998 = 1997	1.0259	0.04	0.8509
2001 = 2000 = 1999 = 1998	0.9838	0.01	0.9051
2001 = 2000 = 1999	1.1311	0.81	0.3667
2000 = 1999 = 1998 = 1997 = 1996	0.8375	1.72	0.1903
2000 = 1999 = 1998 = 1997	1.0259	0.04	0.8509
2000 = 1999 = 1998	0.9838	0.01	0.9051
1999 = 1998 = 1997 = 1996	0.8375	1.72	0.1903
1999 = 1998 = 1997	1.0259	0.04	0.8509
First versus Last or 2008 - 1997 = 0	0.87	1	0.3169
Last versus Middle or 2008 - 2003 = 0	0.8152	2.19	0.1388
First versus Middle or 2003 - 1996 = 0	0.9441	0.18	0.669
1996 versus average of subsequent	1.0064	0	0.948
1997 versus average of subsequent	0.8326	3.26	0.0708
1998 versus average of subsequent	0.8438	2.9	0.0885
1999 versus average of subsequent	0.8174	3.88	0.0488
2000 versus average of subsequent	0.9179	0.75	0.3875
2001 versus average of subsequent	0.9429	0.36	0.5508
2002 versus average of subsequent	0.8179	3.91	0.048
2003 versus average of subsequent	0.8601	2.13	0.144

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-4 Test Results on Negative-Binomial Model of Anti-Hispanic Hate Crimes Nationally

Label	Mean Estimate	Chi-Square	Pr > ChiSq
2004 versus average of subsequent	0.8519	2.48	0.115
2005 versus average of subsequent	0.9568	0.19	0.6629
2006 versus average of subsequent	1.0119	0.01	0.9078
2007 versus average of subsequent	1.1768	2.47	0.1163
2008 versus average of subsequent	1.0924	0.67	0.4146
2009 versus average of subsequent	1.0419	0.12	0.7251
average of 1996-97 versus average of subsequent	0.9098	1.66	0.1979
average of 1996-98 versus average of subsequent	0.8801	4.15	0.0416
average of 1996-99 versus average of subsequent	0.854	7.77	0.0053
average of 1996-2000 versus average of subsequent	0.8615	7.95	0.0048
average of 1996-2001 versus average of subsequent	0.8707	7.47	0.0063
average of 1996-2002 versus average of subsequent	0.8482	11.13	0.0009
average of 1996-2003 versus average of subsequent	0.8373	13.31	0.0003
average of 1996-2004 versus average of subsequent	0.8241	15.62	<.0001
average of 1996-2005 versus average of subsequent	0.8318	13.65	0.0002
average of 1996-2006 versus average of subsequent	0.8482	9.95	0.0016
average of 1996-2007 versus average of subsequent	0.8981	3.69	0.0548
average of 1996-2008 versus average of subsequent	0.9305	1.33	0.2496
average of 1996-2009 versus average of subsequent	0.95	0.47	0.4907
Test 1996 vs. average of all other years	1.0064	0	0.948
Test 1997 vs. average of all other years	0.8329	3.27	0.0705
Test 1998 vs. average of all other years	0.8559	2.47	0.116
Test 1999 vs. average of all other years	0.8411	2.9	0.0883
Test 2000 vs. average of all other years	0.9592	0.18	0.6701
Test 2001 vs. average of all other years	0.9927	0.01	0.9399
Test 2002 vs. average of all other years	0.8714	1.91	0.167

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Table B-4 Test Results on Negative-Binomial Model of Anti-Hispanic Hate Crimes Nationally

Label	Mean Estimate	Chi-Square	Pr > ChiSq
Test 2003 vs. average of all other years	0.9361	0.43	0.5121
Test 2004 vs. average of all other years	0.9466	0.31	0.5761
Test 2005 vs. average of all other years	1.0787	0.61	0.4348
Test 2006 vs. average of all other years	1.1426	1.94	0.1635
Test 2007 vs. average of all other years	1.2965	7.42	0.0065
Test 2008 vs. average of all other years	1.1696	2.66	0.1026
Test 2009 vs. average of all other years	1.0959	0.88	0.3474
Test 2010 vs. average of all other years	1.2685	5.9	0.0151
Test 2011 vs. average of all other years	0.8675	1.86	0.1729

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

All Hate Crimes (California)

Table B-5 Regression Estimates for All Hate Crimes Model in California

Parameter	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	-7.1145	0.1582	2022.15	<.0001
2011	-0.3643	0.0986	13.64	0.0002
2010	-0.3307	0.0954	12.02	0.0005
2009	-0.4674	0.0975	23	<.0001
2008	-0.2673	0.0942	8.05	0.0045
2007	-0.2145	0.094	5.21	0.0224
2006	-0.3349	0.0939	12.72	0.0004
2005	-0.2418	0.0933	6.72	0.0095
2004	-0.2675	0.0928	8.31	0.004
2003	-0.2444	0.0932	6.87	0.0088
2002	-0.2637	0.0934	7.97	0.0048
2001	0.0995	0.0906	1.21	0.2722
2000	-0.0575	0.0922	0.39	0.5331
1999	-0.0868	0.092	0.89	0.3455
1998	-0.1716	0.0921	3.47	0.0624
1997	-0.126	0.0916	1.89	0.1688
1996	0	0	.	.
cnty_flg_1	0.0971	0.2078	0.22	0.6404
cnty_flg_2	-0.6686	1.0145	0.43	0.5099
cnty_flg_3	-0.1589	0.293	0.29	0.5877
cnty_flg_4	-0.4798	0.2	5.76	0.0164
cnty_flg_5	-0.3509	0.2873	1.49	0.2219
cnty_flg_6	-1.0981	0.4404	6.22	0.0126
cnty_flg_7	0.3191	0.1789	3.18	0.0745
cnty_flg_8	-1.0318	0.3565	8.38	0.0038
cnty_flg_9	-0.5	0.2147	5.42	0.0199
cnty_flg_10	-0.4951	0.1929	6.59	0.0103
cnty_flg_11	-2.1704	0.6003	13.07	0.0003
cnty_flg_12	-0.3604	0.199	3.28	0.0701
cnty_flg_13	-2.6747	0.3716	51.81	<.0001
cnty_flg_14	-0.215	0.3323	0.42	0.5177
cnty_flg_15	-0.5717	0.1905	9.01	0.0027
cnty_flg_16	-2.4763	0.3564	48.29	<.0001

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-5 Regression Estimates for All Hate Crimes Model in California

Parameter	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
cnty_flg_17	-0.0393	0.2167	0.03	0.856
cnty_flg_18	-0.4115	0.3563	1.33	0.2482
cnty_flg_19	1.9926	0.8005	6.2	0.0128
cnty_flg_20	-1.5174	0.3061	24.57	<.0001
cnty_flg_21	0.563	0.1799	9.79	0.0018
cnty_flg_22	0.1753	0.3138	0.31	0.5763
cnty_flg_23	-0.3657	0.2109	3.01	0.0829
cnty_flg_24	-1.9609	0.2537	59.75	<.0001
cnty_flg_25	-1.8277	1.0135	3.25	0.0713
cnty_flg_26	-0.1946	0.4402	0.2	0.6584
cnty_flg_27	-0.7178	0.1921	13.96	0.0002
cnty_flg_28	-1.5171	0.3059	24.59	<.0001
cnty_flg_29	-1.0277	0.2872	12.8	0.0003
cnty_flg_30	0.1907	0.2633	0.52	0.469
cnty_flg_31	-0.9195	0.2126	18.7	<.0001
cnty_flg_32	-2.9365	1.0134	8.4	0.0038
cnty_flg_33	0.6047	0.2033	8.84	0.0029
cnty_flg_34	0.433	0.1944	4.96	0.0259
cnty_flg_35	-0.8719	0.3434	6.45	0.0111
cnty_flg_36	-0.6994	0.2519	7.71	0.0055
cnty_flg_37	0.8391	0.2847	8.69	0.0032
cnty_flg_38	1.4158	0.1822	60.35	<.0001
cnty_flg_39	-0.4105	0.183	5.03	0.0249
cnty_flg_40	-0.136	0.1858	0.54	0.4643
cnty_flg_41	0.0726	0.1771	0.17	0.6818
cnty_flg_42	-0.9449	0.1912	24.43	<.0001
cnty_flg_43	0.3141	0.2037	2.38	0.1231
cnty_flg_44	0.4651	0.1755	7.02	0.0081
cnty_flg_45	0.4547	0.178	6.53	0.0106
cnty_flg_46	0	0	.	.
cnty_flg_47	-1.044	0.3432	9.25	0.0024
cnty_flg_48	-0.2262	0.1815	1.55	0.2128
cnty_flg_49	0.1197	0.1763	0.46	0.4972
cnty_flg_50	-0.1779	0.1795	0.98	0.3217

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-5 Regression Estimates for All Hate Crimes Model in California

