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The Public's Increasing Punitiveness and Its Influence on Mass Incarceration in the United States

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Abstract: Following more than 30 years of rising incarceration rates, the United States now imprisons a higher proportion of its population than any country in the world. Building on theories of representation and organized interest group behavior, this article argues that an increasingly punitive public has been a primary reason for this prolific expansion. To test this hypothesis, I generate a new over-time measure of the public's support for being tough on crime. The analysis suggests that, controlling for the crime rate, illegal drug use, inequality, and the party in power, since 1953 public opinion has been a fundamental determinant of changes in the incarceration rate. If the public's punitiveness had stopped rising in the mid-1970s, the results imply that there would have been approximately 20% fewer incarcerations. Additionally, an analysis of congressional attention to criminal justice issues supports the argument that the public's attitudes have led, not followed, political elites.

In 1972, for every 100,000 adults in the United States, 93 individuals were incarcerated in a state or federal prison. By 2007, the corresponding number was 506. The United States now incarcerates a higher percentage of its population than any country in the world (Walmsley 2009). Following almost four decades of rising incarceration rates, the social (Alexander 2010; Mauer 2006; Pager 2007; Western 2006), economic (Kirchhoff 2010; Schmitt, Warner, and Gupta 2010), and political (Burch 2009; Gottschalk 2008; Manza and Uggen 2004; Nicholson-Crotty and Meier 2003; Uggen, Manza, and Thompson 2006; Weaver and Lerman 2010; Yates and Fording 2005) implications of mass incarceration are becoming increasingly evident. As Gottschalk (2006, 236) explains, "The emergence and consolidation of the U.S. carceral state were a major milestone in American political development that arguably rivals in significance the expansion and contraction of the welfare state in the post-war period." Yet, despite the considerable implications of rising incarceration, debate continues as to why the incarceration rate has expanded so dramatically (see, e.g., Cook 2009).

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An online appendix with supplementary material for this article is available at the *AJPS* Website. Data and supporting materials necessary to reproduce the numerical results will be made available at <http://thedata.harvard.edu/dvn/dv/Enns> and the *AJPS* Data Archive on Dataverse (<http://dvn.iq.harvard.edu/dvn/dv/ajps>).

Building on theories of representation and organized interest group behavior, this article argues for the importance of considering public opinion as a determinant of mass incarceration in the United States. Although research has increasingly drawn a link between policy decisions and incarceration levels, the extant literature generally concludes that public opinion exerts minimal to no influence on the incarceration rate. I argue, however, that the lack of evidence regarding the relationship between public opinion and the incarceration rate is primarily the result of no adequate measure of the public's preferences for being tough on crime. To overcome this problem, I utilize almost 400 survey questions to generate a measure of the public's punitiveness from 1953 to 2012. The analysis then tests the relationship between the public's punitiveness and two indicators of criminal justice policy: changes in the incarceration rate and the percent of congressional hearings devoted to issues related to crime and punishment.

The article provides several important insights into the nature of public opinion and the rise of mass incarceration. First, the theoretical focus on public opinion offers a framework for understanding why U.S. political elites have advanced the most punitive penal policies in the world (Blumstein, Tonry, and Van Ness 2005). Second, although some have suggested that the public has become more punitive (e.g., Ditton and Wilson 1999; Garland 2001; Useem and Piehl 2008), the analysis yields the first evidence that the public's preferences for being tough on crime steadily increased between the 1960s and 1990s. Finally, we learn that the public's increasing punitiveness has been a primary determinant of the incarceration rate and that shifts in the public's punitiveness appear to have preceded shifts in congressional attention to criminal justice issues. These results hold controlling for the crime rate, illegal drug use, inequality, and the party in power.

The article proceeds as follows. The following section details the largely minimalist influence existing incarceration research assigns to public opinion. I then develop a theoretical argument for why we should expect public opinion to matter. The analysis proceeds in two parts. First, I generate and validate a measure of the public's support for being tough on crime. I then show the important influence of public opinion on the criminal justice system during the past six decades. The conclusion discusses implications of this finding and avenues for future research.

An Impotent or a Punitive Public?

Does the rising incarceration rate reflect a response to an increasingly punitive public? A review of federal and state incarceration literature shows that the evidence is far from conclusive. Jacobs and Carmichael (2001) find a relationship between state political ideology and state prison populations, and Nicholson-Crotty, Peterson, and Ramirez (2009) find a moderate relationship between public opinion and federal criminal justice policy. Yet, much of the literature questions the role of public opinion (e.g., Beckett 1997, 108; Gottschalk 2008, 251–252; Zimring and Hawkins 1991, 125–130). Matthews (2005) goes as far as referring to the “myth of punitiveness,” and Brown (2006) describes the public as “impotent” in its ability to influence criminal justice policy. A related view holds that the public's level of punitiveness has held relatively constant and thus cannot explain the change in incarceration rate (Roberts et al. 2003, 27–28; Zimring and Johnson 2006, 266). Others suggest that a greater public influence would actually mitigate rising incarceration rates. In her analysis of state-level incarceration, Barker

(2006, 25) concludes, “Increased citizen participation can actually set limits on state reliance on confinement.” A similar perspective concludes that politicians overestimate the public’s punitiveness (Cullen, Clark and Wozniak 1985, 22; Gottschalk 2006, 27; Roberts and Stalans 2000, 294). In sum, current explanations of the incarceration rate range from assigning some influence to public opinion to arguing that public opinion has no effect or would actually lead to lower levels of incarceration if policy makers were more attentive to the public’s wishes.

The extant literature does not, however, ignore the role of politics in rising incarceration. In fact, while largely de-emphasizing the role of public opinion, political explanations, such as the party in power or the influence of interest groups, are increasingly cited as important determinants of mass incarceration (Davey 1998; Gottschalk 2006; Jacobs and Helms 1996, 2001; Smith 2004; Weaver 2007; Yates and Fording 2005). This simultaneous emphasis on political forces and de-emphasis on public opinion produce an interesting puzzle. Scholars have long argued that electorally motivated politicians consider their constituents’ interests (Downs 1957; Fenno 1978; Mayhew 1974), and a large literature shows that policy makers respond to the public’s policy preferences (e.g., Erikson, MacKuen, and Stimson 2002; Page and Shapiro 1983; Soroka and Wlezien 2010). Additionally, potential constituents are the most fundamental determinant of the origin and survival of member-based interest groups (Gray and Lowery 1996; Olson 1965; Truman 1951). Why would politicians and interest group leaders, who depend on the public for their political survival, help produce the highest incarceration rate in the world if the public were unsupportive or uninterested in this outcome?

