

Changing Beliefs about Crime and Punishment in American Society

Patrick R. Cundiff¹ & Duane F. Alwin²

Abstract

Dramatic changes in the operation of the criminal justice system over the past quarter-century have been accompanied by significant shifts in beliefs about the punishment of criminals. Using data from the General Social Survey from 1972 to 2008, this study examines changes in beliefs about the courts' handling of criminals. While there has been considerable change across time in all groups in society, the direction of that change has been quite variable. In a decomposition analysis, we investigate two major mechanisms of change in these beliefs—cohort replacement and intra-cohort change—while testing competing theoretical models for the social sources of public punitiveness. Analyzing change in different historical periods and geographic regions and within different segments of the population sheds new light on the processes of punitiveness and belief change in the U.S. since the 1970s.

Keywords: Punitiveness, Beliefs, Social Change

Highlights

- This study examines changes in punitive beliefs over time.
- Use is made of criminal salience, escalating crime distrust, and racial animus explanations to account for variation in punitive beliefs.
- We model these changes using social decomposition of General Social Survey data from 1972 through 2008.
- Punitive beliefs have been reduced over time due to cohort replacement and intracohort change.
- Criminal salience and racial animus consistently predicted punitive beliefs.

1. Introduction

Over the past half century the United States has seen dramatic shifts in crime and incarceration rates; with both rates rising beginning in the 1960s and continuing to increase into the 1990s (see Wright, Jasinski, and Lanier, 2012). Only in the early 1990s and 2000s do we observe decreases in the crime rate and incarceration rates, respectively. Along with these dramatic shifts in crime and incarceration rates, this period of time has seen beliefs about crime become increasingly conservative in spite of social beliefs on other issues (e.g., women's roles and civil rights) becoming more liberal. While a host of research has documented these increases in public punitiveness, many suffer from failing to provide context into understanding what caused, or is causing these more conservative beliefs about the punishment of criminals. Drawing upon the literature on changing beliefs and punitiveness we test several competing hypotheses regarding the driving factors in public punitiveness in the last 40 years. In this paper we present the results of a study that investigates changes in the nature of public punitiveness toward criminals using the General Social Survey (GSS) data from 1972 to 2008 covering a 36 year span. Specifically, we examine the nature and extent of changes in beliefs about the courts' handling of criminals.

¹Department of Sociology; Western Michigan University; 1903 W. Michigan Ave.; Kalamazoo, MI49008-5257.

Email: patrickcundiff@gmail.com

²Department of Sociology; 211 Oswald Tower; The Pennsylvania State University; University Park, PA 16802. Email: dfa2@psu.edu

These data allow us to capture three distinct periods of punitiveness: a period of increasing punitiveness (1972-1978), a period of stable yet high degree of punitiveness (1980-1994), and a period of decreasing punitiveness (1996-2008). In addition, we combine data from the GSS with information on crime rates and incarceration rates from the Uniform Crime Reports (UCR) and Bureau of Justice Statistics (BJS), providing a dataset capable of better examining punitive beliefs over time than previous studies. To our knowledge the inclusion of these official data sources in predicting public sentiments toward the courts is a rather novel approach. We begin with a review of the punitiveness literature, we then present a critical review of findings from previous research regarding changes in punitive beliefs over time, and finally, we provide a discussion as to why we expect that crime rates, incarceration rates, and perceptions of crime salience may help to better explain variations in punitiveness over time.

2. Theoretical Background

2.1. Salience of Crime

There are several potential theoretical explanations for variations in beliefs about crime over time, some of which have received attention in empirical research. One of the time-worn explanations is that punitive beliefs respond to perceptions of the existence of crime, or crime salience, such that as crime salience rises so too does the public's fear of victimization and crime more generally. For example, Stinchcombe et al.'s (1980) work was pioneering in its emphasis on salience of crime as a key mediating variable in the study of beliefs about punitiveness, and in keeping with this theme, Danigelis and Cutler (1991) have speculated about the impact that the salience of crime may have had in shaping an individual's punitive beliefs during a period of increasing public punitiveness. They cited fear of crime, victimization, lack of neighborhood safety, and seeing crime as a national problem as potential indicators of the salience of crime; hypothesizing that those individuals most fearful of crime would in turn be the most punitive toward criminals. Contrary to these hypotheses, however, Stinchcombe et al. (1980) found little substantive link between salience of crime and punitive beliefs. These unsupportive results led Stinchcombe et al. (1980) to conclude that the salience of crime is highly dependent upon the context of the different situations the respondents faced. Following Stinchcombe et al.'s (1980) model, more contemporary research on the salience of crime and punitive beliefs has used similar operationalizations for the salience of crime; specifically focusing on the fear of crime, experience of criminal victimization, vulnerability to crime, and a general concern about crime as a national problem.

Whereas Stinchcombe et al. (1980) and Warr (1995) observe negligible effects of fear of crime on punitiveness, more recent works (Langworthy and Whitehead 1986; Schwartz et al. 1993; Applegate et al. 2000; Warr and Ellison 2000; Costelloe et al. 2009; Johnson 2009) have found a rather strong link between the salience of crime and punitive beliefs. For example, Warr and Ellison's (2000) research found that altruistic fear (or the fear for others) is more common and often more intense than personal fear, which in turn is more predictive of punitiveness. While these works have observed strong links between the salience of crime and punitive beliefs, they often neglect to measure the impact of trends in both crime and incarceration rates. However, studies examining the impact of criminal victimization on punitiveness (Blumstein and Cohen 1980; Cullen et al. 1985; Langworthy and Whitehead 1986; Rossi and Berk 1997; Applegate et al. 2000; Unnever et al. 2007) have consistently found no relationship between criminal victimization and an individual's punitive beliefs. On the other hand, studies involving concern about crime as a social problem (Thomas and Foster 1975; Rankin 1979; Hogan et al. 2005) have found a consistent relationship between such concern and punitiveness.

2.2. Crime Control Policies and Escalating Crime-Distrust

In addition to the salience of crime explanations of temporal variation in public opinion on punitiveness beliefs, more recent theorizing has suggested that while many schools of thought believe that public policy is driven by the demands and opinions of the people, the reverse may actually be true. That is, with regard to the nature of beliefs about crime, public policy may have been driving the demands and opinions of the people rather than the latter having an important role in shaping public policy (see Beckett 1997). Recently, for example, it has been argued that crime, and therefore the punishment of crime, has become one of the government's largest and most central issues, and that control of crime has been a major focus of public policy (Garland, 2001; Simon, 2007). Arguing from a "culture of control" perspective, Garland (2001) noted that over the past two decades, increases in public punitiveness were products of a crime complex that emerged out of social crises that undermined the more liberal New Deal political order. The crime complex, described as a set of criminal justice principles that stress personal responsibility, harsh punishment, and moralistic criminal law, led to the establishment of policies designed to control crime (or perhaps more accurately, the poor).

Thus, at the heart of the culture of control perspective is the emphasis on the impact of crime itself. The crime complex then can be viewed as a response to the high crime rates observed and the changes in culture that make possible greater public punitiveness (i.e. new problems of crime and insecurity and new attitudes to the welfare state) (Garland 2001). Accompanying the emphasis on the control of crime, the fueling of the public's fear of crime by politicians eager to garner support for legislation that furthers their political ends (Simon, 2007). The increase in punitiveness therefore corresponds to individuals perceiving an increase in crime, displaying a concern for rising crime rates, and a loss of faith in the government and courts. This model, described in the works of Garland (2001) and Simon (2007), is known as the escalating crime-distrust model.

2.3. Racial Animus

Beyond the emphasis on crime control, many scholars have examined the effect racism has had on shaping crime control policies. Research by Unnever, Cullen, and Jonson (2008) noted racial and ethnic animus as one of the more salient factors related to endorsement of a punitive approach to crime. Thus, for the racial animus model of punitive attitude formation the key factor is racial and ethnic intolerance. The effect of racial animus has tended to largely be based upon the race of an individual. Previous research has found racism to be one of the most salient predictors of punitive attitudes among Whites (see Unnever and Cullen, 2010 and Alexander, 2012 for a review).

