

ABSTRACT

MCKINSEY, EVA. Addressing Mass Incarceration: An Exploration of the Effects of Mindsets and Race on Criminal Legal-Related Public Opinion (Under the direction of Dr. Jeni L. Burnette).

Public opinion is tied to legal policy and judicial decision-making in complex ways, underscoring the need to better understand predictors of public opinion to effectively address mass incarceration. Through two online experiments, I tested perceiver mindsets and race of person charged as both unique and interdependent predictors of criminal legal-related public opinion. In both studies, I measured perceiver mindsets and manipulated the race of person charged by randomly assigned participants to different crime-related vignettes. Across the studies, growth mindsets predicted weaker punishment-oriented opinions and stronger support for reconstructive modes of justice. Additionally, in Study 1 ($N = 280$), participants reported weaker punishment-oriented opinions toward the Black person charged compared to the White person and the person with no race specified, indicating a disparity correction effect. In contrast, in Study 2, higher prejudiced people under cognitive load ($N = 294$) reported stronger punishment-oriented opinions directed toward the Black person compared to the White person charged. I found no significant interaction effects of mindsets and race in predicting public opinion. That is, growth mindsets did not buffer against racially disparate displays of punitiveness. Future research should focus on developing interventions that can simultaneously address punitiveness and bias to more comprehensively tackle the U.S.'s problem of mass incarceration.

Addressing Mass Incarceration: An Exploration of the Effects of Mindsets and Race on Criminal
Legal-Related Public Opinion

by
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A dissertation submitted to
the Graduate Faculty of North Carolina State University
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

Psychology

Raleigh, North Carolina

2022

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ACKNOWLEDGMENTS

I thank my advisor and committee chair, Dr. Jeni Burnette, for her support through my final years in this program and in completing this dissertation. I also thank Dr. Sarah Desmarais, my former advisor and current colleague/mentor, for her support since day one in grad school. I'm forever grateful for her continued mentorship, her willingness to problem-solve together, her commitment to social change, and her friendship. I thank my committee members, Dr. Elan Hope and Dr. Sarah Ascienzo, for their investment in my success and commitment to my growth, learning, and well-being. I'm thankful for my peers in the Applied Social and Community Psychology program for being by my side every step of the way. Lastly, I thank my family, friends, and partner, Thuan, for filling my life with joy, laughter, curiosity, patience, and love. I could not have done it without each of you.

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Introduction

Criminal legal-related public opinion—that is, the aggregate of individual views, attitudes, and beliefs related to the criminal legal system—is one factor closely linked to the United States’ reliance on carceral punishment (Enns, 2014; Frost, 2006;) and thus, the country’s unmatched incarceration rates (National Research Council, 2014; Wozniak, 2016). As such, understanding predictors of criminal legal-related public opinion is an essential part of effectively addressing mass incarceration.

Two factors related to criminal legal-related public opinion are beliefs about the malleable (growth mindset) or static (fixed mindset) nature of human attributes (i.e., perceiver mindsets) and race of person charged for a crime. Perceiver mindsets influence the extent to which people support either punitive or reconstructive responses to wrongdoing (McKinsey et al., 2022; Moss et al., 2019; Peleg-Koriat et al., 2020). Additionally, racial disparities at every stage of criminal legal processing—from arrest to sentencing to probation (Jannetta et al., 2016; Kahn & Martin, 2016; Kovera, 2019)—indicate the immense influence race has on a person’s trajectory throughout the criminal legal system. These disparities are due, in part, to race-based thinking of judicial decision-makers and the greater public, such as endorsement of racialized stereotypes (e.g., seeing Black men as criminals and dangerous; Schlesinger, 2005; Singh & Sprott, 2017). Beyond perceiver mindsets’ association with general punitiveness, mindsets also influence engagement in racialized stereotyping (Levy et al., 1999; Levy & Dweck, 1999; Plaks, 2001; Rattan & Georgeac, 2017), suggesting mindsets may serve as a buffer against racially disparate displays of punitiveness. Drawing from this scholarship on mindsets and racial bias, I conducted a two-part investigation assessing perceiver mindsets and race of person charged as both unique and interdependent predictors of criminal legal-related public opinion.

Mass Incarceration & Public Opinion

The United States is home to a globally unmatched incarcerated population, with now more than two million people behind bars (Gramlich, 2021). The U.S. incarceration rate rose steadily from 1973 to 2009 (NRC, 2014), and despite slight declines in rates since then, addressing mass incarceration continues to be a focus among policymakers (see Porter, 2021), researchers (e.g., Brennan Center for Justice, n.d.), and activists (e.g., Rafei, 2021). The nation's extreme rates and numbers in part reflect efforts of the 1970s, 80s, and 90s to expand the use of incarceration and other punitive campaigns (e.g., "three strikes and you're out," the "War on Drugs") to address rising crime rates in the United States. Such efforts represented and further disseminated the belief that carceral punishment is the key to controlling crime and violence (NRC, 2014). While the campaigns succeeded in instilling a retributive political and social climate in the country, they did not equally succeed in their intended outcome—increased incarceration rates did not result in corresponding decreased crime rates. Instead, crime rates fluctuated greatly over the years indicating little to no association between use of incarceration and crime (NRC, 2014).