One answer to this question is that public attitudes toward crime and punishment are so “mushy” (Cullen, Fisher, and Applegate 2000, 58; Durham 1993, 8) that political actors feel they can safely ignore them. This conclusion implies that political elites have influenced the incarceration rate independent of the public’s will and that the public has remained aloof to nearly 40 years of prison expansion. I propose, however, that political actors have not ignored the public, but rather have been encouraged by the rising punitiveness of public opinion. This argument is consistent with the research on politicians, representation, and interest groups cited above. The argument also supports the increasing evidence that political considerations influence the incarceration rate. That is, to claim that public opinion matters does not imply that politics and policy do not matter. Instead, the focus on public opinion offers a theoretical framework for understanding why we have seen such a sustained political push toward more punitive criminal justice policies; politically motivated elites have been marching in step with the mass public.

There are several mechanisms by which increasing public punitiveness could result in higher incarceration rates. First, through budgetary appropriations, state and federal legislators influence the capacity to investigate, prosecute, and incarcerate. Additionally, state and federal laws have a major influence on incarceration rates by defining what is a crime and imposing sentencing requirements. Thus, politicians’ electoral incentives suggest an important avenue for public opinion to influence criminal justice outcomes. Additionally, in 24 states, the ballot initiative offers a direct pathway for citizen influence. In some states, for example, citizens have enacted “three strikes laws,” which impose mandatory minimum sentences on repeat offenders. Furthermore, because states are more likely to adopt policies of their neighbors—especially if

they are popular (Berry and Berry 1990)—the influence of the initiative may extend beyond initiative states. Public opinion can also influence those directly involved in the criminal justice system, such as police, prosecutors, and judges. Research shows that both the police and the Federal Bureau of Investigation pay attention to their public image (Gallagher et al. 2001; Gibson 1997; Tooley et al. 2009). Additionally, Brace and Boyea (2008) find that in the 38 states that elect their supreme court justices, public attitudes toward the death penalty influence both the composition of the state supreme court and the votes of these justices. Looking at the federal level, Cook (1977) found that from 1967 to 1975, the sentences handed out by federal district judges also reflected shifts in public opinion.¹ Prosecutors must also consider their political and organizational environment (Gordon and Huber 2009; Lezak and Leonard 1984); 47 states elect their chief prosecutors (i.e., district attorneys or prosecuting attorneys; Perry 2006). In sum, citizen preferences can directly influence the incarceration rate through ballot initiatives and indirectly through the behavior of legislators. Furthermore, through elections as well as the broader political environment, public opinion can influence those directly involved in the criminal justice system. Of course, for public opinion to influence the incarceration rate, not all of these mechanisms need to work. The point is that despite extensive research suggesting the public exerts a minimal influence on the incarceration rate, multiple pathways exist that might produce a public opinion effect.

A second theoretical consideration involves the direction of causality. Jacobs and Shapiro (2000) show that politicians can use “crafted talk” to shape public opinion. I hypothesize, however, that in the context of the expanding carceral state, political elites were much more likely to respond to public opinion than to lead it. Consistent with this argument, Weaver (2007, 244) cites “popular perceptions of the steadily rising crime rate” as an important “focusing event” that helped elevate the status of violence as a political issue. Indeed, Johnson administration officials argued for a tougher stance on crime based on “the obvious public concern over this matter during the [1964 presidential] campaign” (Weaver, 2007, 243; italics mine). In January 1968, Governor Ronald Reagan also referenced “public concern” about crime, predicting this would be an important issue in the upcoming presidential election (New York Times January 24, 1968). Already in the 1960s, prominent politicians of both parties expressed awareness of public attitudes toward crime and punishment.

The literature on elite influence also supports the view that politicians were more likely to follow the public on this issue area. The evidence that politicians can influence the public’s preferences has focused on short-term policy goals (Jacobs and Shapiro 2000). The duration and scope of the expanding carceral state make this an unlikely case for leading the public. Especially over long periods, political elites’ ability to manipulate public opinion is limited (Canes-Wrone 2006; Edwards 2003). It is hard to imagine politicians successfully shifting public opinion in an increasingly punitive direction throughout more than three decades of rising incarceration rates. The fact that both Republicans and Democrats (particularly at the federal level) have supported more punitive criminal justice policies (Beckett 1997; Garland 2001, 13–14; Mauer 2006, chap.

¹ Furthermore, evidence suggests that despite enjoying life tenure, a strong relationship exists between the public’s policy preferences and Supreme Court outcomes (e.g., Casillas, Enns, and Wohlfarth 2011; McGuire and Stimson 2004)

4; Weaver 2007) makes this scenario even less likely. In the most polarized political environment in generations (McCarty, Poole, and Rosenthal 2006), we would not expect both parties to unite behind more punitive criminal justice policies if they did not feel their constituents supported this action. In sum, politicians' early attention to public concern about crime, the sustained and often bipartisan support for more punitive criminal justice policies, and politicians' and member-based interest groups' dependence on their constituents suggest that political elites were more likely to follow, not lead, the public.²

Measuring Public Support for Being Tough on Crime

I have argued that because political actors, and perhaps those more directly involved in the criminal justice system, face strategic incentives to consider public opinion, the rising incarceration rate should reflect a response to punitive public attitudes. To evaluate this proposition, we need an over-time measure of public opinion. Unfortunately, no single question about the public's attitudes toward crime or punishment has been asked a sufficient number of times over a sufficiently large time span. As a result of these data limitations, scholars have relied on the percentage of respondents who rate crime as the most important problem facing the country (Beckett 1997; Gottschalk 2006; Nicholson-Crotty and Meier 2003; Schneider 2006). However, variation in the percentage identifying crime as the most important problem not only depends on perceptions about crime but also on perceptions of other problems facing the country, such as the economy, military conflict, or environmental concerns. For example, during a recession, even if the public were becoming more punitive, we might expect that the percentage of individuals ranking crime as the most important problem would decrease as individuals shifted toward identifying the economy as their top concern. The most important problem question may provide important information regarding the salience of specific policy domains (Iyengar and Kinder 1987; cf. Wlezien 2005), but it does not offer a clear indication of whether the public is getting more or less punitive (see also Useem and Piehl, 2008).

Nicholson-Crotty, Peterson, and Ramirez (2009) take an alternate approach. They rely on Stimson's "second dimension" of policy mood as an indicator of the public's punitiveness. Utilizing hundreds of different survey questions, Stimson (1999) has developed two indices of the public's policy mood. The first dimension (often called "policy mood") reflects the public's preferences for more or less government. The second dimension correlates highly with questions that relate to crime and criminals (Stimson, 1999, 71–72). Using this measure, Nicholson-Crotty, Peterson, and Ramirez (2009) find a moderate relationship between punitiveness and federal criminal justice policy. Unfortunately, the majority of the survey questions used to estimate this second dimension of policy mood do not relate to public opinion toward crime and criminals (Stimson, 1999, 72). Thus, we do not know if Nicholson-Crotty, Peterson, and

² It is also possible that the public's preferences and political rhetoric reinforce each other, as politicians initially respond to an increase in public punitiveness and then further encourage punitive attitudes through speeches and campaign ads. The subsequent analysis allows for this type of endogeneity, but does not uncover evidence in support of this hypothesis.