2.4. Summary

While research on the salience of crime has generally found support in operationalizations involving the fear of crime and concern about crime as a social problem, we question whether these operationalizations of the salience of crime fully capture or address all the potential indicators. Specifically, the operationalizations of the salience of crime rely solely upon perceptual data available through self-report survey. While we too utilize perceptual data available through self-report survey (GSS), our study also incorporates official data on crime and incarceration rates to provide a framework through which to view the perceptual data. Using Uniform Crime Reports (UCR) and Bureau of Justice (BJS) statistics we have created regional crime and incarceration rates which will allow us to delve deeper into potential influences on respondent's perceptions of crime as a social problem. In addition to lacking official data, many of the previous works fail to capture the effects of changes in the salience of crime. As Garland (2001) discusses, the salience of crime for America as a whole has risen substantially in decades since the 1960s. Garland attributes this increase to the increased reporting of crimes, increased criminal victimization of the middle-class, increased political attention to crime, and the higher-visibility of crime through modern media coverage. More recent work by Beckett and Sasson (2004) finds that media imagery of crime and media coverage of crime to be key in the increase in the salience of crime in America today.

In addition to the impact of the salience of crime, it is important to examine the impact of additional factors that have been previously linked to punitive beliefs. Rossi and Berk (1997) examined social and individual factors that were theorized to contribute to sentencing severity. Rossi and Berk's analyses found little or negligible differences in sentencing severity for the following individual-level factors: gender, race, age, victimization, and neighborhood crime level. Their analyses did find effects on sentencing severity based on geographic region, personal experience with legal institutions (been in courts as juror, plaintiff, or witness, or had been arrested and convicted), educational attainment, and ideologies. Individuals with personal experiences with legal institutions, low educational attainment, more conservative views were found to give the harshest sentences. More recent works by Unnever et al. (2005) and Unnever et al. (2007) have found factors related to religion and racism to be linked to punitive ideology. We use the above body of research as the theoretical grounding for the inclusion of our control and predictor variables. Each of the theoretical perspectives discussed above note the significance of historical time and timing of events, all having to do with changes in crime and victimization, and the incarceration of criminals. Most research to date, however, ignores these factors by focusing on only one year of data or at best a few years of data. The recent work of Unnever and Cullen (2010), for example, while drawing upon ideas from these theoretical explanations emphasizing the declining trust in the government's ability to control crime, and other aspects of moral decline and racial animus, their use of a narrow window of time has led much of the research to miss out on the causes of and contexts in which public punitiveness has shifted over time. We therefore focus our attention on a period of more than 35 years, tracing changes in beliefs about the punishment of criminal over a much longer time period, and placing our research in a more advantageous position with respect to accounting for changes in the nature of the public's beliefs about crime.

With these additions to previous research we provide a more comprehensive test of the salience of crime, crime control, and racial animus explanations of punitive attitudes.

3. Changes in Punitive Beliefs over Time

While the theoretical perspectives discussed above provide explanations for the causes of change in punitive beliefs over time, previous work examining changes in public beliefs about punitiveness of the courts over time has focused on explaining rising levels of public punitiveness (i.e. the public's view that the courts were not dealing harshly enough with criminals) as a by-product of ideological shifts observed during the same time period (Danigelis and Cutler 1991; Davis 1992). Both Danigelis and Cutler's (1991) and Davis's (1992) works use public beliefs about punitiveness as proximal measures for ideology (i.e. conservative or liberal). During each of their study's time periods (1972-1985 and 1972-1989 respectively) the authors observe levels of public punitiveness trending upwards (1972-1978) and then plateauing (1980-1989); however, during the mid 1990's punitiveness begins to trend downwards (1996-2008). Both studies, due to their time frames, miss this new period of declining punitiveness. Wright, Jasinski, and Lanier (2012) observe the same pattern which we observe analyzing GSS data from 1972 to 2006. Given the relatively unstable political climate of this more contemporary time period, we believe that shifts in ideology alone cannot account for the trends in public punitiveness observed. Moreover, one may hold liberal beliefs, in the modern sense, yet believe that the courts are being too lenient with criminals. One's political ideology is an enduring, long-held syndrome of attitudes while beliefs about the court's leniency are most often temporal in nature. Additionally, both Danigelis and Cutler (1991) and Davis (1992) fail to explore the possibility that some other more tangible factor (i.e. crime rates, incarceration rates, or crime salience) may be driving ideological shifts and subsequently public punitiveness.

This prior research examined trends in responses to the GSS's COURTS question. The COURTS question asks: "In general, do you think the courts in this area deal too harshly or not harshly enough with criminals?" Respondents are then asked to choose from the following responses: too harsh, not harsh enough, and about right. While the COURTS question is the focus of our research, previous studies used the question to track broader trends in political ideology. Specifically, Danigelis and Cutler were interested in testing the aging-conservatism hypothesis (i.e. as one ages one increasingly adopts more conservative social and political beliefs) (see also Glenn 1980; Alwin, Cohen and Newcomb 1991; Alwin and Krosnick 1991). While this hypothesis had received little support prior to Danigelis and Cutler's (1991) work, the authors contended that previous works were a product of being conducted during a liberal political climate. The results of the analyses are interpreted by the authors as yielding two conclusions: the first (and not of great importance to this study) is that aging does not seem to be a reliable predictor of conservative attitudes, and the second that period effects seem to be driving the relationship in the growth of conservative attitude trends on issues dealing with law and order.

The authors speculate that shifts in law and order attitudes are products of the salience of crime (drawing from Stinchcombe et al.'s 1980 work). While unable to test these speculations, the authors asserted that events observed during their period of study (1959-1985) shaped the salience of crime for respondents and consequently shaped their attitudes toward issues dealing with law and order. They suggested that events such as the Supreme Court decision on capital punishment, a number of assassinations, and the rising crime rate as drivers of the conservative wave. Whereas Danigelis and Cutler (1991) were only able to speculate as to what was driving the conservative trends in law and order issues, our research incorporates official statistics of crime and incarceration, as well as variables related to the salience of crime and social sources of punitiveness (fear of crime, perceptions of rising crime, distrust in the Supreme Court, and racial animus) in order to more accurately gauge the nature of these processes. The inclusion of these variables provides context to the changes occurring over a period of time, providing further detail in the attitude formation and change processes of the public. Davis' (1992) work, similar to Danigelis and Cutler (1991), tracks the broader trend of political ideology using the COURTS question (along with 41 other GSS items with liberal/conservative overtones). More narrowly, Davis's work sought to question the relative importance of cohort succession (or cohort replacement) and intracohort shifts. Davis used the technique of survey metric analysis, or linear decomposition of social change, for his analyses, de-emphasizing the need to disentangle the independent effects of age-period-cohort (APC) models and focusing on cohort replacement and within-cohort change. While Davis is convincing in his arguments for his research's ability to overcome these methodological issues that have plagued social decomposition research, more recent literature (Glenn 1980; Alwin, Cohen and Newcomb 1991; Alwin and Scott 1996) demonstrates that the effects of period and cohort may be disentangled by making assumptions as to the impact of aging.

In our current study, we draw upon this literature to suggest that aging may have little impact on shaping attitudes, allowing us to speak more directly as to the relative impact of cohort (cohort replacement) and period (intracohort change). We concede, however, that if we cannot account for cohort and period effects using theoretically relevant covariates, the residual effects can potentially be explained via aging interpretations. The results from Davis's (1992) work demonstrate a conservative trend beginning in the late 1970s and what Davis calls a liberal rebound in the 1980s. While the trend of the 42 GSS items used by Davis appears to demonstrate this liberal rebound in the 1980s, the trend in the COURTS item does not seem to experience this same liberal rebound. Our examination of the item's trend line shows this liberal rebound occurring much later (in the mid 1990s).

4. Methods

4.1. Data

Data come primarily from NORC's General Social Survey (GSS), a periodic cross-sectional survey of the noninstitutionalized household population of the continental United States aged 18 years and older (see Davis, Smith and Marsden 2009). The survey was conducted almost annually since 1972³ on approximately 1,500 respondents per year, and since 1994 the survey has become biennial, interviewing approximately 3,000 respondents each survey year. Since 1977, the GSS has employed a full probability sampling method. To account for the GSS's sampling procedures (such as the oversampling of blacks in 1982 and 1987) we include GSS weights in our statistical models. Our GSS sample includes approximately 53,000 respondents from GSS years 1972-2008. We supplement our GSS data with data from the UCR and the BJS on crime and incarceration rates at the state-level, respectively. To best allow for causal ordering we lag our measures of crime and incarceration rates one year behind the GSS survey years. In our utilization of the UCR data we construct offense-specific crime rates for each census region⁴ for those offenses demonstrated to be the most salient or the most feared. Specifically, we include rates of burglary, vehicle theft, and sexual assault⁵.