Parameter	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
cnty_flg_51	-0.2423	0.2229	1.18	0.277
cnty_flg_52	-0.4299	0.2397	3.22	0.0729
cnty_flg_53	-2.5564	1.0135	6.36	0.0117
cnty_flg_54	-1.8161	0.2195	68.46	<.0001
cnty_flg_55	-0.3518	0.2557	1.89	0.1688
cnty_flg_56	0.0834	0.1818	0.21	0.6465
cnty_flg_57	0.3491	0.1812	3.71	0.054
arrests	0	0	3.47	0.0625
Dispersion	0.0938	0.0109		

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-6 Test Results for California All Hate Crimes Negative Binomial Model

Label	Mean Estimate	Chi-Square	Pr > ChiSq
testall	0.8816	1.89	0.1688
2011-2010	0.967	0.11	0.7372
2010-2009	1.1464	1.84	0.1744
2009-2008	0.8186	4.01	0.0453
2008-2007	0.9486	0.3	0.5857
2007-2006	1.128	1.55	0.2127
2006-2005	0.9111	0.94	0.3333
2005-2004	1.0259	0.07	0.7883
2004-2003	0.9772	0.06	0.8087
2003-2002	1.0195	0.04	0.8398
2002-2001	0.6955	15.51	<.0001
2001-2000	1.1699	2.98	0.0844
2000-1999	1.0297	0.1	0.7529
1999-1998	1.0886	0.82	0.3648
1998-1997	0.9554	0.24	0.6238
1997-1996	0.8816	1.89	0.1688
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.8816	1.89	0.1688
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	0.9554	0.24	0.6238
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998	1.0886	0.82	0.3648
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999	1.0297	0.1	0.7529
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000	1.1699	2.98	0.0844
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001	0.6955	15.51	<.0001
2011= 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002	1.0195	0.04	0.8398
2011= 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003	0.9772	0.06	0.8087
2011= 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004	1.0259	0.07	0.7883

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-6 Test Results for California All Hate Crimes Negative Binomial Model

Label	Mean Estimate	Chi-Square	Pr > ChiSq
2011= 2010 = 2009 = 2008 = 2007 = 2006 = 2005	0.9111	0.94	0.3333
2011= 2010 = 2009 = 2008 = 2007 = 2006	1.128	1.55	0.2127
2011= 2010 = 2009 = 2008 = 2007	0.9486	0.3	0.5857
2011= 2010 = 2009 = 2008	0.8186	4.01	0.0453
2011= 2010 = 2009	1.1464	1.84	0.1744
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.8816	1.89	0.1688
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	0.9554	0.24	0.6238
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998	1.0886	0.82	0.3648
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999	1.0297	0.1	0.7529
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000	1.1699	2.98	0.0844
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001	0.6955	15.51	<.0001
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002	1.0195	0.04	0.8398
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003	0.9772	0.06	0.8087
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004	1.0259	0.07	0.7883
2010 = 2009 = 2008 = 2007 = 2006 = 2005	0.9111	0.94	0.3333
2010 = 2009 = 2008 = 2007 = 2006	1.128	1.55	0.2127
2010 = 2009 = 2008 = 2007	0.9486	0.3	0.5857
2010 = 2009 = 2008	0.8186	4.01	0.0453
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.8816	1.89	0.1688
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	0.9554	0.24	0.6238
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998	1.0886	0.82	0.3648
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999	1.0297	0.1	0.7529
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000	1.1699	2.98	0.0844

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-6 Test Results for California All Hate Crimes Negative Binomial Model

Label	Mean Estimate	Chi-Square	Pr > ChiSq
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001	0.6955	15.51	<.0001
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002	1.0195	0.04	0.8398
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003	0.9772	0.06	0.8087
2009 = 2008 = 2007 = 2006 = 2005 = 2004	1.0259	0.07	0.7883
2009 = 2008 = 2007 = 2006 = 2005	0.9111	0.94	0.3333
2009 = 2008 = 2007 = 2006	1.128	1.55	0.2127
2009 = 2008 = 2007	0.9486	0.3	0.5857
2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.8816	1.89	0.1688
2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	0.9554	0.24	0.6238
2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998	1.0886	0.82	0.3648
2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999	1.0297	0.1	0.7529
2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000	1.1699	2.98	0.0844
2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001	0.6955	15.51	<.0001
2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002	1.0195	0.04	0.8398
2008 = 2007 = 2006 = 2005 = 2004 = 2003	0.9772	0.06	0.8087
2008 = 2007 = 2006 = 2005 = 2004	1.0259	0.07	0.7883
2008 = 2007 = 2006 = 2005	0.9111	0.94	0.3333
2008 = 2007 = 2006	1.128	1.55	0.2127
2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.8816	1.89	0.1688
2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	0.9554	0.24	0.6238
2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998	1.0886	0.82	0.3648
2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999	1.0297	0.1	0.7529
2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000	1.1699	2.98	0.0844
2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001	0.6955	15.51	<.0001
2007 = 2006 = 2005 = 2004 = 2003 = 2002	1.0195	0.04	0.8398

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-6 Test Results for California All Hate Crimes Negative Binomial Model

Label	Mean Estimate	Chi-Square	Pr > ChiSq
2007 = 2006 = 2005 = 2004 = 2003	0.9772	0.06	0.8087
2007 = 2006 = 2005 = 2004	1.0259	0.07	0.7883
2007 = 2006 = 2005	0.9111	0.94	0.3333
2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.8816	1.89	0.1688
2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	0.9554	0.24	0.6238
2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998	1.0886	0.82	0.3648
2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999	1.0297	0.1	0.7529
2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000	1.1699	2.98	0.0844
2006 = 2005 = 2004 = 2003 = 2002 = 2001	0.6955	15.51	<.0001
2006 = 2005 = 2004 = 2003 = 2002	1.0195	0.04	0.8398
2006 = 2005 = 2004 = 2003	0.9772	0.06	0.8087
2006 = 2005 = 2004	1.0259	0.07	0.7883
2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.8816	1.89	0.1688
2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	0.9554	0.24	0.6238
2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998	1.0886	0.82	0.3648
2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999	1.0297	0.1	0.7529
2005 = 2004 = 2003 = 2002 = 2001 = 2000	1.1699	2.98	0.0844
2005 = 2004 = 2003 = 2002 = 2001	0.6955	15.51	<.0001
2005 = 2004 = 2003 = 2002	1.0195	0.04	0.8398
2005 = 2004 = 2003	0.9772	0.06	0.8087
2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.8816	1.89	0.1688
2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	0.9554	0.24	0.6238
2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998	1.0886	0.82	0.3648
2004 = 2003 = 2002 = 2001 = 2000 = 1999	1.0297	0.1	0.7529
2004 = 2003 = 2002 = 2001 = 2000	1.1699	2.98	0.0844
2004 = 2003 = 2002 = 2001	0.6955	15.51	<.0001
2004 = 2003 = 2002	1.0195	0.04	0.8398

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-6 Test Results for California All Hate Crimes Negative Binomial Model

Label	Mean Estimate	Chi-Square	Pr > ChiSq
2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.8816	1.89	0.1688
2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	0.9554	0.24	0.6238
2003 = 2002 = 2001 = 2000 = 1999 = 1998	1.0886	0.82	0.3648
2003 = 2002 = 2001 = 2000 = 1999	1.0297	0.1	0.7529
2003 = 2002 = 2001 = 2000	1.1699	2.98	0.0844
2003 = 2002 = 2001	0.6955	15.51	<.0001
2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.8816	1.89	0.1688
2002 = 2001 = 2000 = 1999 = 1998 = 1997	0.9554	0.24	0.6238
2002 = 2001 = 2000 = 1999 = 1998	1.0886	0.82	0.3648
2002 = 2001 = 2000 = 1999	1.0297	0.1	0.7529
2002 = 2001 = 2000	1.1699	2.98	0.0844
2001 = 2000 = 1999 = 1998 = 1996	0.8816	1.89	0.1688
2001 = 2000 = 1999 = 1998 = 1997	0.9554	0.24	0.6238
2001 = 2000 = 1999 = 1998	1.0886	0.82	0.3648
2001 = 2000 = 1999	1.0297	0.1	0.7529
2000 = 1999 = 1998 = 1997 = 1996	0.8816	1.89	0.1688
2000 = 1999 = 1998 = 1997	0.9554	0.24	0.6238
2000 = 1999 = 1998	1.0886	0.82	0.3648
1999 = 1998 = 1997 = 1996	0.8816	1.89	0.1688
1999 = 1998 = 1997	0.9554	0.24	0.6238
First versus Last or 2008 - 1997 = 0	0.6947	13.64	0.0002
Last versus Middle or 2008 - 2003 = 0	0.8847	1.47	0.2257
First versus Middle or 2003 - 1996 = 0	0.7653	8.31	0.004
1996 versus average of subsequent	1.2493	11.16	0.0008
1997 versus average of subsequent	1.109	2.26	0.1329
1998 versus average of subsequent	1.0643	0.8	0.3706
1999 versus average of subsequent	1.1729	5.35	0.0207
2000 versus average of subsequent	1.2287	8.93	0.0028
2001 versus average of subsequent	1.4905	35.31	<.0001
2002 versus average of subsequent	1.0408	0.31	0.5755
2003 versus average of subsequent	1.0689	0.86	0.3536
2004 versus average of subsequent	1.0511	0.47	0.4908
2005 versus average of subsequent	1.092	1.43	0.2324
2006 versus average of subsequent	0.9939	0.01	0.9363