Ramirez' (2009) analysis understates or exaggerates the relationship between public opinion and criminal justice policy.

Given the limitations of existing opinion measures, the goal of this section is to construct a new measure of the public's preferences for being tough on crime and criminals. The ideal measure would, like Stimson's measures of policy mood, utilize a variety of survey questions, but only questions that relate to attitudes toward criminals and punishment. This strategy parallels that of Weaver (2007).³ The logic of using multiple survey questions to measure a single dimension of public opinion is as follows. If responses to different survey questions reflect opinions about the same underlying issue, the percentage responding in support of (or opposition to) each question should change in tandem (Stimson 1999). If the public's preferences for being tough on crime ebb and flow, we can think of public opinion as a latent variable, and any survey question that relates to the treatment or punishment of criminals that has been asked at multiple time points can be considered an indicator of the change in the latent variable. With a sufficient number of questions asked at repeated time points, we can estimate the underlying dimension of the public's punitiveness.

An analysis of public opinion data and the extant literature suggests four relevant categories of questions that relate to support for being tough on crime (see, e.g., Shaw et al. 1998; Warr 1995). The first category includes questions about criminals' rights and the punishment of criminals.⁴ It seems uncontroversial to suggest that increases (or decreases) in support for punishing or using force on criminals correspond with shifts in the public's preferences for being tough on crime. The second category includes questions about the death penalty. Responses in support for the death penalty and the belief that the death penalty deters crime are coded as indicators of support for being tough on crime. Again, it seems reasonable to assume that those who support death as a form of punishment are generally in favor of being tough on crime and criminals (Baumer, Messner, and Rosenfeld 2003; Silver and Shapiro 1984). The third category includes questions about support for spending on fighting crime and on the criminal justice system. Following past research, I code support for spending on crime as an indicator of support for being tough on crime (Barkan and Cohn 2005; Shaw et al. 1998). The final category includes questions that relate to confidence and trust in the police and the criminal justice system. A wide range of literature finds that individuals who are concerned with crime and residents of high-crime neighborhoods tend to have less confidence in the police (e.g., Baker et al. 1983; Jang, Joo, and Zhao 2010; Maxson, Hennigan, and Sloane 2003).⁵ Based on this research, I propose that less

³ Weaver (2007, 264) reports a measure of the public's punitiveness from 1953 to 1980 that is based on 11 different survey questions. The subsequent analysis relies on 33 survey questions asked a total of 381 times to generate a measure of public support for being tough on crime from 1953 to 2012. Importantly, prior to 1980, when these two measures overlap, they show very similar patterns, with decreasing levels of punitiveness in the 1950s and rising punitiveness beginning in the mid-1960s.

⁴ See the supplementary appendix for all question wording.

⁵ Others have argued that causality runs the other way (e.g., Skogan, 2009) or that a reciprocal relationship exists (e.g., Ho and McKean 2004). Importantly, all three perspectives support the current coding strategy; that is, lower levels of confidence in the police and criminal justice system correspond with higher levels of concern for crime and support for being tough on crime.

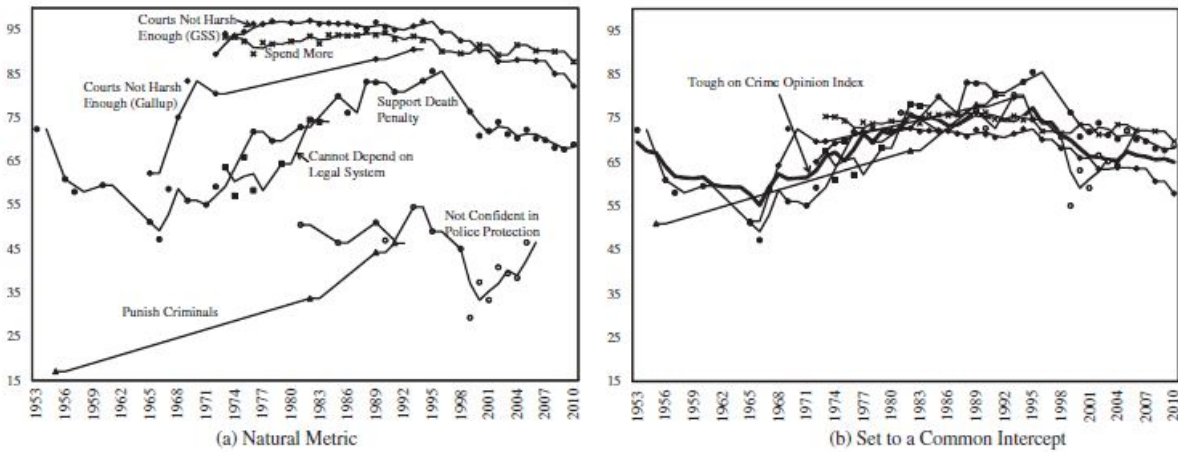
confidence in the police or the justice system will correspond with more concern with crime and thus greater support for being tough on crime.

To gain an initial sense of whether these four categories of questions correspond with support for being tough on crime, I examined three surveys (Harris 1967, Los Angeles Times 1994, GSS Cumulative File) that have asked questions that correspond with the various indicators of punitiveness described above. Consistent with expectations, confirmatory factor analysis (reported in online Supplementary Appendix 2) shows that support for punishment, support for the death penalty, support for spending on fighting crime, and lack of confidence in the judicial system are all significant indicators of a common latent dimension. This result is consistent with the expectation that these questions all serve as valid indicators of the latent concept of punitiveness. As a next step, I used the Roper Center Public Opinion Archives, the American National Election Study (ANES), and the General Social Survey (GSS) to identify all opinion questions that relate to attitudes toward the treatment of criminals, the death penalty, spending to prevent crime, and lack of confidence in the police and the criminal justice system. Since the goal is to measure over-time opinion change, I retained each question that was asked four or more times. This strategy left 33 questions that all relate to attitudes toward crime and punishment that were asked repeatedly (a total of 381 times) between 1953 and 2012.⁶ Figure 1 offers an indication of whether opinion on these various questions changes together or distinctly. Figure 1a plots the percentage offering the tough on crime response (and a two-period moving average) for seven survey questions.⁷ I report these seven questions because they reflect the question or questions that were asked during the longest time span for each of the four indicators of tough on crime attitudes identified above. Because we are interested in opinion change, Figure 1b reports the same data with the series shifted to a common intercept. The over-time patterns are identical to Figure 1a. However, with the level of support set to a common point on the y-axis, the over-time movements—which is what we are interested in—are easier to evaluate. The commonalities are striking. In fact, it is difficult to identify which series corresponds with which question. This is exactly what we would expect if the four types of questions (support for the harsh treatment of criminals, the death penalty, spending to prevent crime, and lack of confidence in the police and the criminal justice system) all reflect common underlying attitudes toward being tough on crime.