4.2. Outcome Variable

As previously mentioned we utilize the GSS item COURTS as our dependent variable. The COURTS question asks respondents to provide their beliefs regarding the court's treatment of offenders as follows: "In general, do you think the courts in this area deal too harshly or not harshly enough with criminals?" Respondents then choose from one of three categories: too harsh, not harsh enough, and about right. Responses were then coded into an ordinal variable where responses are ordered as follows (from a low to high score): too harsh, about right, and not harsh enough. This ordering means that positive coefficients indicate increasing punitiveness and negative coefficients represent increasing leniency. We view beliefs as a major component of attitudes (see Rokeach 1970), and therefore can readily interpret this as a measure of attitudes toward the courts, but we strongly suspect that attitudes toward the court are composed of a number of other beliefs as well. Hence, we try to think of this in terms of beliefs, that is, as cognitive representations of "what is" – basic information that produce states of expectancy about the characteristics (e.g., harshness) of attitude objects (e.g., courts) (Alwin 2001, p. 104).

4.3. Predictor Variables

Under the Age Period Cohort Characteristics (APCC) methodology we employ in this study (see O'Brien, 2000), we utilize primary predictors of period (year of survey) and cohort (birth year). Period is rescaled around the initial survey year (1972), and cohort is centered around the midpoint of birth cohorts (1945).

³ Surveys were not conducted in 1979, 1981, and 1992

⁴ The GSS provides a representative sample of nine census regions (New England, Middle Atlantic, South Atlantic, East South Central, West South Central, East North Central, West North Central, Mountain, Pacific). While the GSS does have more narrowly defined geocoded data, the more defined data (state-level) when linked to state crime and incarceration rates was not found to have a consistent effect on public punitiveness. Predictors outside of state-level rates crime and incarceration rates were also unaffected by the addition of state-based crime rates.

⁵ Contrary to popular belief that homicide would be the most salient and fear inducing crime, research tends to find that given the rarity of this event, when surveyed individuals are more likely to be fearful of events that have a greater probability of occurrence (Beckett and Sasson 2004).

Within the cohort measure we collapse those born prior to 1900 into the 1900 cohort due to low cohort counts in the sample from 1893-1899; similarly, we collapse those few individuals born after 1986 into the 1986 cohort due to low cohort counts in the sample born between 1987-1990. Following our hypotheses, using O'Brien's (2000) APCC approach, we also utilize predictors related to: our offense-specific crime rates, incarceration rate, theoretical models of the social sources of punitiveness, and the salience of crime. We rely on offense-specific crime rates in two major ways. First, we used them to assist us in defining the critical periods during which we study factors affecting punitive beliefs. Second, we utilize lagged measures of these offense-specific crime rates as crime rates the year prior to the survey year would be the most likely to have an impact on respondents' attitudes and beliefs. The use of lagged measures of crime (and incarceration) rates allows for more clear causal ordering (i.e. rates shape attitudes and beliefs). Rather than control for a total crime rate, we felt it better to separate rates into offense-specific categories (i.e. burglary, vehicle theft, and sexual assault) that have been demonstrated to be the most salient and fear inducing (see Becket and Sasson 2004)⁶. The offense-specific crime rate data come from UCR statistics. Rates represent incidence per 100,000 citizens. Each offense-specific crime rate represents the mean rate for each respondent's U.S. Census region.

Incarceration rate data come from the BJS report series Prisoners in (year). The BJS has compiled state level incarceration data beginning in 1980. As the BJS only began publishing state level incarceration data in 1980 it was necessary for us to create state level incarceration rates for 1971-1977 and 1979 based upon trends observed in state prison populations over time. To create these state level incarceration rates, we began by analyzing trends in each state's share of the total incarceration population. With few exceptions (California and Texas), each state's share of the total incarceration population was stable over time (increasing or decreasing by less than half a percent over the span of our data). While one may consider these exceptions to possibly have a large impact, recall that both offense and incarceration rates are at the Census region level, and thus shifts in one state's percent share of the total population are unlikely to impact the Census region average dramatically. Based upon the stability of these shares we calculated state incarceration populations by multiplying the total U.S. incarceration population for each year by the mean percentage of total incarceration population held by each state. We then divided each state's incarceration population by the state's population (as determined by the U.S. Census and census estimates) and multiplied by 100,000⁷. In addition to creating one year lagged measures of offense-specific crime rates and incarceration rates, we created lagged five year trend measures to capture the change in crime and incarceration rates in the 5 years prior to the respondent's survey year.

Variables related to the theoretical models of the social sources of punitiveness, specifically, the crime-distrust model and the racial-animus model were created by using the GSS items NATCRIME, CONJUDGE, RACDIF1, RACDIF2, RACDIF4, WORKBLKS, and INTLBLKS. The NATCRIME item and the CONJUDGE item were used as components of the escalating crime-distrust model. The crime-distrust model was developed based upon the works of Garland (2001) and Simon (2007). The NATCRIME item asked respondents the following: "We are faced with many problems in this country, none of which can be solved easily or inexpensively. I'm going to name some of these problems, and for each one I'd like you to tell me whether you think we're spending too much money on it, too little money, or about the right amount on halting the rising crime rate." The item was coded so that individuals who responded that we're spending too little money on halting the rising crime rate were given the highest value. We utilize the NATCRIME item as an indicator of perceptions of rising crime, therefore, respondents who think that we're spending too little on halting the rising crime hold perceptions of rising crime. The CONJUDGE item asked respondents the following: "I am going to name some institutions in this country. As far as the people running these institutions are concerned, would you say you have a great deal of confidence, only some confidence, or hardly any confidence at all in them? (U.S. Supreme Court)" The item was coded so that higher values indicate greater distrust or lowered confidence in the U.S. Supreme Court. The racial-animus item was created out of a factor measure created using the GSS items RACDIF1, RACDIF2, RACDIF4, WORKBLKS, and INTLBLKS. The racial-animus model was based upon previous work by Unnever and colleagues.

⁶We began our analyses by testing general crime rates and found no significant effect, to be sure that the non-significant effect observed was not a product of grouping all offenses together we selected the most salient or most feared crimes.

⁷ As a robustness check for our construction of incarceration rates from 1971-1979 we also generate incarceration rates based upon trends in state prison populations, assuming that incarceration during the time period of 1971-1979 operates in a linear fashion. Our results were unchanged.

The RACDIF1 item asked: "On the average (Negroes/Blacks/African-Americans) have worse jobs, income, and housing than white people. Do you think these differences are mainly due to discrimination?" The RACDIF2 item asked respondents: "On the average (Negroes/Blacks/African-Americans) have worse jobs, income, and housing than white people. Do you think these differences are due to an inborn disability?" The RACDIF4 item asked the following: "On the average (Negroes/Blacks/African-Americans) have worse jobs, income, and housing than white people. Do you think these differences are because most (Negroes/Blacks/African-Americans) just don't have the motivation or will power to pull themselves up out of poverty?" The WORKBLKS item asked: "The second set of characteristics asks if people in the group tend to be hard-working or if they tend to be lazy. Blacks?" Finally, the INTLBLKS item asked: "Do people in these groups tend to be unintelligent or tend to be intelligent? Blacks?" Our primary measure of the salience of crime is the GSS item FEAR, which assesses respondents' fear of their community as follows: "Is there any area right around here –that is, within a mile—where you would be afraid to walk alone at night?" While the crime rates provide a measure of the actual amount of crime, the FEAR item provides a measure of the perceived amount of crime. We feel that this item can tap into the respondents' perceptions of their neighborhoods better than crime rates alone as many crimes go unreported to official agencies. We chose not to include measures of self-reported criminal victimization available in the GSS as criminal victimization has previously been shown to have little to no effect on punitiveness (see Rossi and Berk 1997).