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-6 Test Results for California All Hate Crimes Negative Binomial Model

Label	Mean Estimate	Chi-Square	Pr > ChiSq
2007 versus average of subsequent	1.1536	3.38	0.066
2008 versus average of subsequent	1.1278	2.2	0.1382
2009 versus average of subsequent	0.887	1.83	0.1764
average of 1996-97 versus average of subsequent	1.1812	11.03	0.0009
average of 1996-98 versus average of subsequent	1.1442	9.67	0.0019
average of 1996-99 versus average of subsequent	1.162	14.68	0.0001
average of 1996-2000 versus average of subsequent	1.1912	23.08	<.0001
average of 1996-2001 versus average of subsequent	1.2746	48.51	<.0001
average of 1996-2002 versus average of subsequent	1.2424	40.21	<.0001
average of 1996-2003 versus average of subsequent	1.2272	35.88	<.0001
average of 1996-2004 versus average of subsequent	1.213	30.85	<.0001
average of 1996-2005 versus average of subsequent	1.214	29.21	<.0001
average of 1996-2006 versus average of subsequent	1.191	21.27	<.0001
average of 1996-2007 versus average of subsequent	1.2194	23.23	<.0001
average of 1996-2008 versus average of subsequent	1.2462	22.28	<.0001
average of 1996-2009 versus average of subsequent	1.172	8.34	0.0039
Test 1996 vs. average of all other years	1.2493	11.16	0.0008
Test 1997 vs. average of all other years	1.0922	1.65	0.1986
Test 1998 vs. average of all other years	1.0403	0.33	0.5671
Test 1999 vs. average of all other years	1.1389	3.63	0.0567
Test 2000 vs. average of all other years	1.1751	5.61	0.0179
Test 2001 vs. average of all other years	1.3892	24.85	<.0001
Test 2002 vs. average of all other years	0.943	0.71	0.4005
Test 2003 vs. average of all other years	0.9626	0.3	0.585
Test 2004 vs. average of all other years	0.9392	0.81	0.3668
Test 2005 vs. average of all other years	0.9653	0.25	0.6138
Test 2006 vs. average of all other years	0.874	3.6	0.0579

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-6 Test Results for California All Hate Crimes Negative Binomial Model

Label	Mean Estimate	Chi-Square	Pr > ChiSq
Test 2007 vs. average of all other years	0.9938	0.01	0.9299
Test 2008 vs. average of all other years	0.9394	0.77	0.3793
Test 2009 vs. average of all other years	0.7588	13.6	0.0002
Test 2010 vs. average of all other years	0.8779	3.26	0.0709
Test 2011 vs. average of all other years	0.847	4.78	0.0287

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

All Hate Crimes (Texas)

Table B-7 Negative Binomial Regression Results for All Hate Crimes in Texas

Parameter	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	-8.5279	0.6023	200.5	<.0001
2011	-0.7178	0.1773	16.38	<.0001
2010	-0.4546	0.1707	7.09	0.0077
2009	-0.534	0.1726	9.57	0.002
2008	-0.3218	0.1662	3.75	0.0528
2007	-0.4496	0.1648	7.44	0.0064
2006	-0.4314	0.1636	6.96	0.0084
2005	-0.3216	0.1616	3.96	0.0466
2004	-0.2064	0.1596	1.67	0.196
2003	-0.1998	0.1623	1.52	0.2183
2002	-0.0486	0.1589	0.09	0.7597
2001	0.0353	0.1544	0.05	0.8191
2000	-0.2918	0.161	3.29	0.0699
1999	-0.2443	0.1634	2.23	0.135
1998	0.0061	0.1584	0	0.9694
1997	-0.1156	0.1589	0.53	0.4669
1996	0	0	.	.
County_1	-0.1624	0.7319	0.05	0.8244
County_3	-0.2049	0.7323	0.08	0.7796
County_4	-1.5352	1.1702	1.72	0.1896
County_5	0.3763	1.1721	0.1	0.7482
County_7	-0.7949	0.9324	0.73	0.3939
County_8	-0.4939	0.9324	0.28	0.5963
County_9	0.9802	0.9341	1.1	0.294
County_11	-0.8858	0.8379	1.12	0.2904
County_12	0.0733	1.1708	0	0.9501
County_14	-0.1612	0.6434	0.06	0.8022
County_15	1.6862	0.6622	6.48	0.0109
County_16	0.39	1.1706	0.11	0.739
County_18	-0.1927	0.9329	0.04	0.8364
County_19	-1.1297	0.7542	2.24	0.1342
County_20	0.0113	0.6358	0	0.9858
County_21	0.5636	0.6325	0.79	0.3729

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-7 Negative Binomial Regression Results for All Hate Crimes in Texas

Parameter	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
County_22	0.508	0.9322	0.3	0.5858
County_25	-0.811	0.838	0.94	0.3331
County_26	0.0867	0.838	0.01	0.9176
County_27	0.582	0.6779	0.74	0.3906
County_29	-1.416	1.1698	1.47	0.2261
County_30	-0.1253	1.1704	0.01	0.9148
County_31	-2.0596	0.7576	7.39	0.0066
County_33	-0.168	1.1705	0.02	0.8859
County_34	-0.033	0.7865	0	0.9666
County_37	-0.0047	0.732	0	0.9949
County_38	-0.4079	1.1703	0.12	0.7274
County_43	1.2895	0.6166	4.37	0.0365
County_44	1.153	1.1713	0.97	0.3249
County_45	-0.7762	0.932	0.69	0.4049
County_46	0.3317	0.654	0.26	0.612
County_49	0.5884	0.6936	0.72	0.3963
County_50	0.9866	0.6453	2.34	0.1263
County_54	0.4387	1.172	0.14	0.7082
County_56	-0.6909	1.1704	0.35	0.555
County_57	3.0967	0.7454	17.26	<.0001
County_58	0.042	0.9327	0	0.9641
County_61	1.3604	0.6157	4.88	0.0271
County_62	-0.1791	0.933	0.04	0.8478
County_67	-0.0332	0.9327	0	0.9716
County_68	-1.6595	0.7561	4.82	0.0282
County_70	-0.0698	0.6726	0.01	0.9174
County_71	0.8749	0.6254	1.96	0.1618
County_72	-1.487	1.17	1.62	0.2037
County_73	0.3427	0.9331	0.13	0.7134
County_74	-0.7463	0.9325	0.64	0.4235
County_75	0.5328	0.8394	0.4	0.5256
County_77	0.5373	1.1728	0.21	0.6469
County_79	1.0642	0.6191	2.95	0.0857
County_84	0.4489	0.6259	0.51	0.4732

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-7 Negative Binomial Regression Results for All Hate Crimes in Texas

Parameter	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
County_90	-1.2005	1.1704	1.05	0.305
County_91	0.002	0.6524	0	0.9975
County_92	0.9749	0.6237	2.44	0.118
County_93	-1.153	1.1704	0.97	0.3246
County_94	-1.0433	0.7866	1.76	0.1847
County_100	-0.7282	0.7869	0.86	0.3548
County_101	4.0021	0.9292	18.55	<.0001
County_102	-0.7112	0.8384	0.72	0.3963
County_105	0.3573	0.6423	0.31	0.578
County_107	-0.7964	0.7542	1.12	0.291
County_108	-2.1342	0.7414	8.29	0.004
County_109	-1.5505	1.1701	1.76	0.1851
County_110	-1.1962	1.1703	1.04	0.3067
County_111	-0.8305	0.838	0.98	0.3217
County_112	-0.5242	0.7865	0.44	0.5051
County_116	0.3193	0.6548	0.24	0.6258
County_117	-0.5349	0.9326	0.33	0.5663
County_121	-1.6477	1.17	1.98	0.159
County_123	-0.0533	0.6379	0.01	0.9335
County_125	-2.0421	1.1703	3.04	0.081
County_126	0.9512	0.6316	2.27	0.1321
County_127	1.0598	0.7551	1.97	0.1604
County_129	0.728	0.6515	1.25	0.2638
County_130	-0.9458	1.171	0.65	0.4193
County_137	-2.2438	1.171	3.67	0.0553
County_138	0.7994	1.1707	0.47	0.4947
County_139	-1.3875	0.9332	2.21	0.1371
County_140	-0.352	1.1708	0.09	0.7637
County_143	0.4629	0.8381	0.3	0.5808
County_144	-0.5954	1.1701	0.26	0.6109
County_145	-0.5384	1.1702	0.21	0.6455
County_146	-1.1908	0.9325	1.63	0.2016
County_148	1.5254	1.1706	1.7	0.1926
County_150	0.3925	0.8389	0.22	0.6399

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Table B-7 Negative Binomial Regression Results for All Hate Crimes in Texas