⁶ As an additional robustness check, I also estimated a measure of support for being tough on crime that includes three questions about perceptions of criminal activity. Supplementary Appendix 2 shows that these crime perception questions correlate strongly with the measure of public punitiveness, and all subsequent analyses are robust to using this alternate opinion measure, based on 450 questions.

⁷ Following Stimson (1999), the percent offering the punitive response was divided by the percent offering the punitive response plus the percent offering the nonpunitive response.

Figure 1: Seven Indicators of Public Support for Being Tough on Crime, 1953–2010



Further evidence to support this claim emerges when all 33 question series are combined into a single index (as indicated by the thick black line in Figure 1b). To generate this measure, I used Stimson’s Wcalc5 algorithm, which scales each series to a common metric and employs a factor-analytic approach to estimate the common over-time variance of the question series. This estimate reflects the public’s preferences for being tough on crime.⁸ The similarities between the final estimate of support for being tough on crime and the seven series reported in Figure 1 indicate the additional question items used to generate the index (that are not shown in the figure) also tap common underlying preferences for being tough on crime. (See the supplementary appendix for additional evidence of the validity of the various indicators.) The punitive opinion index also suggests that the public’s preferences for being tough on crime are not “mushy” (Cullen, Fisher, and Applegate 2000; Durham 1993) or stable (Roberts et al. 2003, 27–28). Instead, we see important over-time variation (Frost 2010, 165), with rising levels of punitiveness from the mid-1960s into the 1990s. We also see that public support for being tough on crime appears to have declined since the mid-1990s. The next step is to evaluate whether these shifts in the public’s punitiveness have influenced the incarceration rate.

Does Public Opinion Influence the Incarceration Rate?

The incarceration rate is a particularly appropriate area to observe whether public opinion influences criminal justice policy. Raphael and Stoll (2009) estimate that policy changes regarding sentencing and punishment explain 80% to 85% percent of the increase in incarceration since the 1980s. These policy decisions include sentencing and parole guidelines, as well as police, judicial, and prison budget allocations (Davey 1998; Raphael 2009; Raphael and Stoll 2009; Spelman 2009; Tonry 1996). Because the incarceration rate depends on these policies, it is a logical proxy for criminal justice policy. The incarceration rate is also

⁸ The 33 indicators explain 56.08% of the variance in the resulting series. In his measures of policy mood, Stimson has consistently found values around 40%. Although Stimson (1999) developed this methodology to estimate the public’s overall policy mood, the method is well suited to measure opinion about specific policy domains (Baumgartner, De Boef and Boydston 2008; Kellstedt 2003; McAvoy and Enns 2010). For full details, see Stimson (1999) as well as <http://www.unc.edu/~jstimson/Software.html>.

advantageous because it reflects informal changes in the criminal justice system, such as the daily decisions of police, prosecutors, and judges (Davey 1998, 92; Schneider 2009, 459). Although the literature suggests that these government actors face incentives to consider the broader political environment (e.g., Cook 1977; Gordon and Huber 2009), if those directly involved in the criminal justice system are not influenced by public opinion, focusing on the incarceration rate hedges against overestimating the public's influence. In sum, not only is the incarceration rate of substantive importance, but it is also a theoretically appropriate way to evaluate the relationship between public opinion and criminal justice policy. However, as an additional test of the argument, the second part of the analysis examines the relationship between the public's punitiveness and the percent of congressional hearings devoted to issues of crime and punishment. In addition to offering a substantively important measure of legislative behavior (Baumgartner and Jones 1993), the analysis of congressional hearings offers a stringent test of the direction of causality because legislative hearings are a particularly visible form of legislative activity (Iyengar 2011, 217–219). If elites have led the public, we would expect changes in attention to criminal issues in congressional hearings to have preceded changes in the public's punitiveness.

For the first analysis, the dependent variable is the annual change in the total federal and state incarceration rate (per 100,000 individuals).⁹ The reason for analyzing change in the incarceration rate is as follows. If the crime rate influences the incarceration rate, we would expect an increase (decrease) in crime to correspond with more (fewer) new incarcerations. Similarly, if—as hypothesized—the incarceration rate reflects shifts in the public's support for being tough on crime, whether through increased criminal justice budgets, tougher sentencing laws, or prosecutors and judges paying attention to their political context, an increase (decrease) in the public's punitiveness should correspond with more (fewer) new admittances. In other words, to understand the rise of mass incarceration, we must understand the determinants of new admittances (Wacquant 2010). The problem with analyzing the incarceration rate is that the overall rate can move in the opposite direction as the rate of new admittances. During most of the period of analysis, the prison system admitted more individuals than it released.¹⁰ Since more inmates were admitted than released most years during this period, even if the rate of new admittances declined or remained the same, the total incarceration rate would increase. Table A-7 in the supplementary appendix demonstrates this point empirically, showing that since 1977 (when data are available), after controlling for a linear time trend, no empirical relationship exists between the rate of new admissions and the overall incarceration rate. Of course, new admissions influence the incarceration rate, but we do not observe such a relationship because regardless of whether the rate of new incarcerations increased, decreased, or remained the same, the incarceration rate increased each year. We can obviate this problem, however, by analyzing changes in the incarceration rate. Changes in the incarceration rate will reflect new admittances, as more (fewer) admittances will correspond with larger (smaller) changes in the incarceration

⁹ Data come from Table 6.28.2010 of the Sourcebook of Criminal Justice Statistics Online (<http://www.albany.edu/sourcebook/csv/t6282010.csv>).