As the GSS does not ask every question every year, we use multiple imputation methods to impute respondent values for years where specific questions were not asked. We utilize the ICE command in Stata for our multiple imputation procedure. In our multiple imputation procedure we chose to impute all missing cases; thus we imputed the following variables: fear of crime, newspaper readership, number of television hours watched, conservatism, education, perceived harshness of courts, and marital status. Using multiple imputation allows us to maximize our sample size, providing us with a more representative and powerful sample of the general population. Multiple imputation uses data as a placeholder, it fills the many holes within a dataset that are attributable to missing data as well as adds variation to each hole filled. Surveys in which missing data was planned by design (like the GSS) are excellent candidates for multiple imputation (see Royston 2005; Johnson and Young 2011 for more information on multiple imputation). In addition to the primary predictors mentioned above, we also include the following control variables that have previously been linked to punitive beliefs: race, sex, marital status, education, church attendance, political ideology, and region. Race is broken down into three categories and then dummy coded: white, black, and other. Marital status is a dummy coded five category variable; containing the following categories: married, widowed, divorced, separated, and never married.

Education is a continuous variable measuring the respondents' years of education completed. We center education around its mean of 12.67 years of education (or the equivalent of a high school degree). We use weekly church attendance as a measure of religiosity; this variable is also centered around its mean. Political ideology is a seven category variable ranging from extremely liberal to extremely conservative centered around its mean. Finally, region represents the respondent's U.S. Census region. In Table 1 we present our descriptive statistics. With regard to our outcome variable our sample is predominantly composed of individuals who believe the courts are not harsh enough. In terms of our predictor variables, offense-specific and incarceration rates have considerable variation, approximately 41 percent of the sample is afraid of walking alone in their neighborhood at night, the public generally has some distrust in the Supreme Court, over the time period examined a majority of the public believed crime was rising, and on average the public did not possess racial animus.

Table 1: Descriptives

Variable	N	Mean(%)	S.D.	Min	Max
Predictors					
Birth Year (Centered at 1945)	52836	.19	19.99	-45.00	41.00
Year of Survey (Centered at 1972)	53024	18.65	10.89	.00	36.00
Burglary Rate	53024	1048.78	324.03	405.63	2032.53
Sexual Assault Rate	53024	32.53	8.76	9.38	55.47
Vehicle Theft Rate	53024	422.08	124.26	180.80	829.23
Incarceration Rate	53024	271.27	149.59	52.00	683.00
Fear of Crime	53024	.41	.49	.00	1.00
Crime is Rising	53024	0.62	0.60	-1.00	1.00
Distrust in Supreme Court	53024	1.82	0.67	1.00	3.00
Racial Animus	53024	0.00	0.74	-1.96	1.24
Controls					
Female	53024	.56	.50	.00	1.00
Political Conservatism	53024	.00	1.36	-5.15	5.17
Church Attendance	52497	.00	22.38	-20.60	30.40
Years of Education	52886	.00	3.18	-12.70	7.30
Race					
<i>White</i>	43,310	(81.68)			
<i>Black</i>	7,310	(13.79)			
<i>Other</i>	2,404	(4.53)			
Marital Status					
<i>Married</i>	28,970	(54.64)			
<i>Widowed</i>	5,196	(9.80)			
<i>Divorced</i>	6,412	(12.09)			
<i>Separated</i>	1,851	(3.49)			
<i>Never Married</i>	10,595	(19.98)			
Region					
<i>New England</i>	2,485	(5.00)			
<i>Middle Atlantic</i>	7,947	(14.99)			
<i>East Nort Central</i>	9,885	(18.64)			
<i>West North Central</i>	3,975	(7.50)			
<i>South Atlantic</i>	10,111	(19.07)			
<i>East South Central</i>	3,505	(6.61)			
<i>West South Central</i>	4,953	(9.34)			
<i>Mountain</i>	3,130	(5.90)			
<i>Pacific</i>	7,033	(13.26)			
Outcome					
Courts					
<i>Too Harsh</i>	3,002	(5.66)			
<i>About Right</i>	6,915	(13.04)			
<i>Not Harsh Enough</i>	43,107	(81.30)			

4.4. Analysis of Components of Change

A number of strategies have been developed over the years to aid researchers in disentangling the independent influences of birth cohort, period factors and population aging. There is no technical way to solve the linear dependency among age, period and cohort influences, i.e. Age = Period – Cohort is a linear constraint, and the only way to get around it is to make untestable assumptions (Fienberg 2013). Common to each approach is an attempt to overcome the problem of this linear dependence but each research problem is different, and there are no universal solutions. It is generally agreed that there are no routine mechanical statistical solutions to the problem and no substitute for theoretical knowledge and common sense (e.g. O'Brien 2013), and historically, analysts have often relied on informed theoretical arguments to get around the linear dependence (Glenn 2005).

Recently, several statistical approaches have been developed, which for the most part rely on some type of nonlinear identifying constraints to produce simultaneous estimates of APC effects. For example, the recent deployment of cross-classified multi-level models allows researchers to avoid the linear dependence problem through a conceptualization of birth cohort as a group-level membership (Yang and Land 2006). In this cross-classified fixed (or random) effects approach (CCREM/CCREM), cohorts and survey year are modeled as level-two context effects and age is modeled as an individual level-one effect. This is a potentially promising strategy for some problems, especially for those primarily interested in the effects of aging, and willing to accept some arbitrariness in the identification of cohort and age effects. A second statistical strategy—a constrained ridge-regression estimator approach—relies on the intrinsic estimator (IE) to simultaneously estimate the separate effects of A, P, and C factors. This approach is not without problems and suffers from the serious limitation of disallowing covariates other than A, P, and C in the model (Fu 2000; Yang, Schulhofer-Wohl, Fu and Land 2008). Although the proponents of these statistical solutions have claimed the methods require few assumptions or constraints in order to generate valid estimates of independent effects of age, period and cohort, critics have more recently demonstrated that this is in fact not the case. For example, O'Brien (2011) and Luo (2013) have shown that the IE approach imposes a constraint that is extremely difficult to verify and usually unlikely to be justified. Similarly, there are serious reasons to be skeptical of the CCREM/CCREM methods because of the inherent confounding of age and cohort in arbitrary classifications. For this reason, we rely on an approach that is informed by both theoretical, empirical and statistical considerations, as discussed in the following.

A somewhat more nuanced strategy, the “mechanism-based approach” proposed by Winship and Harding (2008), attempts to go beyond the gross effects of A, P, and C to specify the factors that are responsible for the effects. This calls for path models in which A, P, and C are exogenous variables that effect Y through intervening mechanisms that directly measure the factors that account for A, P and C effects. In the mechanisms strategy, A, P, and C are allowed to affect the outcome variable through both common and unique intervening variables. A clear disadvantage of this approach is that direct measures of A, P, and C are not always available, and in some cases the collinearity between the A, P, and C factors and the mechanisms that are thought to transmit their effects make it impossible to detect both direct and indirect effects. Finally, because the aggregate age of the population is remarkably stable over the time periods investigated in this study and others using the GSS, students of social change focus primarily upon two fundamental sets of mechanisms: (1) change occurring through the succession of cohorts, and (2) changes happening due to changes undergone by individuals (Alwin & McCammon 2003; Firebaugh 1992). Thus, society changes (paradoxically) both because individuals change and because to some extent they remain stable. The stable component of individuals reflects the indelible influences of historically-based formative experiences, i.e. cohort effects, while the component representing changes to individuals is usually associated with the effects of aging and period influences. These ideas, thus, emphasize the importance of the concept of “cohort replacement” or “cohort succession” in the study of social change, as well as the notion that people change because of changes happening in their contemporary social worlds. That is, over historical time later-born cohorts replace earlier-born ones, and to the extent that there are differences due to “cohort effects,” this will be reflected in the way society changes. At the same time, this model also assumes that changes occur within cohorts, i.e. intra-cohort change, which results as a consequence of period influences on individuals.