Parameter	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
County_152	0.2377	0.6314	0.14	0.7066
County_155	-0.3221	0.645	0.25	0.6175
County_157	-0.7661	1.1702	0.43	0.5127
County_158	0.4182	0.7869	0.28	0.5951
County_160	1.2091	1.1726	1.06	0.3025
County_161	0.1159	0.6857	0.03	0.8658
County_163	-1.3296	1.1699	1.29	0.2557
County_165	0.4201	0.6418	0.43	0.5127
County_166	-1.3392	1.17	1.31	0.2524
County_168	-0.2807	1.1702	0.06	0.8104
County_169	-0.1213	0.9328	0.02	0.8965
County_170	-0.378	0.6484	0.34	0.5599
County_174	-0.0004	0.6929	0	0.9995
County_175	-0.9109	0.8384	1.18	0.2773
County_177	1.0059	0.7039	2.04	0.153
County_178	1.1624	0.6195	3.52	0.0606
County_179	-0.9134	1.1707	0.61	0.4353
County_181	0.815	0.636	1.64	0.2
County_182	-1.5059	1.17	1.66	0.1981
County_183	-0.0221	0.7868	0	0.9775
County_184	-0.4289	0.7866	0.3	0.5856
County_187	-0.369	0.7879	0.22	0.6395
County_188	-0.2163	0.6448	0.11	0.7373
County_190	0.9867	0.7547	1.71	0.1911
County_191	-1.1128	0.9326	1.42	0.2328
County_193	1.1762	1.1705	1.01	0.315
County_199	0.5324	0.6729	0.63	0.4289
County_201	0.6125	0.7165	0.73	0.3926
County_202	1.0295	0.8387	1.51	0.2197
County_204	-0.4118	0.9327	0.19	0.6588
County_205	-2.5289	1.1703	4.67	0.0307
County_208	-0.3083	0.9324	0.11	0.7409
County_210	-0.0714	0.8382	0.01	0.9321
County_211	1.4116	1.172	1.45	0.2284

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-7 Negative Binomial Regression Results for All Hate Crimes in Texas

Parameter	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
County_212	0.3078	0.6431	0.23	0.6322
County_220	2.5102	0.6931	13.12	0.0003
County_221	-1.0656	0.7551	1.99	0.1582
County_226	0.6239	0.6358	0.96	0.3265
County_227	1.9228	0.6358	9.15	0.0025
County_228	-0.7176	1.171	0.38	0.54
County_232	-0.7077	0.9325	0.58	0.4479
County_233	0.282	0.7158	0.16	0.6936
County_234	-0.3469	0.8378	0.17	0.6788
County_235	-0.3015	0.6852	0.19	0.66
County_236	0.5992	0.6636	0.82	0.3665
County_237	-0.7036	0.9322	0.57	0.4504
County_238	-0.7326	1.1708	0.39	0.5315
County_239	1.0476	0.668	2.46	0.1168
County_240	-2.4035	0.9324	6.64	0.0099
County_241	-2.0156	1.1702	2.97	0.085
County_243	0.5394	0.6353	0.72	0.3959
County_246	1.0589	0.6191	2.93	0.0872
County_249	-0.0267	0.7865	0	0.9729
County_250	-0.2985	0.8384	0.13	0.7218
arrests	0	0	27.04	<.0001
Dispersion	0.2708	0.0383		

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-8 Test Results of Negative Binomial Model for All Hate Crimes in Texas

Label	Mean Estimate	Chi-Square	Pr > ChiSq
testall	0.8908		
2011-2010	0.7686	2.01	0.1562
2010-2009	1.0826	0.2	0.6571
2009-2008	0.8088	1.52	0.2181
2008-2007	1.1364	0.59	0.4417
2007-2006	0.982	0.01	0.9123
2006-2005	0.896	0.45	0.5029
2005-2004	0.8912	0.51	0.4732
2004-2003	0.9934	0	0.9677
2003-2002	0.8597	0.87	0.3502
2002-2001	0.9195	0.29	0.5871
2001-2000	1.387	4.37	0.0366
2000-1999	0.9536	0.08	0.7736
1999-1998	0.7785	2.36	0.1244
1998-1997	1.1294	0.59	0.4421
1997-1996	0.8908	0.53	0.4669
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.8908	0.53	0.4669
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	1.1294	0.59	0.4421
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998	0.7785	2.36	0.1244
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999	0.9536	0.08	0.7736
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000	1.387	4.37	0.0366
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001	0.9195	0.29	0.5871
2011= 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002	0.8597	0.87	0.3502
2011= 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003	0.9934	0	0.9677
2011= 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004	0.8912	0.51	0.4732
2011= 2010 = 2009 = 2008 = 2007 = 2006 = 2005	0.896	0.45	0.5029

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Table B-8 Test Results of Negative Binomial Model for All Hate Crimes in Texas

Label	Mean Estimate	Chi-Square	Pr > ChiSq
2011= 2010 = 2009 = 2008 = 2007 = 2006	0.982	0.01	0.9123
2011= 2010 = 2009 = 2008 = 2007	1.1364	0.59	0.4417
2011= 2010 = 2009 = 2008	0.8088	1.52	0.2181
2011= 2010 = 2009	1.0826	0.2	0.6571
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.8908	0.53	0.4669
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	1.1294	0.59	0.4421
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998	0.7785	2.36	0.1244
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999	0.9536	0.08	0.7736
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000	1.387	4.37	0.0366
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001	0.9195	0.29	0.5871
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002	0.8597	0.87	0.3502
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003	0.9934	0	0.9677
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004	0.8912	0.51	0.4732
2010 = 2009 = 2008 = 2007 = 2006 = 2005	0.896	0.45	0.5029
2010 = 2009 = 2008 = 2007 = 2006	0.982	0.01	0.9123
2010 = 2009 = 2008 = 2007	1.1364	0.59	0.4417
2010 = 2009 = 2008	0.8088	1.52	0.2181
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.8908	0.53	0.4669
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	1.1294	0.59	0.4421
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998	0.7785	2.36	0.1244
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999	0.9536	0.08	0.7736
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000	1.387	4.37	0.0366
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001	0.9195	0.29	0.5871

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Table B-8 Test Results of Negative Binomial Model for All Hate Crimes in Texas

Label	Mean Estimate	Chi-Square	Pr > ChiSq
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002	0.8597	0.87	0.3502
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003	0.9934	0	0.9677
2009 = 2008 = 2007 = 2006 = 2005 = 2004	0.8912	0.51	0.4732
2009 = 2008 = 2007 = 2006 = 2005	0.896	0.45	0.5029
2009 = 2008 = 2007 = 2006	0.982	0.01	0.9123
2009 = 2008 = 2007	1.1364	0.59	0.4417
2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.8908	0.53	0.4669
2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	1.1294	0.59	0.4421
2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998	0.7785	2.36	0.1244
2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999	0.9536	0.08	0.7736
2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000	1.387	4.37	0.0366
2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001	0.9195	0.29	0.5871
2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002	0.8597	0.87	0.3502
2008 = 2007 = 2006 = 2005 = 2004 = 2003	0.9934	0	0.9677
2008 = 2007 = 2006 = 2005 = 2004	0.8912	0.51	0.4732
2008 = 2007 = 2006 = 2005	0.896	0.45	0.5029
2008 = 2007 = 2006	0.982	0.01	0.9123
2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.8908	0.53	0.4669
2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	1.1294	0.59	0.4421
2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998	0.7785	2.36	0.1244
2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999	0.9536	0.08	0.7736
2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000	1.387	4.37	0.0366
2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001	0.9195	0.29	0.5871
2007 = 2006 = 2005 = 2004 = 2003 = 2002	0.8597	0.87	0.3502
2007 = 2006 = 2005 = 2004 = 2003	0.9934	0	0.9677
2007 = 2006 = 2005 = 2004	0.8912	0.51	0.4732

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-8 Test Results of Negative Binomial Model for All Hate Crimes in Texas

Label	Mean Estimate	Chi-Square	Pr > ChiSq
2007 = 2006 = 2005	0.896	0.45	0.5029
2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.8908	0.53	0.4669
2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	1.1294	0.59	0.4421
2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998	0.7785	2.36	0.1244
2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999	0.9536	0.08	0.7736
2006 = 2005 = 2004 = 2003 = 2002 = 2001 = 2000	1.387	4.37	0.0366
2006 = 2005 = 2004 = 2003 = 2002 = 2001	0.9195	0.29	0.5871
2006 = 2005 = 2004 = 2003 = 2002	0.8597	0.87	0.3502
2006 = 2005 = 2004 = 2003	0.9934	0	0.9677
2006 = 2005 = 2004	0.8912	0.51	0.4732
2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.8908	0.53	0.4669
2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	1.1294	0.59	0.4421
2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998	0.7785	2.36	0.1244
2005 = 2004 = 2003 = 2002 = 2001 = 2000 = 1999	0.9536	0.08	0.7736
2005 = 2004 = 2003 = 2002 = 2001 = 2000	1.387	4.37	0.0366
2005 = 2004 = 2003 = 2002 = 2001	0.9195	0.29	0.5871
2005 = 2004 = 2003 = 2002	0.8597	0.87	0.3502
2005 = 2004 = 2003	0.9934	0	0.9677
2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.8908	0.53	0.4669
2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	1.1294	0.59	0.4421
2004 = 2003 = 2002 = 2001 = 2000 = 1999 = 1998	0.7785	2.36	0.1244
2004 = 2003 = 2002 = 2001 = 2000 = 1999	0.9536	0.08	0.7736
2004 = 2003 = 2002 = 2001 = 2000	1.387	4.37	0.0366
2004 = 2003 = 2002 = 2001	0.9195	0.29	0.5871
2004 = 2003 = 2002	0.8597	0.87	0.3502
2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.8908	0.53	0.4669
2003 = 2002 = 2001 = 2000 = 1999 = 1998 = 1997	1.1294	0.59	0.4421