¹⁰ In fact, from 1977 to 1998, 2000, and 2004 to 2010 (the years data on admittances and releases are available), the prison system admitted more inmates than it released every year except for 2010.

rate. Indeed, as Table A-7 shows, a strong and significant relationship exists between the rate of new admittances and changes in the incarceration rate, even when controlling for a linear time trend. To understand the determinants of mass incarceration, we must analyze changes in the incarceration rate.¹¹

Figure 2 offers a first look at the relationship between the public's punitiveness and changes in the incarceration rate. The two series, which are plotted on separate axes, appear to move virtually in tandem. Between 1953 and 2010, the correlation is an impressive $r = 0.82$. The next step is to evaluate whether this relationship holds when controlling for other factors thought to influence the incarceration rate. The analysis uses two measures to control for the influence of crime. The first measure is an index based on the annual rate of murder, forcible rape, robbery, aggravated assault, burglary, and motor vehicle theft.¹² Consistent with past research (McDowall, and Loftin 2005), these series share much over-time variation (Cronbach's alpha = 0.72) and principal components analysis shows that the six crime rates load onto a single factor (eigenvalue = 5.20). I retain this factor as an estimate of the over-time rate of violent and property crime.¹³ The analysis also controls for the rate of illegal drug use. Controlling for illegal drug use is particularly important because the incarceration rate data include federal sentences. Beginning in the 1970s, the proportion of drug-related offenses began to rise, and in the 1980s, drug crimes reflected the modal category of federal commitments. The annual drug mortality rate offers the best measure of over-time drug use for the period of interest (Paulozzi and Xi 2008; Samkoff and Baker 1982). The measure is based on the assumption that in years when illegal drug use was higher (lower), drug fatalities were also higher (lower).¹⁴

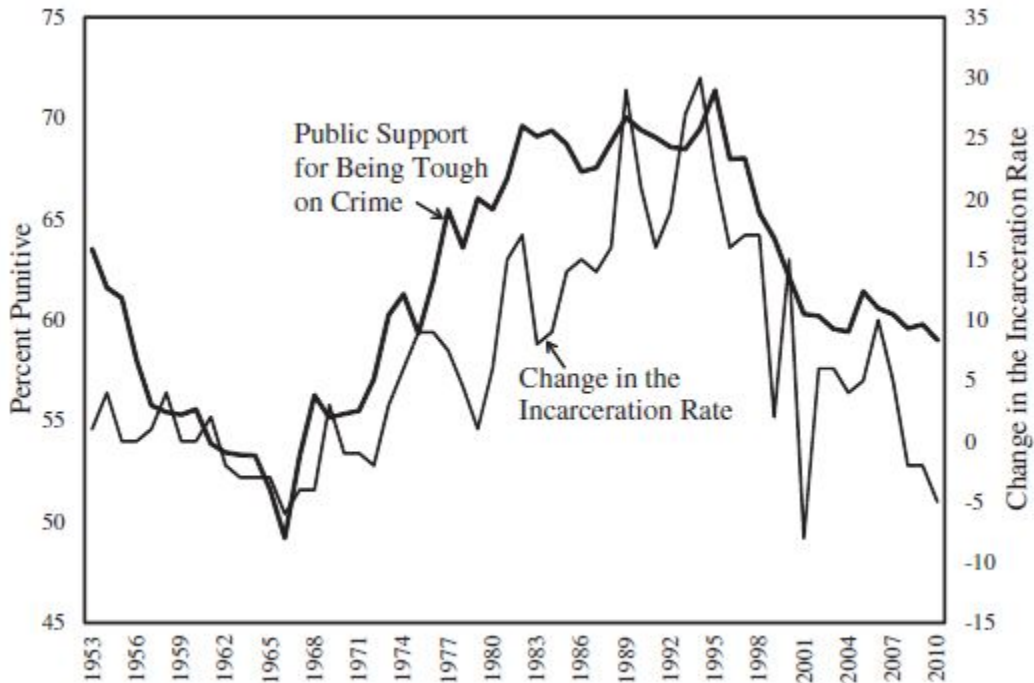
¹¹ If new admittances data extended throughout the entire time period, new admittances could be analyzed directly, but these data do not exist.

¹² The data from 1960 to 2010 come from Table 3.106.2010 of the Sourcebook of Criminal Justice Statistics Online (<http://www.albany.edu/sourcebook/csv/t6282010.csv>). The data prior to 1960 come from Tables 2/1 and 2/15 in the 1973 Office of Management and Budget Social Indicators. Although concerns exist with all crime data (see, e.g., Hall et al., 1978), these data offer the best available over-time indication of violent and property crime.

¹³ This factor explains 87% of the variation in the series. The next largest factor has an eigenvalue of 0.65.

¹⁴ Supplementary Appendix 4 discusses the sources used to generate the drug mortality measure.

Figure 2: Public Support for Being Tough on Crime and Changes in the Incarceration Rate, 1953–2010



The level of economic inequality is the third control variable. A long research history suggests that incarceration is a form of social control and as the level of inequality in society increases, the pressure for this type of social control also increases (Chambliss and Seidman 1980; Garland 1990; Gordon 1994; Rusche and Kirchheimer 1939). To control for the level of inequality in society, I divide the family income share received by the top 5% of income earners by the share received by the bottom quintile.¹⁵ The strength of the Republican Party is the final control variable. Although at the federal level both Democrats and Republicans have advanced more punitive criminal justice policies (e.g., Mauer 2006, Chap.4), research at the state level suggests that Republican legislators are more likely to implement harsher criminal justice policies (Jacobs and Helms 2001; Smith 2004). To measure Republican influence in government, I generate a summary measure of Republican strength based on whether the president is a Republican or Democrat and the proportion of Republicans in Congress. The measure codes Republican presidents as 1 (and Democratic presidents as 0) and then adds this number to the proportion of Republicans (among Republicans and Democrats) in the House and the Senate. This variable ranges from 0.64 in 1964 and 1965 when the Democrats held an overwhelming majority in the House and the Senate and Lyndon Johnson was president to 2.09 in 2005 and 2006 when George W. Bush was president and Republicans held a majority in the House and the Senate. Although the measure does not include state-level officeholders, this variable offers a general indication of

¹⁵ The measure relies on the highest available income category because when the opinions of different income groups diverge, policy makers are most likely to follow the opinions of those in the highest income decile (Gilens 2005, 2011). The data come from Table F-2 of the U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplements (<http://www.census.gov/hhes/www/income/data/historical/families/index.html>).

the national-level strength of the Republican Party. If Republicans are more likely to legislate more punitive criminal justice policies, higher values of Republican strength should correspond with changes in the incarceration rate.

It is important to note that although the model does not directly control for racial attitudes, this does not imply that criminal justice outcomes are independent of racial considerations. In fact, if racial attitudes influence attitudes toward criminal justice issues (e.g., Hurwitz and Peffley 1997, 2005), the measure of public support for being tough on crime already incorporates the potential influence of racial considerations. (Consistent with this expectation, Table A-8 in the supplementary appendix shows that the results are robust to controlling for the public's level of racial conservatism [Kellstedt 2003].) In order to estimate the relationship between the predictors of interest and changes in the incarceration rate, I utilize a single-equation error correction model (ECM). The ECM offers several advantages. First, prison populations do not necessarily reflect an immediate response to input variables. The ECM accounts for such considerations by estimating both contemporaneous and long-term relationships between the predictors and the dependent variable (Murray 2009; Spelman 2009). The single-equation ECM is also appropriate because the series are cointegrated and the predictors are weakly exogenous (Bannerjee et al. 1993; Beck 1992).¹⁶ Finally, because the ECM estimates the change in the dependent variable, we overcome the concern of estimating a spurious relationship among nonstationary time series (De Boef and Granato 1997; De Boef and Keele 2008). Because the ECM estimates the first difference of the dependent variable, which is change in the incarceration rate, the model analyzes the second difference of the incarceration rate.¹⁷ In addition to being appropriate theoretically and statistically (as described above), analyzing the second difference is consistent with previous time-series analyses of the incarceration rate (Jacobs and Carmichael 2001).