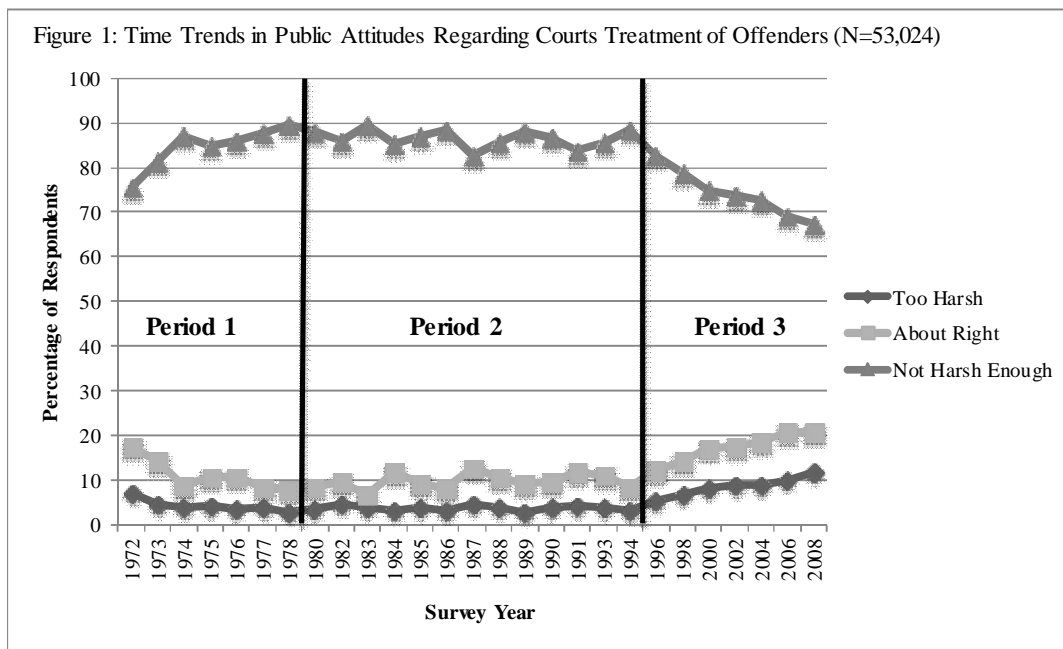
Following the above reasoning, Firebaugh (1989) proposed a linear regression method that essentially decomposes gross change in Y into two components: cohort replacement and intra-cohort (or individual) change. This methodology makes considerably fewer assumptions in that it does not attempt to identify all three sets of influences, but it has the disadvantage that the cohort replacement and intra-cohort change effects may in some cases be ambiguous, the former potentially being composed of the effects of cohort turnover and age composition, while the latter intra-cohort change component can potentially contain both period effects and the influences of population aging. However, due largely to the stability of the age composition of society, in most cases we can attribute cohort replacement effects mainly to social changes due to unique cohort differences and intra-cohort change to period factors that cause individuals to change. In this paper, we focus on the study of social change in the public's beliefs about the treatment of offenders by employing a combination of Firebaugh's (1989) linear regression decomposition method and Winship and Harding's (2008) mechanism-based approach, by measuring characteristics of periods and cohorts that may account for their effects.

We first partition the GSS data into three separate periods, conducting analyses within each of the groups—period 1: 1972-1978, period 2: 1980-1994, and period 3: 1996-2008. In constructing these groups, we relied on an inspection of the patterns of change in the dependent variable and aggregate statistics on crime rates and incarceration rates (see Figures 1-2d). Analysts often do not periodize their analysis of attitudes and beliefs, which potentially could lead to the wrong conclusions regarding the relative components of change (see Isaac and Griffin 1989). The results we present below strongly suggest that, even though the cohort replacement component in these results is remarkably uniform over the three time periods, it is important to periodize the analysis in order to take into account irregular periods of change. We use the generalized ordered logistic regression technique as opposed to the ordered logistic regression technique as many of our predictor variables violate the proportional odds assumption. Specifically we use Williams's (2006) *gologit2* program designed for Stata. Williams's generalized ordered logistic regression *gologit2* program goes beyond Fu's (1998) *gologit* program in its ability to impose proportional odds assumptions on those variables that do not violate the assumption using its *autofit* option; thus providing estimates of partial proportional odds models. Despite the fact that the algebra of the linear decomposition techniques in the OLS regression cases has not been developed for logistic regression techniques, we can read the nature and pattern of the decomposition of social change from the coefficients of our models. The above definitions of social change as due to mechanisms of cohort replacement and intracohort change are retained in our analysis and they provide a framework for the interpretation of our results.

5. Results

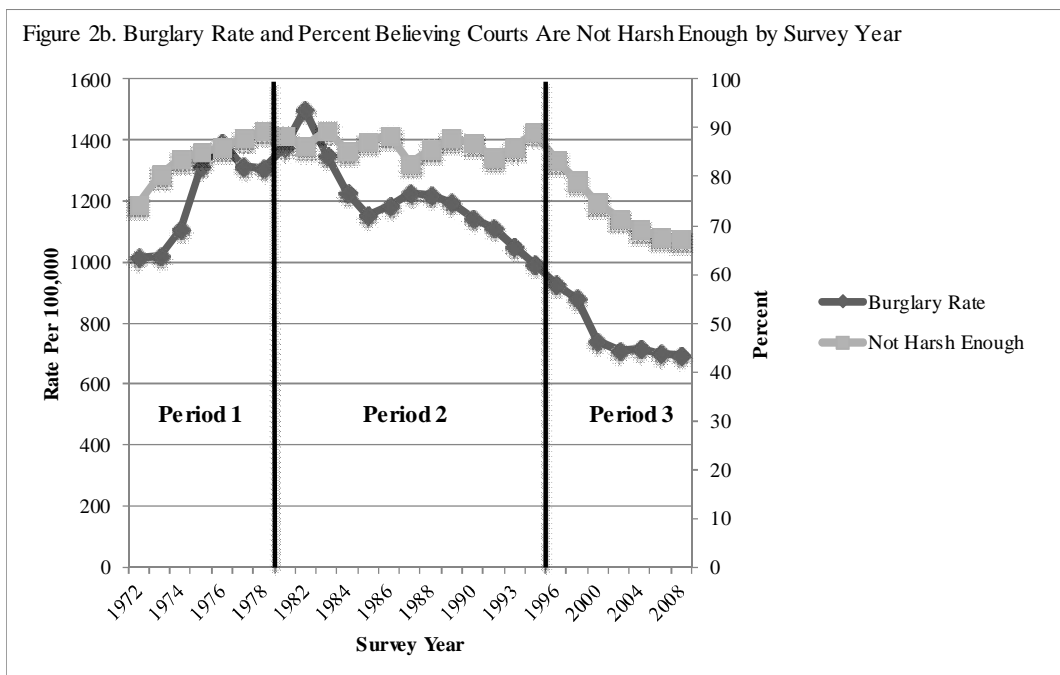
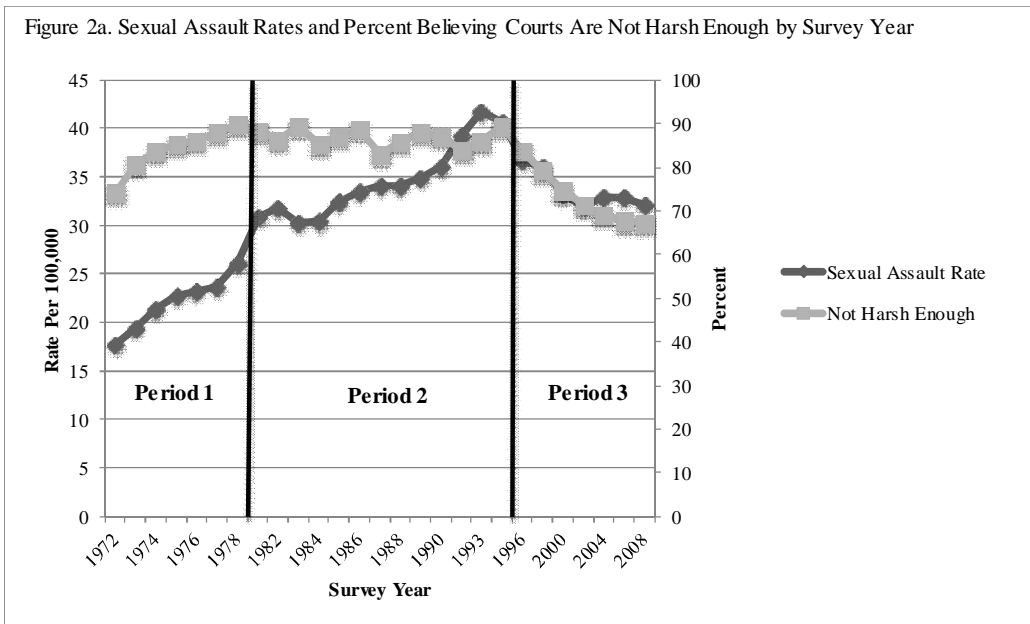
5.1. Development of Periods