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Table B-8 Test Results of Negative Binomial Model for All Hate Crimes in Texas

Label	Mean Estimate	Chi-Square	Pr > ChiSq
2003 = 2002 = 2001 = 2000 = 1999 = 1998	0.7785	2.36	0.1244
2003 = 2002 = 2001 = 2000 = 1999	0.9536	0.08	0.7736
2003 = 2002 = 2001 = 2000	1.387	4.37	0.0366
2003 = 2002 = 2001	0.9195	0.29	0.5871
2002 = 2001 = 2000 = 1999 = 1998 = 1997 = 1996	0.8908	0.53	0.4669
2002 = 2001 = 2000 = 1999 = 1998 = 1997	1.1294	0.59	0.4421
2002 = 2001 = 2000 = 1999 = 1998	0.7785	2.36	0.1244
2002 = 2001 = 2000 = 1999	0.9536	0.08	0.7736
2002 = 2001 = 2000	1.387	4.37	0.0366
2001 = 2000 = 1999 = 1998 = 1996	0.8908	0.53	0.4669
2001 = 2000 = 1999 = 1998 = 1997	1.1294	0.59	0.4421
2001 = 2000 = 1999 = 1998	0.7785	2.36	0.1244
2001 = 2000 = 1999	0.9536	0.08	0.7736
2000 = 1999 = 1998 = 1997 = 1996	0.8908	0.53	0.4669
2000 = 1999 = 1998 = 1997	1.1294	0.59	0.4421
2000 = 1999 = 1998	0.7785	2.36	0.1244
1999 = 1998 = 1997 = 1996	0.8908	0.53	0.4669
1999 = 1998 = 1997	1.1294	0.59	0.4421
First versus Last or 2008 - 1997 = 0	0.4878	16.38	<.0001
Last versus Middle or 2008 - 2003 = 0	0.6729	4.91	0.0268
First versus Middle or 2003 - 1996 = 0	0.8135	1.67	0.196
1996 versus average of subsequent	1.3316	5.96	0.0146
1997 versus average of subsequent	1.2008	2.43	0.1189
1998 versus average of subsequent	1.3883	7.97	0.0048
1999 versus average of subsequent	1.0879	0.46	0.4977
2000 versus average of subsequent	1.0409	0.11	0.7413
2001 versus average of subsequent	1.4976	12.53	0.0004
2002 versus average of subsequent	1.4269	8.77	0.0031
2003 versus average of subsequent	1.2584	3.29	0.0698
2004 versus average of subsequent	1.2907	4.41	0.0358
2005 versus average of subsequent	1.1774	1.67	0.1961
2006 versus average of subsequent	1.0662	0.24	0.621
2007 versus average of subsequent	1.0591	0.18	0.6679
2008 versus average of subsequent	1.2802	3.12	0.0776

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Table B-8 Test Results of Negative Binomial Model for All Hate Crimes in Texas

Label	Mean Estimate	Chi-Square	Pr > ChiSq
2009 versus average of subsequent	1.0536	0.11	0.7403
average of 1996-97 versus average of subsequent	1.2722	7.74	0.0054
average of 1996-98 versus average of subsequent	1.3304	15.12	0.0001
average of 1996-99 versus average of subsequent	1.2713	12.68	0.0004
average of 1996-2000 versus average of subsequent	1.2247	10.16	0.0014
average of 1996-2001 versus average of subsequent	1.3058	18.88	<.0001
average of 1996-2002 versus average of subsequent	1.3634	26.17	<.0001
average of 1996-2003 versus average of subsequent	1.3803	27.5	<.0001
average of 1996-2004 versus average of subsequent	1.4095	30.23	<.0001
average of 1996-2005 versus average of subsequent	1.4137	28.62	<.0001
average of 1996-2006 versus average of subsequent	1.3914	23.49	<.0001
average of 1996-2007 versus average of subsequent	1.3745	18.62	<.0001
average of 1996-2008 versus average of subsequent	1.4472	19.93	<.0001
average of 1996-2009 versus average of subsequent	1.4378	13.54	0.0002
Test 1996 vs. average of all other years	1.3316	5.96	0.0146
Test 1997 vs. average of all other years	1.1771	1.94	0.1632
Test 1998 vs. average of all other years	1.3403	6.44	0.0112
Test 1999 vs. average of all other years	1.0262	0.04	0.8337
Test 2000 vs. average of all other years	0.9755	0.04	0.8353
Test 2001 vs. average of all other years	1.3828	8.49	0.0036
Test 2002 vs. average of all other years	1.2643	4.04	0.0443
Test 2003 vs. average of all other years	1.076	0.36	0.5477
Test 2004 vs. average of all other years	1.0685	0.33	0.5684
Test 2005 vs. average of all other years	0.9449	0.23	0.6346
Test 2006 vs. average of all other years	0.8405	2.06	0.1508
Test 2007 vs. average of all other years	0.8243	2.51	0.1134
Test 2008 vs. average of all other years	0.9448	0.21	0.6447

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Table B-8 Test Results of Negative Binomial Model for All Hate Crimes in Texas

Label	Mean Estimate	Chi-Square	Pr > ChiSq
Test 2000 vs. average of all other years	0.7534	4.64	0.0313
Test 2010 vs. average of all other years	0.8199	2.32	0.1278
Test 2011 vs. average of all other years	0.6192	11.74	0.0006

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Table B-9 Regression Estimates for Anti-Ethnicity Bullying in California

Parameter	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	0.0587	0.1681	0.12	0.7271
2011	0.153	0.0708	4.67	0.0308
2010	0.1409	0.0719	3.84	0.0499
2009	0.1781	0.0589	9.14	0.0025
2008	0.1024	0.0618	2.74	0.0978
2007	0.1798	0.0586	9.42	0.0021
2006	0.241	0.0607	15.76	<.0001
2005	0.2252	0.0588	14.68	0.0001
2004	0.2268	0.0588	14.87	0.0001
2003	0.1754	0.0579	9.17	0.0025
2002	0.1634	0.0605	7.29	0.0069
cnty_flg_1	0.0694	0.1359	0.26	0.6097
cnty_flg_2	0.5785	0.2026	8.15	0.0043
cnty_flg_3	0.3376	0.1822	3.43	0.0639
cnty_flg_4	0.2429	0.1524	2.54	0.1109
cnty_flg_5	0.2128	0.1549	1.89	0.1695
cnty_flg_6	0.1924	0.1557	1.53	0.2167
cnty_flg_7	0.1986	0.1352	2.16	0.1418
cnty_flg_8	0.2773	0.1777	2.43	0.1187
cnty_flg_9	0.405	0.15	7.29	0.0069
cnty_flg_10	0.221	0.1403	2.48	0.1153
cnty_flg_11	0.1947	0.1599	1.48	0.2235
cnty_flg_12	0.1908	0.1441	1.75	0.1857
cnty_flg_13	0.3004	0.169	3.16	0.0755
cnty_flg_14	0.4333	0.1528	8.04	0.0046
cnty_flg_15	0.2417	0.1406	2.95	0.0857
cnty_flg_16	0.1696	0.1408	1.45	0.2284
cnty_flg_17	0.2638	0.1631	2.62	0.1058
cnty_flg_18	0.3383	0.1772	3.64	0.0563
cnty_flg_19	0.2879	0.1575	3.34	0.0677
cnty_flg_20	0.2244	0.1529	2.15	0.1422
cnty_flg_21	0.2513	0.1425	3.11	0.0778
cnty_flg_22	0.5267	0.1787	8.68	0.0032
cnty_flg_23	0.1783	0.1366	1.7	0.1917

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-9 Regression Estimates for Anti-Ethnicity Bullying in California

Parameter	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
cnty_flg_24	0.2547	0.1395	3.34	0.0678
cnty_flg_25	0.3719	0.1839	4.09	0.0431
cnty_flg_26	0.4116	0.1617	6.48	0.0109
cnty_flg_27	0.1791	0.1378	1.69	0.1939
cnty_flg_28	0.2054	0.1528	1.81	0.1789
cnty_flg_29	0.3006	0.1598	3.54	0.06
cnty_flg_30	0.2418	0.1494	2.62	0.1057
cnty_flg_31	0.354	0.1416	6.25	0.0124
cnty_flg_32	0.4503	0.1697	7.04	0.008
cnty_flg_33	0.1981	0.1454	1.86	0.173
cnty_flg_34	0.2199	0.1349	2.66	0.1031
cnty_flg_35	0.1438	0.155	0.86	0.3535
cnty_flg_36	0.118	0.1452	0.66	0.4165
cnty_flg_37	0.2279	0.144	2.51	0.1134
cnty_flg_38	0.0431	0.1526	0.08	0.7774
cnty_flg_39	0.2312	0.1542	2.25	0.1337
cnty_flg_40	0.073	0.1518	0.23	0.6308
cnty_flg_41	0.1667	0.1442	1.34	0.2477
cnty_flg_42	0.2698	0.1415	3.63	0.0566
cnty_flg_43	0.1994	0.1385	2.07	0.1501
cnty_flg_44	0.0998	0.1523	0.43	0.5122
cnty_flg_45	0.1983	0.1597	1.54	0.2142
cnty_flg_46	0.553	0.1809	9.34	0.0022
cnty_flg_47	0.3747	0.163	5.28	0.0216
cnty_flg_48	0.156	0.147	1.13	0.2884
cnty_flg_49	0.2319	0.1449	2.56	0.1095
cnty_flg_50	0.2713	0.1426	3.62	0.0571
cnty_flg_51	0.2113	0.1605	1.73	0.1881
cnty_flg_52	0.2554	0.1582	2.61	0.1065
cnty_flg_53	0.3172	0.1805	3.09	0.0789
cnty_flg_54	0.2342	0.1424	2.71	0.0999
cnty_flg_55	0.3425	0.1716	3.98	0.046
cnty_flg_56	0.1669	0.1433	1.36	0.2442
cnty_flg_57	0.2613	0.1451	3.24	0.0718