In an ECM, the coefficients on the differenced predictor variables should be interpreted as the contemporaneous relationship between the predictor and the dependent variable. For example, a positive and significant coefficient on the differenced crime rate would suggest that a change in the crime rate produces an immediate change in the rate of new incarcerations. The coefficients for the lagged predictor variables indicate a long-term effect. A long-term effect implies that the predictor and dependent variable move in equilibrium. For example, a positive and significant coefficient on the lagged crime rate would suggest that when the crime rate changes, the long-run equilibrium will, over several time periods, lead the rate of new incarcerations to reflect this change. The total effect of the predictor variables (distributed over future time periods), referred to as the long-run multiplier (LRM), is estimated by dividing the coefficient on the lagged predictor variable by the coefficient on the lagged dependent variable. The coefficient on the lagged dependent variable also provides information about the error correction rate (i.e., how fast

¹⁶ Augmented Dickey-Fuller tests indicate that we cannot reject the null hypothesis of a unit root for change in the incarceration rate and the predictors, (i.e., crime rate, drug use, and inequality). Cointegration is established with an augmented Engle-Granger test (Davidson and MacKinnon, 1993, 720-721), which requires regressing the change in the incarceration rate on the predictors, then performing an augmented Dickey-Fuller test on the residuals, and finally comparing the resulting test statistic (-5.4) to the corresponding critical value in Davidson and MacKinnon (1993, 722). Weak exogeneity is established following Charemza and Deadman (1992, 231-32); that is, the error correction mechanism is insignificant when included in models of each of the predictor variables.

¹⁷ The second difference means subtracting each observation from the next and then subtracting these differences.

the total effect occurs). Specifically, this coefficient indicates what percentage of the total effect is incorporated into the dependent variable at each future time point.¹⁸

Table 1 reports four models of the relationship between the public's support for being tough on crime and changes in the incarceration rate. In Table 1, column 1 provides a baseline estimate of the relationship between public opinion and the incarceration rate. Both the short- and long-term coefficients imply a positive and significant relationship between tough on crime attitudes and changes in the incarceration rate. Furthermore, the R2 indicates that support for being tough on crime explains over 30% of the changes in the incarceration rate. The error correction rate (0.68) suggests that shifts in the public's punitiveness influence the incarceration rate relatively quickly. Specifically, the data suggest that approximately 95% of the effect of a shift in public opinion on changes in the incarceration rate will be realized four years later.

Column 2 adds controls for the crime rate, illegal drug use, and inequality. The lagged value of public opinion is again positive and significant. Even controlling for the other determinants of incarceration, public opinion matters. Perhaps not surprisingly, when we add these control variables, we find no evidence of an immediate relationship between the public's attitudes and changes in the incarceration rate. That is, with a fully specified model, it appears that it takes time for the system to respond to the public's attitudes. The short- and long-term coefficients for the violent and property crime rate are positive but imprecisely estimated, so we cannot conclude that the relationship is statistically different from zero. Interestingly, if we estimate the model without the public's punitiveness (see Table A-8 in the supplementary appendix), the lagged value on crime rate emerges as statistically significant ($b = 1.97$, $s.e. = 0.57$). Although only suggestive, the larger and significant coefficient that emerges when the model does not include tough on crime opinion is consistent with the public's attitudes mediating the relationship between the crime rate and changes in the incarceration rate. The relationship between changes in the incarceration rate and the rate of illegal drug use is not significant under any specification. The lack of relationship may reflect the fact that although drug crimes comprise the modal number of federal incarcerations, federal incarcerations only constitute about 10% of the total incarceration rate. The short-term coefficient for inequality is positive, which would correspond with the expectations of the social control hypothesis, but we cannot conclude that this relationship is significantly different from zero.

The bottom section of the table reports the LRMs, which represent the total expected effect (over future time periods) of a unit shift in a predictor variable on change in the incarceration rate.¹⁹ To assess the magnitude of these relationships, I calculate the expected change in the number of incarcerations for a standard deviation shift in each predictor. These calculations indicate that the expected effect of public opinion is important in both absolute and relative terms. A standard deviation increase (decrease) in the public's preferences for being tough on crime corresponds with an expected increase (decrease) in the annual change in the incarceration rate of 5.5 people per 100,000. This means that we would expect the incarceration rate to increase by

¹⁸ See De Boef and Keele (2008) and Bannerjee et al. (1993) for a full discussion of the ECM.

¹⁹ I use the Bewley transformation to estimate the standard error and confidence intervals of the LRM (De Boef and Keele 2008).

approximately 13,000 additional inmates (with a 95% confidence interval of 3,000 to 22,800) for a standard deviation shift in the public's punitiveness. The corresponding value for the crime rate is an expected shift of 5,100 inmates, although the 95% confidence interval overlaps zero, ranging from -5,500 to 15,800.

Column 3 adds a measure of the strength of the Republican Party in the federal government. An augmented Dickey-Fuller test indicates that this series is stationary, so only values in levels are entered into the model (including the differenced values does not alter the results). Controlling for the strength of the Republican Party provides information about whether the influence of public opinion we have observed is direct or indirect. Both the lagged value and the LRM for tough on crime opinion are again significant and of similar magnitude. Additionally, although positive, the coefficient for Republican strength is not significant, which further suggests that the public's influence on the incarceration rate is direct, that is, not mediated by who is in office. The roughly equivalent R² values across Models 2 and 3 also suggest that Republican strength does not add to the explanatory power of the model. By some accounts, the lack of significance for Republican strength is surprising. Yet, this null result is consistent with evidence that, especially at the federal level, the differences between Republicans, and Democrats' criminal justice policies may not be that large (Beckett 1997; Garland 2001, 13–14; Mauer 2006, chap.4; Nicholson-Crotty, Peterson, and Ramirez 2009). Of course, we must also remember that this is just a proxy for Republican strength in government. Although the present goal is to understand changes in the overall incarceration rate, it is possible that a state-level analysis would uncover partisan effects.²⁰

²⁰ I also estimated (not shown) the model lagging Republican strength by two years, in case the null result reflects the time it takes electoral shifts to influence policy outcomes. The findings remain unchanged. Of course, this result does not rule out all possible channels of partisan influence. For example, federal judges and prosecutors can potentially influence the incarceration rate long after the politicians who appointed and confirmed them leave office. Nevertheless, we can conclude that knowing which party occupies the White House and knowing the party strength in Congress does not substantially improve our predictions of changes in the incarceration rate.