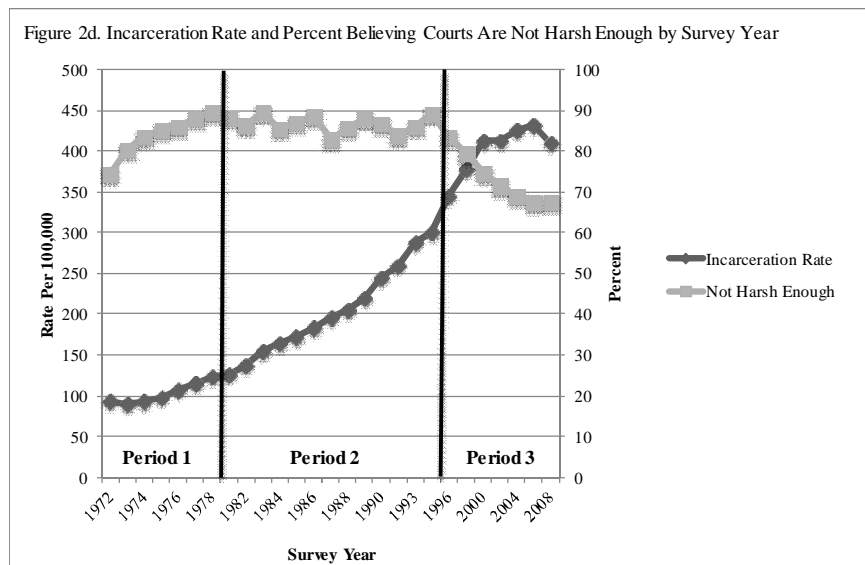
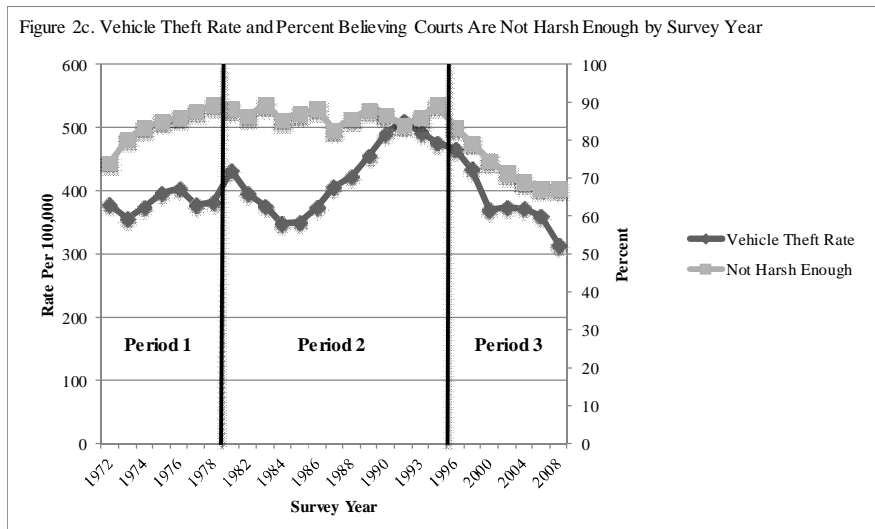
In Figure 1 we present the trend lines associated with respondents' answers to our outcome variable, COURTS. As depicted in Figure 1 public beliefs on the court's treatment of offenders displays considerable variation over time. As previously stated, based on the pattern of offense-specific rates across this time period, we believe an examination of the trends in public beliefs about the courts can be broken down into three distinct periods: a period of increasing punitiveness (Period 1, 1972-1978), a period of relatively stable punitiveness (Period 2, 1980-1994), and a period of decreasing punitiveness (Period 3, 1996-2008). We have hypothesized that real world events occurring during each of these periods have had a large impact on the public's punitiveness. Specifically, each of these periods overlaps with specific trends and patterns in crime and the criminal justice system: Period 1 is associated with climbing crime and incarceration rates, Period 2 is associated with high yet steady crime rates and increasing incarceration rates, and Period 3 is associated with declining crime rates and continued increases in the incarceration rate.



In the following series of figures (Figures 2a-2d) we present five trend lines: burglary rates, sexual assault rates, vehicle theft rates, incarceration rates, along with our outcome variable, the percentage of respondents who believe that the courts are not harsh enough.

The left y-axis corresponds to the rate per 100,000 for all rates (offense-specific and incarceration). The right y-axis corresponds to the percentage of GSS respondents who responded that the courts' handling of criminals is not harsh enough. Evident in Figures 2a, 2b, and 2c are crime rate trends that follow closely to the trends in respondents' punitive beliefs, especially during Period 1 and Period 3. The crime trends do not track as well throughout Period 2, as sexual assault continues to rise and the rates for burglary and vehicle theft are not as stable as the public's opinions of the court. While Figure 2d depicts significant differences in patterns between incarceration rates and respondents' punitive beliefs, it may be that the incarceration rate does not affect punitive beliefs because those incarcerated pose little or no threat, once they have been incarcerated. In sum, crime rates track much more closely with public beliefs than do rates of incarceration. Based upon these trend lines of the official crime rate statistics there seems to be evidence that these rates may be related to public punitiveness.





5.2. Period 1 Results

Table 2 provides the results of the generalized ordered logistic regression predicting public beliefs about the courts during Period 1 (period of increasing punitiveness). In Model 1 we find that birth year (cohort replacement) has a significant impact in decreasing the public’s punitiveness; while the effect of year of survey (intracohort change) has a significant positive effect on the public’s punitiveness in both Equation 1 and Equation 2. In other words, the overall rise in punitiveness is due mainly to a positive period effect offset by a (somewhat weaker) decline in punitiveness as a result of cohort replacement. In Model 2 we introduce our control variables. In both equations the addition of the control variables had little impact on the effect of period and a modest effect on the effect of cohort replacement (mediating the coefficient by roughly 17 percent for Equation 1 and 21 percent for Equation 2). Within the control variables a few interesting patterns emerge. First, respondents of minority groups tended to be much less punitive than whites. Second, those who were more politically conservative were also more punitive, and clearly, there is more to public punitiveness than this factor alone. In Model 3 we introduce our measures of the theoretical models of the social sources of punitiveness and the salience of crime⁸. Fear of crime significantly increased the respondent’s punitive beliefs during Period 1. Yet, while significant, fear of crime had no impact on either the effect of cohort replacement or the effect of period. Our measure of racial animus was found to significantly increase punitive beliefs, while our measure of distrust in the Supreme Court was found to significantly decrease punitiveness.

⁸ Note that coefficients for newspaper readership and television exposure are not presented as they have no significant impact on respondent’s beliefs about courts.

The results of the racial animus measure are expected, however, we were surprised to see the negative relationship between distrust in the Supreme Court and public punitiveness. While we hypothesized the impact of crime and incarceration rates, in none of our results were offense-specific rates or incarceration rates consistent over time and both significantly related and substantively meaningful to punitive beliefs regardless of the level of measurement (region or state-level) (results not shown). This finding is not entirely surprising given the collinearity between the rates and the period and the rates and the region. Additionally, the lack of a significant effect for “reality” (offense-specific crime rates and incarceration rates) and the consistently significant effect for perception (fear of crime) sheds some light on the process of belief/attitude formation and change (a topic beyond the scope of this paper). These offense-specific crime rates and incarceration rates continue to be non-significant across all periods of analysis and are thus not presented (results are available upon request).