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-9 Regression Estimates for Anti-Ethnicity Bullying in California

Parameter	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
ELF2	0.423	0.1948	4.71	0.0299
MultProp	-0.779	0.8605	0.82	0.3653
prevalence	0	0	6.77	0.0093
Dispersion	0.0684	0.0048		

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-10 Results of Anti-Ethnicity Bullying in California using NegBin

Label	Mean Estimate	Chi-Square	Pr > ChiSq
testall	1.1775	7.29	0.0069
2011-2010	1.0121	0.04	0.8449
2010-2009	0.9635	0.29	0.5922
2009-2008	1.0787	1.45	0.2278
2008-2007	0.9255	1.53	0.2167
2007-2006	0.9406	0.98	0.3229
2006-2005	1.0159	0.06	0.7998
2005-2004	0.9984	0	0.9788
2004-2003	1.0528	0.74	0.3909
2003-2002	1.0121	0.04	0.8454
2002-2001	1.1775	7.29	0.0069
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001	1.1775	7.29	0.0069
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002	1.0121	0.04	0.8454
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003	1.0528	0.74	0.3909
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004	0.9984	0	0.9788
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005	1.0159	0.06	0.7998
2011 = 2010 = 2009 = 2008 = 2007 = 2006	0.9406	0.98	0.3229
2011 = 2010 = 2009 = 2008 = 2007	0.9255	1.53	0.2167
2011 = 2010 = 2009 = 2008	1.0787	1.45	0.2278
2011 = 2010 = 2009	0.9635	0.29	0.5922
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001	1.1775	7.29	0.0069
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002	1.0121	0.04	0.8454
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003	1.0528	0.74	0.3909
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004	0.9984	0	0.9788
2010 = 2009 = 2008 = 2007 = 2006 = 2005	1.0159	0.06	0.7998
2010 = 2009 = 2008 = 2007 = 2006	0.9406	0.98	0.3229
2010 = 2009 = 2008 = 2007	0.9255	1.53	0.2167
2010 = 2009 = 2008	1.0787	1.45	0.2278
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001	1.1775	7.29	0.0069

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-10 Results of Anti-Ethnicity Bullying in California using NegBin

Label	Mean Estimate	Chi-Square	Pr > ChiSq
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002	1.0121	0.04	0.8454
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003	1.0528	0.74	0.3909
2009 = 2008 = 2007 = 2006 = 2005 = 2004	0.9984	0	0.9788
2009 = 2008 = 2007 = 2006 = 2005	1.0159	0.06	0.7998
2009 = 2008 = 2007 = 2006	0.9406	0.98	0.3229
2009 = 2008 = 2007	0.9255	1.53	0.2167
2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001	1.1775	7.29	0.0069
2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002	1.0121	0.04	0.8454
2008 = 2007 = 2006 = 2005 = 2004 = 2003	1.0528	0.74	0.3909
2008 = 2007 = 2006 = 2005 = 2004	0.9984	0	0.9788
2008 = 2007 = 2006 = 2005	1.0159	0.06	0.7998
2008 = 2007 = 2006	0.9406	0.98	0.3229
2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001	1.1775	7.29	0.0069
2007 = 2006 = 2005 = 2004 = 2003 = 2002	1.0121	0.04	0.8454
2007 = 2006 = 2005 = 2004 = 2003	1.0528	0.74	0.3909
2007 = 2006 = 2005 = 2004	0.9984	0	0.9788
2007 = 2006 = 2005	1.0159	0.06	0.7998
2006 = 2005 = 2004 = 2003 = 2002 = 2001	1.1775	7.29	0.0069
2006 = 2005 = 2004 = 2003 = 2002	1.0121	0.04	0.8454
2006 = 2005 = 2004 = 2003	1.0528	0.74	0.3909
2006 = 2005 = 2004	0.9984	0	0.9788
2005 = 2004 = 2003 = 2002 = 2001	1.1775	7.29	0.0069
2005 = 2004 = 2003 = 2002	1.0121	0.04	0.8454
2005 = 2004 = 2003	1.0528	0.74	0.3909
2004 = 2003 = 2002 = 2001	1.1775	7.29	0.0069
2004 = 2003 = 2002	1.0121	0.04	0.8454
Last versus Middle or 2011 - 2001 = 0	0.9157	1.63	0.2011
2001 versus average of subsequent	0.8364	16.21	<.0001
2002 versus average of subsequent	0.9832	0.12	0.7248
2003 versus average of subsequent	0.9945	0.01	0.9073
2004 versus average of subsequent	1.0539	1.18	0.2782
2005 versus average of subsequent	1.0611	1.52	0.2169
2006 versus average of subsequent	1.0944	3.35	0.0673

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-10 Results of Anti-Ethnicity Bullying in California using NegBin

Label	Mean Estimate	Chi-Square	Pr > ChiSq
2007 versus average of subsequent	1.0369	0.52	0.4706
2008 versus average of subsequent	0.9465	0.97	0.3251
2009 versus average of subsequent	1.0316	0.26	0.6096
Test 2001 vs. average of all other years	0.8364	16.21	<.0001
Test 2002 vs. average of all other years	1.0011	0	0.9812
Test 2003 vs. average of all other years	1.0145	0.1	0.754
Test 2004 vs. average of all other years	1.0735	2.39	0.1221
Test 2005 vs. average of all other years	1.0716	2.34	0.1257
Test 2006 vs. average of all other years	1.0903	3.58	0.0586
Test 2007 vs. average of all other years	1.0194	0.19	0.6655
Test 2008 vs. average of all other years	0.9361	1.95	0.1623
Test 2009 vs. average of all other years	1.0175	0.15	0.696
Test 2010 vs. average of all other years	0.9767	0.18	0.6752
Test 2011 vs. average of all other years	0.9897	0.03	0.8521

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-11 Regression Estimates for Anti-Hispanic Bullying in California

Parameter	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	-1.0282	0.1656	38.57	<.0001
2011	0.3979	0.0837	22.62	<.0001
2010	0.2782	0.0854	10.61	0.0011
2009	0.2748	0.0827	11.06	0.0009
2008	0.2949	0.0881	11.2	0.0008
2007	0.3052	0.0824	13.71	0.0002
2006	0.4192	0.0864	23.54	<.0001
2005	0.3462	0.0837	17.12	<.0001
2004	0.3234	0.0844	14.68	0.0001
2003	0.2198	0.0829	7.02	0.008
2002	0.1242	0.087	2.04	0.1536
2001	0	0	.	.
cnty_flg_1	-0.2219	0.1907	1.35	0.2445
cnty_flg_2	-0.3724	0.392	0.9	0.3421
cnty_flg_3	0.1942	0.2502	0.6	0.4375
cnty_flg_4	0.0263	0.2132	0.02	0.9019
cnty_flg_5	0.2278	0.2064	1.22	0.2697
cnty_flg_6	0.626	0.2098	8.9	0.0028
cnty_flg_7	0.057	0.19	0.09	0.764
cnty_flg_8	0.0501	0.2506	0.04	0.8415
cnty_flg_9	0.3161	0.1992	2.52	0.1126
cnty_flg_10	0.5647	0.1903	8.81	0.003
cnty_flg_11	0.5969	0.223	7.16	0.0074
cnty_flg_12	-0.0554	0.1957	0.08	0.7771
cnty_flg_13	0.9789	0.2096	21.81	<.0001
cnty_flg_14	0.4883	0.2076	5.54	0.0186
cnty_flg_15	0.6406	0.1902	11.34	0.0008
cnty_flg_16	0.6155	0.1914	10.34	0.0013
cnty_flg_17	0.4793	0.2276	4.43	0.0353
cnty_flg_18	0.1151	0.2455	0.22	0.6392
cnty_flg_19	0.39	0.1897	4.23	0.0397
cnty_flg_20	0.7472	0.2072	13	0.0003
cnty_flg_21	-0.0745	0.1969	0.14	0.7054
cnty_flg_22	0.3313	0.2453	1.82	0.1768
cnty_flg_23	0.5277	0.1912	7.61	0.0058