Table 1: The Relationship between the Public's Punitiveness and Changes in the Incarceration Rate, Controlling for Social and Political Factors, 1953–2010

	(1)	(2)	(3)	(4)
Error Correction Rate	−0.68*	−0.68*	−0.68*	−0.68*
	(0.13)	(0.15)	(0.15)	(0.14)
Δ Tough on Crime Opinion	0.78*	0.42	0.37	
	(0.36)	(0.48)	(0.50)	
Tough on Crime Opinion _{t−1}	0.79*	0.57*	0.53*	0.45*
	(0.18)	(0.25)	(0.26)	(0.22)
Δ Crime Rate		0.77	0.71	
		(2.51)	(2.53)	
Crime Rate _{t−1}		0.70	0.91	1.26
		(0.74)	(0.83)	(0.65)
Δ Drug Use		−0.35	−0.44	
		(0.55)	(0.57)	
Drug Use _{t−1}		−0.10	−0.22	−0.18
		(0.39)	(0.45)	(0.38)
Δ Inequality		5.37	4.64	
		(3.67)	(3.90)	
Inequality _{t−1}		−0.16	−0.39	−0.60
		(1.07)	(1.14)	(0.96)
Republican Strength _{t−1}			0.94	1.39
			(1.61)	(1.46)
Constant	−45.29*	−30.67	−28.12	−23.36
	(10.78)	(15.97)	(16.67)	(13.76)
<i>Long-Run Multipliers</i>				
Tough on Crime Opinion	1.16*	0.83*	0.77*	0.66*
	(0.15)	(0.32)	(0.34)	(0.28)
Crime Rate		1.03	1.33	1.84
		(1.06)	(1.17)	(0.95)
Drug Use		−0.14	−0.33	−0.27
		(0.56)	(0.64)	(0.56)
Inequality		−0.23	−0.57	−0.88
		(1.56)	(1.67)	(1.44)
Republican Strength			1.37	2.04
			(2.36)	(2.20)
R ²	0.35	0.40	0.41	0.37
N	57	57	57	57

Note: Standard errors in parentheses. Portmanteau Q tests indicate that serial correlation is not a problem. *p < .05, two-tailed significance levels.

Column 4 estimates a final, more parsimonious model. Although it is not surprising that the previous model shows no evidence that changes in public opinion, the crime rate, or drug use immediately influence the rate of new incarcerations, instead of assuming no immediate effect (and constraining these coefficients to equal zero), the model in column 3 estimated both immediate and long-term effects. Column 4, by contrast, drops all nonsignificant immediate effects (a block F-test indicates that the joint effect of the omitted variables is not significantly different from zero; p .54), and estimates only long-term relationships for each variable. The conclusions regarding the relationship between the public's punitiveness and changes in the incarceration rate remain the same. Interestingly, with this more parsimonious model, the

relationship between the crime rate and changes in the incarceration rate approaches statistical significance (p .06, two-tailed test). This is an important result, suggesting that the relationship between crime rates and the incarceration rate may be more direct than previously thought (e.g., Western 2006; Zimring and Hawkins 1991).²¹

Across various model specifications, we see that the public's preferences for being tough on crime matter both statistically and substantively.²² To gain further insight into the magnitude of the public's influence on the incarceration rate, it is possible to compare the actual incarceration rate with the rate that would be predicted if the public's preferences for being tough on crime were held constant at their 1974 level. Evaluating constant public punitiveness is an important counterfactual since some scholarship suggests the public's attitudes have remained relatively constant (e.g., Roberts et al., 2003, 27-28). I select 1974 because the public's punitiveness had begun to increase by this point, reaching the average level of punitiveness for the entire period of analysis. The results of this comparison (based on column 4 of Table 1) suggest that if public opinion had maintained its 1974 level, there would have been an average of approximately 185,000 fewer state and federal incarcerations each year. This represents about 20% of the average number of state and federal incarcerations during this period. In other words, this simulation suggests that rising public punitiveness since the mid-1970s accounts for approximately 20% of all state and federal incarcerations.

Congressional Hearings and Public Punitiveness

The above results support the hypothesis that the public's punitiveness has influenced the incarceration rate. Given that much of the rise in incarceration rates is a result of policy decisions, in addition to observing a relationship between public opinion and the incarceration rate, we might also expect a relationship between the public's punitiveness and policy makers' behavior. As a measure of policy makers' behavior, I rely on the percent of congressional hearings devoted to issues related to crime. I select congressional hearings as a measure of legislative behavior for two reasons.²³ First, congressional hearings are substantively important. Hearings signal legislative attention (Jones and Baumgartner 2005, 185) and they have been

²¹ In this more parsimonious model, the magnitude of the estimated relationship between the public's punitiveness, the crime rate, and changes in the incarceration rate is roughly equivalent. A standard deviation increase in the public's punitiveness and in the crime rate correspond with an estimated 10,200 (/-8,400) and 9,250 (/-9,300) additional inmates, respectively. Two other considerations are also of note. First, the coefficient on the crime rate is significant in several of the robustness checks reported in Table A-8 of the supplementary appendix. Second, we must remember the possibility suggested above that the crime rate may indirectly influence the incarceration rate by influencing public support for being tough on crime. Thus, the total influence of the crime rate may be understated by just focusing on the direct relationship

²² Table A-8 in the supplementary appendix shows that these results are also robust to controls for the public's political ideology, racial conservatism, the rate of unauthorized immigration, and the unemployment rate. The supplementary appendix also shows evidence that the relationship between the public's punitiveness and criminal justice policy has persisted since the Great Recession.

²³ The congressional hearings data come from the Policy Agendas Project. To limit the focus to congressional hearings on criminal issues, I used the general topic "Law, Crime, and Family Issues" but excluded the subtopic "Family Issues." The data were originally collected by Frank R. Baumgartner and Bryan D. Jones, with the support of National Science Foundation (NSF) grant number SBR 9320922, and were distributed through the Department of Government at the University of Texas at Austin and/or the Department of Political Science at Penn State University. Neither NSF nor the original collectors of the data bear any responsibility for the analysis reported here.

linked to program creation and expansion (Baumgartner and Jones 1993). Second, congressional hearings offer a critical test of the direction of causality. Although I have hypothesized that elites have followed public opinion, it is possible that the direction of influence goes the other way. Given the visibility of hearings (Iyengar 2011, 217-219), if the observed relationship between public opinion and the incarceration rate results because political elites have led the public, shifts in congressional attention to criminal issues should have preceded changes in the public’s punitiveness.