Table 2: Generalized Ordered Logistic Regression with Partial Proportional Odds Predicting Public Beliefs About Courts During Period 1 (1972-1978) (N=10,540)

Predictor	Model 1				Model 2				Model 3			
	Equation 1		Equation 2		Equation 1		Equation 2		Equation 1		Equation 2	
	b	(SE)	b	(SE)	b	(SE)	b	(SE)	b	(SE)	b	(SE)
Constant	2.26 ***	(.07)	1.00 ***	(.06)	2.77 ***	(.11)	1.26 ***	(.10)	3.13 ***	(.18)	1.40 ***	(.15)
Birth Year (Centered/10)	-0.35 ***	(.03)	-0.19 ***	(.02)	-0.29 ***	(.04)	-0.15 ***	(.02)	-0.28 ***	(.04)	-0.15 ***	(.02)
Year of Survey (Rescaled/10)	1.65 ***	(.15)	1.65 ***	(.15)	1.64 ***	(.16)	1.64 ***	(.16)	1.63 ***	(.15)	1.63 ***	(.15)
Female					0.06	(.06)	0.06	(.06)	-0.04	(.07)	-0.04	(.07)
Black					-1.19 ***	(.12)	-0.41 ***	(.08)	-1.21 ***	(.12)	-0.44 ***	(.09)
Other Race					-0.63	(.32)	-0.63	(.32)	-0.63	(.33)	-0.63	(.33)
Conservatism					0.17 ***	(.03)	0.17 ***	(.03)	0.17 ***	(.02)	0.17 ***	(.02)
Church Attendance					0.01 *	(.00)	0.00	(.00)	0.01 ***	(.00)	0.00	(.00)
Fear of Crime									0.29 ***	(.07)	0.29 ***	(.07)
Crime Is Rising									0.03	(.05)	0.03	(.05)
Distrust in Supreme Court									-0.19 **	(.06)	-0.08	(.05)
Racial Animus									0.10 *	(.04)	0.07	(.04)
Wald χ^2	221.95				598.01				605.81			
Pseudo R ²	.027				.059				.060			

* p<.05 ** p<.01 *** p<.001

Note: Equation 1 represents the comparison between Too Harsh and both About Right and Not Harsh Enough.

Note: Equation 2 represents the comparison between Not Harsh Enough and both Too Harsh and About Right.

Note: White is the reference category for race.

5.3. Period 2 Results

Table 3 provides the results of the generalized ordered logistic regression predicting public beliefs about the courts during Period 2 (period of relatively stable punitiveness). In Model 1 we again find that birth year continues to have a significantly negative effect on punitiveness. Year of survey has mixed results throughout all of the models in regards to differences in significance across equations. In all models year of survey has a significant and positive effect on punitiveness in Equation 1 and a positive yet non-significant effect in Equation 2. These mixed results tend to suggest that people during this time period were becoming more satisfied with punishment in their respective area. This is further evidenced in the dramatically reduced coefficient size for year of survey in both Equation 1 and Equation 2 (75 percent and 96 percent reductions respectively). In Model 2 we add in our control variables. The results from Model 2 in Table 2 are similar to those in Model 2 of Table 1; females, whites, and more conservative respondents were those most likely to respond more punitively. In Model 3 we introduce our fear of crime measure, which again has a significant positive effect on beliefs about the courts. Again we find a significant positive effect of racial animus and a significant negative effect of distrust in the Supreme Court on public punitiveness. While the effect of survey year becomes non-significant during this time period, the effects observed for our social sources of punitiveness had similar effects in Periods 1 and 2. These similar effects suggest that during periods of both stable and increasing punitiveness an individual's beliefs about the severity of the courts are largely shaped by their year of birth and the social sources of punitiveness (escalating crime-distrust, racial animus, criminal salience).

Table 3: Generalized Ordered Logistic Regression with Partial Proportional Odds Predicting Public Beliefs About Courts During Period 2 (1980-1994) (N=21,370)

Predictor	Model 1				Model 2				Model 3			
	Equation 1		Equation 2		Equation 1		Equation 2		Equation 1		Equation 2	
	b	(SE)	b	(SE)	b	(SE)	b	(SE)	b	(SE)	b	(SE)
Constant	2.64 ***	(.15)	1.74 ***	(.08)	3.20 ***	(.18)	1.78 ***	(.10)	3.33 ***	(.19)	1.97 ***	(.13)
Birth Year (Centered/10)	-0.25 ***	(.03)	-0.09 ***	(.01)	-0.14 ***	(.03)	-0.05 *	(.02)	-0.14 ***	(.03)	-0.04 *	(.02)
Year of Survey (Rescaled/10)	0.41 ***	(.10)	0.07	(.05)	0.26 *	(.10)	0.06	(.05)	0.28 **	(.10)	0.05	(.05)
Female					0.31 ***	(.05)	0.31 ***	(.05)	0.19 ***	(.05)	0.19 ***	(.05)
Black					-1.05 ***	(.09)	-0.48 ***	(.06)	-1.08 ***	(.09)	-0.51 ***	(.06)
Other Race					-0.91 ***	(.18)	-0.33 *	(.12)	-0.93 ***	(.17)	-0.35 **	(.12)
Conservatism					0.15 ***	(.02)	0.15 ***	(.02)	0.15 ***	(.02)	0.15 ***	(.02)
Church Attendance					0.01	(.00)	0.00	(.00)	0.01 ***	(.00)	0.00	(.00)
Fear of Crime									0.37 ***	(.05)	0.37 ***	(.05)
Crime Is Rising									0.06	(.04)	0.06	(.04)
Distrust in Supreme Court									-0.09 **	(.03)	-0.09 **	(.03)
Racial Animus									0.10 **	(.03)	0.08 *	(.03)
Wald χ^2	11.47				600.05				647.00			
Pseudo R ²	.003				.032				.035			

* p<.05 ** p<.01 *** p<.001

Note: Equation 1 represents the comparison between Too Harsh and both About Right and Not Harsh Enough.

Note: Equation 2 represents the comparison between Not Harsh Enough and both Too Harsh and About Right.

Note: White is the reference category for race.

5.4. Period 3 Results

Table 4 provides the results of the generalized ordered logistic regression predicting public beliefs about the courts during Period 3 (period of decreasing punitiveness). In Model 1 we find that both birth year and year of survey significantly decreased the likelihood of punitive beliefs about the courts. Period 3 thus marks the turning point for the effect of period. In contrast to the two previous periods, then, the master shift within cohorts over this time period is solidly in the direction of being less harsh. With the addition of our control variables in Model 2 we find results similar to the other periods; namely, females, whites, and more conservative respondents tended to have the highest likelihood of a punitive response. In Model 3 our fear of crime measure is added yielding significant positive coefficients as in all previous models. Interestingly, while the racial animus predictor variable continues to be a significant predictor of more punitive beliefs, for the first time, individuals who believe that crime is rising are significantly more punitive. Together, the results for all our period analyses find that individual beliefs regarding punitiveness are largely shaped by their year of birth and the period of time. The social sources of punitiveness (namely criminal salience and racial animus) predicted greater belief that the courts were not harsh enough regardless of time period, suggesting that these largely do not effect belief change (at least to the extent that cohort replacement and period do).