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-11 Regression Estimates for Anti-Hispanic Bullying in California

Parameter	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
cnty_flg_24	0.6722	0.1914	12.34	0.0004
cnty_flg_25	0.2881	0.2638	1.19	0.2749
cnty_flg_26	0.9895	0.2232	19.66	<.0001
cnty_flg_27	0.5544	0.1903	8.48	0.0036
cnty_flg_28	0.6758	0.2144	9.93	0.0016
cnty_flg_29	0.0093	0.2065	0	0.9641
cnty_flg_30	0.4119	0.1935	4.53	0.0333
cnty_flg_31	0.215	0.1909	1.27	0.26
cnty_flg_32	0.1324	0.2382	0.31	0.5783
cnty_flg_33	0.4241	0.1899	4.99	0.0255
cnty_flg_34	0.1947	0.19	1.05	0.3054
cnty_flg_35	0.5811	0.2113	7.56	0.006
cnty_flg_36	0.4317	0.1935	4.98	0.0257
cnty_flg_37	0.2727	0.1926	2.01	0.1567
cnty_flg_38	-0.1208	0.2211	0.3	0.5849
cnty_flg_39	0.1542	0.2092	0.54	0.4612
cnty_flg_40	0.2675	0.2121	1.59	0.2073
cnty_flg_41	0.095	0.2	0.23	0.6346
cnty_flg_42	0.6976	0.1945	12.87	0.0003
cnty_flg_43	0.0905	0.195	0.22	0.6425
cnty_flg_44	0.501	0.211	5.64	0.0176
cnty_flg_45	-0.2097	0.2195	0.91	0.3395
cnty_flg_46	0.6948	0.2562	7.36	0.0067
cnty_flg_47	0.1677	0.2215	0.57	0.4491
cnty_flg_48	0.0349	0.2039	0.03	0.8642
cnty_flg_49	0.3714	0.2018	3.39	0.0657
cnty_flg_50	0.6024	0.1979	9.26	0.0023
cnty_flg_51	0.2679	0.2264	1.4	0.2367
cnty_flg_52	0.6995	0.2201	10.1	0.0015
cnty_flg_53	0.0282	0.2535	0.01	0.9114
cnty_flg_54	0.6441	0.1904	11.45	0.0007
cnty_flg_55	0.2931	0.2304	1.62	0.2034
cnty_flg_56	0.446	0.1956	5.2	0.0226
cnty_flg_57	0.5239	0.2048	6.55	0.0105
Dispersion	0.1379	0.0102		

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-12 Test Results for HealthyKids Anti-Hispanic Bullying NegBin Model

Label	Mean Estimate	Chi-Square	Pr > ChiSq
testall	1.1323	2.04	0.1536
2011-2010	1.1272	1.9	0.1678
2010-2009	1.0034	0	0.9687
2009-2008	0.9802	0.05	0.8217
2008-2007	0.9897	0.01	0.9071
2007-2006	0.8923	1.74	0.1875
2006-2005	1.0757	0.69	0.4066
2005-2004	1.023	0.07	0.7926
2004-2003	1.1092	1.47	0.226
2003-2002	1.1003	1.17	0.2784
2002-2001	1.1323	2.04	0.1536
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001	1.1323	2.04	0.1536
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002	1.1003	1.17	0.2784
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003	1.1092	1.47	0.226
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004	1.023	0.07	0.7926
2011 = 2010 = 2009 = 2008 = 2007 = 2006 = 2005	1.0757	0.69	0.4066
2011 = 2010 = 2009 = 2008 = 2007 = 2006	0.8923	1.74	0.1875
2011 = 2010 = 2009 = 2008 = 2007	0.9897	0.01	0.9071
2011 = 2010 = 2009 = 2008	0.9802	0.05	0.8217
2011 = 2010 = 2009	1.0034	0	0.9687
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001	1.1323	2.04	0.1536
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002	1.1003	1.17	0.2784
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003	1.1092	1.47	0.226
2010 = 2009 = 2008 = 2007 = 2006 = 2005 = 2004	1.023	0.07	0.7926
2010 = 2009 = 2008 = 2007 = 2006 = 2005	1.0757	0.69	0.4066
2010 = 2009 = 2008 = 2007 = 2006	0.8923	1.74	0.1875
2010 = 2009 = 2008 = 2007	0.9897	0.01	0.9071
2010 = 2009 = 2008	0.9802	0.05	0.8217
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001	1.1323	2.04	0.1536

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-12 Test Results for HealthyKids Anti-Hispanic Bullying NegBin Model

Label	Mean Estimate	Chi-Square	Pr > ChiSq
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002	1.1003	1.17	0.2784
2009 = 2008 = 2007 = 2006 = 2005 = 2004 = 2003	1.1092	1.47	0.226
2009 = 2008 = 2007 = 2006 = 2005 = 2004	1.023	0.07	0.7926
2009 = 2008 = 2007 = 2006 = 2005	1.0757	0.69	0.4066
2009 = 2008 = 2007 = 2006	0.8923	1.74	0.1875
2009 = 2008 = 2007	0.9897	0.01	0.9071
2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001	1.1323	2.04	0.1536
2008 = 2007 = 2006 = 2005 = 2004 = 2003 = 2002	1.1003	1.17	0.2784
2008 = 2007 = 2006 = 2005 = 2004 = 2003	1.1092	1.47	0.226
2008 = 2007 = 2006 = 2005 = 2004	1.023	0.07	0.7926
2008 = 2007 = 2006 = 2005	1.0757	0.69	0.4066
2008 = 2007 = 2006	0.8923	1.74	0.1875
2007 = 2006 = 2005 = 2004 = 2003 = 2002 = 2001	1.1323	2.04	0.1536
2007 = 2006 = 2005 = 2004 = 2003 = 2002	1.1003	1.17	0.2784
2007 = 2006 = 2005 = 2004 = 2003	1.1092	1.47	0.226
2007 = 2006 = 2005 = 2004	1.023	0.07	0.7926
2007 = 2006 = 2005	1.0757	0.69	0.4066
2006 = 2005 = 2004 = 2003 = 2002 = 2001	1.1323	2.04	0.1536
2006 = 2005 = 2004 = 2003 = 2002	1.1003	1.17	0.2784
2006 = 2005 = 2004 = 2003	1.1092	1.47	0.226
2006 = 2005 = 2004	1.023	0.07	0.7926
2005 = 2004 = 2003 = 2002 = 2001	1.1323	2.04	0.1536
2005 = 2004 = 2003 = 2002	1.1003	1.17	0.2784
2005 = 2004 = 2003	1.1092	1.47	0.226
2004 = 2003 = 2002 = 2001	1.1323	2.04	0.1536
2004 = 2003 = 2002	1.1003	1.17	0.2784
Last versus Middle or 2011 - 2001 = 0	0.979	0.06	0.808
2001 versus average of subsequent	0.742	23.27	<.0001
2002 versus average of subsequent	0.8241	8.46	0.0036
2003 versus average of subsequent	0.8957	3.04	0.0812
2004 versus average of subsequent	0.9926	0.01	0.9074
2005 versus average of subsequent	1.018	0.07	0.7847
2006 versus average of subsequent	1.1151	2.58	0.1081

APPENDIX B: MODEL SPECIFICATIONS AND TEST RESULTS

Table B-12 Test Results for HealthyKids Anti-Hispanic Bullying NegBin Model

Label	Mean Estimate	Chi-Square	Pr > ChiSq
2007 versus average of subsequent	0.9938	0.01	0.9247
2008 versus average of subsequent	0.9781	0.09	0.7647
2009 versus average of subsequent	0.9387	0.76	0.3842
Test 2001 vs. average of all other years	0.742	23.27	<.0001
Test 2002 vs. average of all other years	0.8507	5.95	0.0147
Test 2003 vs. average of all other years	0.9449	0.82	0.3654
Test 2004 vs. average of all other years	1.0591	0.83	0.3614
Test 2005 vs. average of all other years	1.0859	1.69	0.1934
Test 2006 vs. average of all other years	1.1767	6.24	0.0125
Test 2007 vs. average of all other years	1.0381	0.37	0.5445
Test 2008 vs. average of all other years	1.0263	0.15	0.7007
Test 2009 vs. average of all other years	1.0039	0	0.9493
Test 2010 vs. average of all other years	1.0077	0.01	0.9054
Test 2011 vs. average of all other years	1.1495	4.83	0.0279

APPENDIX C: EXPLORING POST-ESTIMATION ADJUSTMENTS TO ACCOUNT FOR UNDERREPORTING IN HATE CRIME ESTIMATES

Appendix C: Exploring Post-Estimation Adjustments to Account for Underreporting in Hate Crime Estimates

At the request of NIJ and analysts at the Bureau of Justice Statistics, our research team explored ways in which post-estimation adjustments could be applied to state-level estimates of hate crime in an attempt to compensate for the underreporting of hate crimes to police, and consequently, to the UCR. This Appendix briefly describes challenges posed in attempting to disaggregate UCR data below the national level, and contains offers an outline of a potential means of improving state-level estimates. The proposed solution is a starting point for developing and applying an adjustment, and provides a conceptual framework. It might be useful if data could be acquired that are appropriate to support the adjustment. However, we were unable to identify appropriate data. We offer this discussion to inform readers of the steps taken in this study to maximize the utility of the hate crime data, and although the results were not encouraging, this presentation might at best provide a template for pursuing adjustments if adequate data were to be identified—and at worst, may illustrate the lack of promise in these adjustment and spare others the trouble of trying to pursue this path.