Table 2: Tough on Crime Opinion, the Percent of Congressional Hearings on Crime, Changes in the Incarceration Rate, and Republican Strength: Granger Causality Tests

	Tough on Crime Opinion	Congressional Hearings on Crime	Incarceration Rate	House Republican Majority	Senate Republican Majority
Tough on Crime Opinion	–	0.004	0.003	0.293	0.257
Congressional Hearings	0.219	–	0.458	0.814	0.954
Incarceration Rate	0.741	0.740	–	0.149	0.091
House Republican Maj.	0.883	0.001	0.251	–	0.015
Senate Republican Maj.	0.770	0.006	0.996	0.228	–

Note: Table cells indicate the probability that lagged values of the predictor variable do *not* influence the dependent variable. Although not shown, past values of the crime rate, drug use, and inequality are modeled as exogenous.

To evaluate this expectation, I estimate a vector autoregression (VAR) model that allows the public’s punitiveness, changes in the incarceration rate, the percent of congressional hearings devoted to crime, and Republican strength in Congress to influence each other. Because this analysis focuses on congressional hearings, instead of the general measure of Republican strength used in the previous analysis, I include indicators of whether the Republican Party is the majority in the House and the majority in the Senate.²⁴ The model also allows past values of the crime rate, illegal drug use, and inequality to influence the five endogenous variables.²⁵ After estimating the VAR model, a Granger test offers a statistical test of the direction of causality. The results, reported in Table 2, confirm expectations. First, looking at column 1, we see no evidence that congressional attention to the issue of crime, the incarceration rate, or Republican control of the House or Senate “Granger cause” the public’s support for being tough on crime. Column 2 suggests, however, that the public’s punitiveness does “Granger cause” congressional hearings.²⁶ That is, statistically, shifts in the public’s punitiveness appear to precede shifts in congressional attention to crime. We also see that Republican control of the House or Senate corresponds with more congressional attention to crime. Although the analyses do not point to a relationship between Republican strength and the incarceration rate, the significant relationship between Republican control of Congress and congressional hearings on crime is consistent with evidence that the public associates Republicans with handling criminal justice issues (Petrocik 1996; Petrocik, Benoit, and Hansen 2004). Importantly, column 3 offers further evidence of a

²⁴The results remain substantively equivalent if the previous measure of Republican strength is used.

²⁵Lag length was selected via Akaike’s information criterion.

²⁶A bivariate analysis of only public support for being tough on crime and congressional hearings supports the same conclusions.

relationship between the public's punitiveness and the incarceration rate. We do not, however, observe a relationship between congressional hearings and the incarceration rate. While an excellent indicator of political elite rhetoric, congressional hearings do not appear to correspond with changes in the overall incarceration rate.²⁷

Conclusions and Implications

Michael Tonry (2009, 377) recently wrote, “None of the conventional explanations of why American penal policies became so severe—rising crime rates, harsh public attitudes and cynical electoral politics—are persuasive.” Consistent with Nicholson-Crotty, Peterson, and Ramirez (2009), the results in this article suggest that “harsh public attitudes” warrant a second look. We have also seen suggestive evidence that crime rates may influence the incarceration rate.

Incarceration research that discounts the role of public opinion implicitly assumes that political elites ignore the public's wishes or, at a minimum, act without considering the public. In contrast to this perspective, I have argued that the public's rising punitiveness offers a theoretical framework for understanding why interest groups and policy makers have advanced policies that have led the United States to become the most punitive country in the world (Blumstein, Tonry, and Van Ness 2005). By generating a new over-time measure of the public's support for being tough on crime, the analysis was able to test, and find strong support for, this argument. The public's rising punitiveness appears to be a fundamental determinant of the incarceration rate. In fact, if instead of becoming more punitive, the public's support for being tough on crime had remained constant since the mid-1970s, the results suggest that there would be about 20% fewer people incarcerated today. The results also suggest that the crime rate may have played a more important role in the rise of mass incarceration than previously thought, as the results are consistent with the public's support for being tough on crime mediating the relationship between the crime rate and incarceration rate.²⁸

In addition to advancing our understanding of mass incarceration, these results also raise important questions for future research. One question relates to the specific mechanisms involved. An advantage of the current research design is that the focus on incarcerations hedges against overestimating the influence of public opinion. For example, if legislators are responsive to the public's preferences but those more directly involved in the judicial system are not, the incarceration rate offers an estimate of the “net effect” of the public's influence. A disadvantage, however, is that we do not observe the specific mechanisms involved. The analysis of congressional hearings suggests that legislators are indeed responsive to the public's punitiveness, but future research should evaluate whether investigators, prosecutors, and judges also respond to the public's support for being tough on crime.

A second question is why did the public become so punitive? As noted above, the results are consistent with the possibility that the public has responded to the crime rate. Future research should investigate this relationship. Another consideration is whether the public has responded to changes in criminal justice policy. Like a thermostat, the public's policy preferences typically

²⁷ Of course, an analysis focused exclusively on federal incarcerations might find a different result.

²⁸ As discussed above, see especially Table A-8 of the supplementary appendix.

move in the opposite direction of public policy (Wlezien 1995, 2004). Future research could consider whether the thermostatic model applies to this policy domain. It may be that the public has not been aware of the magnitude and trajectory of the incarceration rate. Thus, the increased demand for more punitive outcomes during much of the 1960s, 1970s, 1980s and 1990s may reflect the public's lack of information or misinformation. Such misinformation would not change the conclusions of the article—we have seen compelling evidence of the public's increasing punitiveness and its influence on the incarceration rate. However, if the public has not responded to objective policy conditions, the determinants of support for tough on crime policies may reflect different considerations than other policy domains. Another possibility suggested by the extant literature is the influence of media (Beckett 1997; Mauer 2006). It is also important to understand how racial considerations may have influenced the over-time trajectory of punitive attitudes. We know that attitudes toward crime and criminals are linked to racial attitudes (e.g., Hurwitz and Peffley 1997, 2005). What is not known is whether the increased punitiveness uncovered in this article reflects a period of increased racial bias or growing racial stereotypes. Such a relationship would carry particularly large implications given the fact that since the 1950s, the prison population has shifted from majority white to majority African American and Latino (Raphael and Stoll 2009; Wacquant 2010). If racial attitudes have influenced the public's rising punitiveness, racial bias or stereotypes may have influenced not only the rate of incarceration but also the racial composition of those behind bars. Understanding the over-time variation in the public's tough on crime attitudes is of obvious importance.

Although I have focused on changes in the overall incarceration rate, future research could apply the insights of this article to state incarceration rates. A state-level analysis would allow an assessment of how state institutions, such as the election of judges (Brace and Boyea 2008), moderate the relationship between public punitiveness and incarceration rates. State incarceration rates may also reflect additional factors, such as partisan control of state government (e.g., Jacobs and Carmichael 2001). Finally, the results in this article raise normative questions about the role of the public in a representative democracy. Is the public's influence on the incarceration rate a model of democratic responsiveness or evidence of the tyranny of the majority? The social, economic, and political consequences of mass incarceration indicate that the answer to this question is of critical importance.

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