Table 4: Generalized Ordered Logistic Regression with Partial Proportional Odds Predicting Public Beliefs About Courts During Period 3 (1996-2008) (N=20,272)

Predictor	Model 1				Model 2				Model 3			
	Equation 1		Equation 2		Equation 1		Equation 2		Equation 1		Equation 2	
	b	(SE)	b	(SE)	b	(SE)	b	(SE)	b	(SE)	b	(SE)
Constant	3.81 ***	(.23)	2.93 ***	(.14)	4.37 ***	(.24)	3.17 ***	(.15)	4.48 ***	(.24)	3.28 ***	(.17)
Birth Year (Centered/10)	-0.24 ***	(.02)	-0.05 ***	(.01)	-0.11 ***	(.02)	0.02 *	(.01)	-0.11 ***	(.02)	0.03 *	(.01)
Year of Survey (Rescaled/10)	-0.35 ***	(.07)	-0.59 ***	(.05)	-0.42 ***	(.07)	-0.63 ***	(.05)	-0.41 ***	(.08)	-0.63 ***	(.05)
Female					0.28 ***	(.04)	0.28 ***	(.04)	0.21 ***	(.04)	0.21 ***	(.04)
Black					-0.90 ***	(.07)	-0.27 ***	(.05)	-0.92 ***	(.07)	-0.28 ***	(.05)
Other Race					-0.69 ***	(.09)	-0.33 ***	(.06)	-0.72 ***	(.09)	-0.36 **	(.06)
Conservatism					0.18 ***	(.01)	0.18 ***	(.01)	0.18 ***	(.01)	0.18 ***	(.01)
Church Attendance					0.00	(.00)	0.00	(.00)	0.00	(.00)	0.00	(.00)
Fear of Crime									0.27 ***	(.04)	0.27 ***	(.04)
Crime Is Rising									0.11 ***	(.03)	0.11 ***	(.03)
Distrust in Supreme Court									-0.02	(.03)	-0.02	(.03)
Racial Animus									0.10 ***	(.02)	0.10 ***	(.02)
Wald χ^2	37.09				1255.47				1269.09			
Pseudo R ²	.019				.053				.054			

* p<.05 ** p<.01 *** p<.001

Note: Equation 1 represents the comparison between Too Harsh and both About Right and Not Harsh Enough.

Note: Equation 2 represents the comparison between Not Harsh Enough and both Too Harsh and About Right.

Note: White is the reference category for race.

6. Discussion

In our analysis of the changes in beliefs about courts' punitiveness, we investigated the two major mechanisms of change in these beliefs, cohort replacement and intra-cohort change; additionally, we examined the impact of factors related to the escalating crime-distrust model, racial animus model, fear of crime, and crime rates on the mechanisms of change and beliefs. We find that components of change operate in very different ways. Changes in beliefs due to cohort replacement are relatively consistent across all time periods, contributing to a less punitive view of criminals. These patterns reflect a systematic tendency for later-born cohorts to subscribe to the view that the courts are too harsh, whereas earlier-born cohorts tend to have the view that the courts are not harsh enough. If this cohort replacement mechanism were the only factor influencing change, the overall secular trend in punitiveness would be toward a push for less harsh sentencing of criminals. However, there are pronounced historical effects operating within cohorts producing somewhat more variable patterns across periods. The nature of intra-cohort change in beliefs reported across these time periods indicates a rise in public punitiveness in the two early periods, offsetting the cohort replacement patterns, but declining in the later period in concert with the cohort replacement effects. Our findings are consistent with the claim of an anti-punitiveness backlash emerging in the mid-1990s and extending through the early 2000s. We would suggest that given the quite variable nature of these within-cohort effects, it would be difficult to argue that these effects reflect population aging; rather they appear to be due to intra-cohort period influences.

After documenting the nature of the change in punitiveness beliefs, and investigating their sources in cohort replacement and intra-cohort change across three different time periods, our third major goal here was to analyze the potential sources of these two change components. We conducted this analysis by adding covariates that more directly measured the cohort and period factors involved by employing O'Brien's (2000) APCC approach. We first included a set of individual-level characteristics (sex, race, region, education, church attendance, political conservatism and marital status), finding that their inclusion in the model consistently accounted for some of the cohort replacement effect, i.e. later born cohorts are more educated, more single, etc. What remains of the cohort replacement effects identified at the outset, then, may be due to either other cohort compositional factors we have not included, or they may, as we argued above, reflect aging or life cycle changes. The second step in the process of adding covariates to our analysis, used time-linked covariates, measuring factors linked to the "crime and justice" environment during different historical periods—specifically offense-specific crime rates (which track fairly well with the patterns in beliefs we observe), the incarceration rate (which only in the later period is consistent with a decline in punitiveness beliefs), racial animus, perceptions of rising national crime, distrust in the U.S. Supreme Court, and the fear of crime (which has a pattern very much like the pattern of punitiveness beliefs). In our models, assessed within period and cohort, we find no influence of the offense-specific crime rates or the incarceration rate on punitive beliefs. Crime rates, however, clearly account for differences in punitiveness beliefs between periods (see Figures 2a-2c). However, consistent with our theoretical hypothesis regarding the link between the salience of crime and beliefs about punishment, we find that in all periods our fear of crime measure is significantly related to punitive beliefs, but it does not alter (account for) the cohort replacement or intra-cohort change components of social change. Beyond examining the impact of the salience of crime, we examined the impact of hypothesized social sources of punitiveness (racial animus, perceptions of rising crime, and distrust in the Supreme Court).

We observed a consistent effect of racial animus across all periods on punitiveness, where individuals with greater levels of racial animus were also more punitive in regards to the treatment of criminals. Distrust in the Supreme Court was found to be significantly related to punitiveness for the periods of increasing punitiveness and stable yet high punitiveness. However, we were surprised by the direction of the relationship (negative). Interestingly enough, the effect of perceptions of rising crime were only significant in the period in which crime and levels of punitiveness were declining. To summarize, the analyses demonstrate that while crime and incarceration rates were not significantly related to individuals' punitive beliefs within periods and within cohorts, the salience of crime (as indexed by fear of crime) and racial animus significantly predicted punitive beliefs across all time periods. Individuals who possess racial animus tended to be more punitive in their beliefs, as predicted by this theoretical model. These effects were most pronounced for white individuals (racially disaggregated results available upon request). The escalating crime-distrust model found little support as one of its primary components (confidence in the US Supreme Court) was found to operate in opposition to the proposed hypothesis.

Like racial animus, criminal salience was found to consistently predict more punitive beliefs. Individuals who resided within dangerous neighborhoods were more likely to hold punitive beliefs. This may be due to the fact that these individuals believe that more punitive courts could reduce crime within their neighborhood through the removal of criminal individuals. Before concluding we must acknowledge the limitations of our study. First, while we assume age to have no impact upon changes in punitive beliefs over time given its relative stability in our sample population and the U.S. population more generally, we cannot rule out the potential confounding of age and period effects (see Danigelis et al. 2007 for a full discussion). As we were unable to account for the full effects of period in our analyses it is possible that unexplained variation could be due to the effects of aging; however, we would expect that if aging were responsible for the observed effects of period, period would have a consistent effect over time, which it clearly does not. As is clear in our analyses, the effect of period significantly varies over time, moving from a significant positive effect to a significant negative effect. Second, our small pseudo R-squares seem to indicate that our models are unable to account for a large amount of the observed variance. While we recognize this as a limitation, due to measurement errors and other limitations of measurement, we expect that most large scale studies of individual variation will have difficulty in accounting for large portions of observed variation. Third, while our results suggest that changes in punitive beliefs are in line with anti-punitiveness backlash, we were unable to test this speculation. We view this limitation as a springboard for future research. As the criminal justice had fairly fluid policies over our period of study, the change in beliefs may have been in response to the public perceiving get tough on crime policies as over-corrections by the criminal justice system. Future research should look to see if mandatory minimums, three strikes laws, and the reintroduction of the death penalty had any effect upon the punitive beliefs. Moreover, future research should also investigate whether other measures of incarceration beyond rate alone (i.e. average length of sentence or number of inmates on death row) would have any effect. Finally, given the recent work of Applegate and Sanborn (2011) we must consider the possibility that we may be over-estimating the level of public punitiveness by using the GSS's COURTS question, as its wording is so that it promotes a greater number of respondents to express a desire for more punitive courts.

In conclusion, the patterns we observe suggest that both cohort replacement—the slow engine of social change, as Norman Ryder (1965) characterized it—and factors occurring within cohorts, i.e. period effects, were important in understanding the nature and extent of changes in punitiveness over time from the early 1970s until now. We can account for some of the cohort replacement effects by recourse to controls for individual-level characteristics related to the composition of cohorts, and while we cannot account for all of the intra-cohort effects by looking to the fear of crime, perceptions of rising crime, distrust in the Supreme Court, and racial animus as indicators, our results demonstrate the importance of including perceptual measures (such as fear of crime) when studying attitudes and beliefs about punitiveness. These results can be further extended by not only analyzing change in different historical periods but also by assessing potentially different patterns across different geographic regions, ethnic groups and separately among men and women. These examinations are beyond the scope of our present investigation, but we conclude at this point that such research will shed new light on the processes of punitiveness and belief change in the U.S. since the 1970s.

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