Describing the Problem

Hate Crime estimates are based on reported counts of hate crimes from UCR Hate Crime supplement data and hate crime reporting is not consistent across states. This leads to higher reporting levels in some states and apparent underreporting of hate crimes in other states. The problem can be especially obvious in the reported number of hate crimes against Hispanics where states with high proportions of Hispanics such as Florida report relatively few hate crimes against Hispanics.

Statistical models used in the Phase 1 analyses account for within-state variability to some degree by using factors for each state within the models and over time variability by using factors for each year analyzed. This approach arguably captures some of the state-level heterogeneity that affects the reported number of hate crimes in a state. Additionally, some of the models control for the number of arrests in a state as a proxy for the degree of law enforcement activity. Neither of these controls, however, adjusts for the actual degree of reporting within a state. The objective of this paper is to describe and develop an adjustment for the degree of reporting and to apply this adjustment to the hate crimes estimates to produce an adjusted estimate of the number of hate crimes within each state for each year analyzed and to specifically adjust the estimated number of hate crimes against Hispanics within each year for each of the analyzed years. This paper uses the term hate crimes to refer to both all hate crimes and hate crimes against Hispanics. The primary objective is to adjust the estimates for hate crimes against Hispanics.

Logic Model for Reporting

Two factors affect the reported number of hate crimes (overall and by race/ethnicity): Incidence Factors and Reporting Factors. Incidence factors are factors that affect the number of hate crimes that actually occur in the state. These conceptually include, but are not limited to, the following:

- Racial and ethnic heterogeneity in a state
- Rate of growth of ethnic populations

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- Presence of hate groups
- Population concentration through urbanization
- Reports of trigger incidents that lead to other incidents (9/11 is an obvious example)
- Degree of law enforcement activity in the state, e.g. increased enforcement should lead to a reduction
- Presence of anti-immigrant (or similar group) politics in a state or region of a state

Reporting factors affect the number of hate crimes that actually get reported. These factors conceptually include, but are not limited to, the following:

- Presence of a law enforcement officer trained in the reporting requirements for hate crimes at the crime scene
- Law enforcement policies on reporting hate crimes as opposed to other aspects of crime—law enforcement has to balance priorities and with resource constraints it is reasonable to assume that more resources would be assigned to record facts of a murder than the facts associated with bias motivated vandalism
- Existence of organizations supporting affected minority groups that put political pressure to increase the probability of reporting
- Media coverage of the crime

The assumptions for the logic model is as follows: there is a true number of hate crimes in each state which we can never know, but we (to some degree) can know some of the factors that affect the probability of hate crimes occurring and the probability of hate crime reporting once the crimes have occurred. The reporting factors are a filter on the number of hate crimes that are reported. The following is a diagram of the logic model.

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Formalizing the Logic Model

Formally, this model can be expressed as follows:

N_T This is the true number of hate crimes in the United States—this value can never be observed. N_{T_s} is the true number of hate crimes in state s . Therefore,

$$N_T = \sum_s N_{T_s}$$

Let \widehat{N}_T be the statistical estimate of N_T

I This is the set of incidence factors that affect the probability of the actual number of hate crimes that occur. Therefore: $N_T = f(I)$ where $f(\cdot)$ is some unknown function.

R is the set of reporting factors and is most easily understood as the unknown reporting rate.

N_R is the reported number of hate crimes. This is fully observable.

Therefore, we may understand N_R through the following expression:

$$N_T = N_R \times R \times I \quad \text{where } R > 1 \text{ and } I > 1$$

The functional form of N_T above is for convenience. N_R assumes underreporting under all circumstances.

We estimated \widehat{N}_R in the report. \widehat{N}_R is the predicted estimate of the reported the number of hate crimes in the United States from the statistical model in the report. This was performed to produce a trend estimate that controls for within state and within year variation.

We estimated \widehat{N}_R using the following:

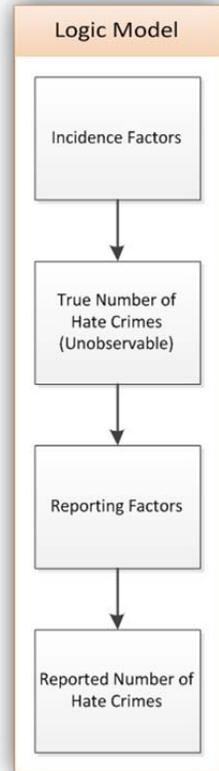
$$\widehat{N}_R = \exp \left\{ \alpha + \sum_{st} \delta_s S_{st} + \sum_t \tau_t T_t + \sum_{st} \beta_j X_{st} + \epsilon \right\}$$

Where,

- S_{st} is the dummy variable for state s in year t .
- T_{st} is the dummy variable for year T
- X_{st} is the value of the number of arrests in a state in the year.
- α is the modeled intercept estimate of the reported number of number of hate crimes nationally.

The above were estimated using the Poisson and Negative-Binomial models described in the report.

\widehat{N}_R is the in-sample prediction for \widehat{N}_R because the model uses the reported number of hate crimes to create the predicted estimate after controlling for the number of states, number of years, and



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additional control variables. Therefore, the above value needs to be adjusted for R and I to provide a more accurate \hat{N}_T .

Therefore, we adjust the estimate as follows:

$$\hat{N}_T = \hat{N}_R \times R \times I$$

$$\text{which is equivalent to: } \hat{N}_T = \exp \left\{ \alpha + \sum_{st} \delta_s S_{st} + \sum_t \tau_t T_t + \sum_{st} \beta_j X_{st} + \epsilon \right\} \times R \times I$$

The variance for the above estimate may be estimated as:

$$Var(\hat{N}_T) = R^2 I^2 Var(\hat{N}_R)$$

Identifying Reporting and Incidence Factors for Adjustment

We need to identify measurable reporting and incidence factors for the adjustment. The word measurable is very important here because there are arguably many psychological and sociological factors that would affect the estimate of \hat{N}_T , but there are relatively few factors that can be easily measured in a consistent, objective, and quantitative manner. Additionally, the adjustment factors need to be defined as increases or decreases from a national baseline. The measures, therefore, need to be defined at the state level yet calibrated against a national baseline.

Incidence Factors

- Proportion of Hispanics in a State relative to the National – Measured as:

$$\frac{\text{Percent of Hispanics United States}}{\text{Percent of Hispanics in State Population}}$$

Data come from Census and American Community Survey. This is measured for available years and imputed for missing years. This is for anti-Hispanic hate crimes.

- Relative degree of racial and ethnic Fragmentation in a state—This is for all hate crimes. This is measured using Entno-Linguistic Fractionalization (ELF) Index extensively used in political science (specifically comparative politics). The fractionalization index is measured as follows:

$$ELF = 1 - \sum_{i=1}^n p_i^2$$

Where p_i refers to the proportion in the population of the i th ethnic or linguistic group. The measure has been applied to racial and ethnic groups and we would use it for combined racial and ethnic indicators (White-Non Hispanic, Black-Non Hispanic, Asian/Pacific Islander, etc).

$$\frac{1 - \sum_{i=1}^n p_i^2}{1 - \sum_{i=1}^n p_{si}^2}$$

Numerator is the National Fractionalization while the denominator is the state-level fractionalization.

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- Number of Hate Groups per 1000 Population Relative to National – Measured as:

$$\frac{\frac{\text{Number of Hate Groups in United States} \times 1000}{\text{US Population}}}{\frac{\text{Number of Hate Groups in State} \times 1000}{\text{State Population}}}$$

Data come from Southern Poverty Law Center (annual reports), Anti-Defamation League, and Partners against Hate.

Reporting Factors

- Proportion of Law Enforcement Officers in State trained in Hate Crime Reporting Relative to National Rate – Measured As:

$$\frac{\frac{\text{Number of Trained State Law Enforcement Officers in all 50 States}}{\text{Total Number of State Law Enforcement Officers}}}{\frac{\text{Number of Trained Law Enforcement Officers in State}}{\text{Total Number of Law Enforcement Officers in State}}}$$

- Proportion Change in State Law Enforcement Budget Relative to Total Law Enforcement Budgets Across States

$$\frac{\frac{\sum_{\text{States}}(\text{Year 2 Law Enforcement Budget} - \text{Year 1 Law Enforcement Budget})}{\sum_{\text{States}}(\text{Year 1 Law Enforcement Budget})}}{(\text{Year 2 Law Enforcement Budget} - \text{Year 1 Law Enforcement Budget}) / (\text{Year 1 Law Enforcement Budget})}}$$

- Number of Anti-Hate Crime Advocacy Groups Per 1000 Population Relative to the United States

$$\frac{\frac{\text{Number of Anti - Hate Crime Advocacy Groups in United States} \times 1000}{\text{US Population}}}{\frac{\text{Number of Anti - Hate Crime Advocacy Groups in State} \times 1000}{\text{State Population}}}$$