Despite the limited effectiveness of carceral punishment as a strategy for reducing criminalized and violent behavior (Andrews & Bonta, 2006, 2010; Pogarsky & Piquero, 2003), the American public continues to exhibit high levels of punitiveness (i.e., beliefs, views, and attitudes that promote punishment; Enns, 2014). Public punitiveness, and more broadly, criminal legal-related public opinion, is tied to mass incarceration in complex ways through its influence on both public policy (Frost, 2010) and judicial decision-making (Brace & Boyea, 2008). While some theories propose a top-down process in which the punitive agendas of political "elites" push the public toward support of punitive policies (Beckett, 1997), others, including the current research, emphasize a bottom-up process in which legislatures' enactment of punitive policy is a

response to the public's desire to see criminals punished more harshly (Bottoms, 1995; Enns, 2014; Frost, 2006; Roberts et al., 2003). Whether top-down or bottom-up, the above cited research suggests strong associations between criminal legal-related public opinion and public policy. Further, public opinion influences decision-making both indirectly through the judicial selection process (Calvin et al., 2011) and directly through judges' responsiveness to public mood (Brace & Boyea, 2008; McGuire & Stimson, 2004). Taken together, research highlights the importance of considering public opinion in any discussion surrounding criminal legal system outcomes, including the issue of mass incarceration.

Factors Related to Criminal Legal-Related Public Opinion

A multitude of factors are related to criminal-legal related public opinion, ranging from belief systems (e.g., religion, political orientation, mindsets), to case characteristics (e.g., crime type, personal characteristics of the person charged), to personal characteristics of the perceiver (e.g., education level, gender, age, race). Belief systems, or ideologies that help us interpret the world, influence people's views on how to best address wrongdoing and "wrongdoers." For instance, conservative political orientation and affiliation with the Christian religion are associated with more negative views of people who are justice-involved (Park, 2009; Rade et al., 2016). Mindsets, or views regarding the static versus malleable nature of human behavior, is another such set of beliefs that impacts a person's proclivity toward punitive judgments and decision-making (Moss et al., 2019; Peleg-Koriat et al., 2020; Rade et al., 2017, 2018).

Some case characteristics that impact the degree to which a perceiver endorses punishment include the severity and type of case, the extent of ambiguity surrounding the case, and characteristics of the person charged for the crime, such as their perceived race (Kalven et al., 1966; Hartley, 2014; Horstman et al., 2019). Indeed, perceived race of person charged tends

to be a powerful predictor of case-specific decision-making (e.g., Kutateladze et al., 2014; Spohn, 2001), and racial bias in general is a contributor to American punitiveness overall (Unnever & Cullen, 2010). In regard to personal characteristics, higher age and lower educational attainment can positively correlate with general punitiveness (Payne et al., 2004; Sidanius et al., 2006). Additionally, men and people of color (compared to White people) tend to report more positive attitudes toward people who are justice-involved (Hirschfield & Piquero, 2010; Leverentz, 2011; Rade et al., 2016; Willis et al., 2013).

Present Research

I focused on two of the above-mentioned factors associated with criminal legal-related public opinion: perceiver mindsets and race of person charged. A growing body of research demonstrates the role that mindsets play in shaping a person's criminal legal-related opinions. Namely, those with stronger belief in the malleable nature of other people's behavior (i.e., growth mindsets) as opposed to the static nature of other people's behavior (i.e., fixed mindsets) tend to be less punitive (Moss et al., 2019; Peleg-Koriat et al., 2020; Rade et al., 2017, 2018). Additionally, continued investigation of the influence of race is warranted given the racial disparities within every stage of criminal legal processing (Jannetta et al., 2016; Kahn & Martin, 2016; Kovera, 2019), as well as the heightened awareness of racial injustice in the criminal legal context over the past couple of years (Burch et al., 2021). No research, to my knowledge, has focused on the interaction of perceiver mindsets and race. As such, I conducted two online, vignette-based experimental studies—measuring perceiver mindsets of people and manipulating race of person charged using a crime-related vignette—to examine these factors as both unique and interdependent predictors of criminal-legal related public opinion.

Perceiver Mindsets & Criminal Legal-Related Public Opinion

Mindset theory differentiates between two ends of a continuum—at one end, fixed mindsets, or the belief that human attributes are static; and at the other end, growth mindsets, or the belief that human attributes are malleable and thus can be shaped and cultivated (Dweck & Yeager, 2019). Mindset researchers initially focused on mindsets about oneself (e.g., views on one's own intelligence; Bandura, 1983), finding that beliefs about the stability of a given attribute impact a range of outcomes, such as motivation, self-regulatory responses to setbacks, and goal creation and achievement (Biddle et al., 2003; Burnette et al., 2013). Researchers later expanded their attention to perceiver mindsets of other people. That is, they began to explore whether people view others as capable of change or not, and the consequences of those views (Dweck et al., 1995; Levy et al., 2001).

This new angle of research revealed that perceiver mindsets of others play an important role in the formation and endorsement of judgments, which can in turn impact criminal legal-related beliefs (Dweck et al., 1995; Dweck & Yeager, 2019; Levy et al., 2001; Plaks, 2017; Rattan & Georgeac, 2017). Individuals who hold stronger fixed mindsets rely more heavily on small samples of information when making trait judgments of others, believe that these traits represent stable and central aspects of who a person is, and tend to base inferences about future behavior on these traits (Babad et al., 1999; Chiu et al., 1997; Levy & Dweck, 1999; Levy et al., 1998; Plaks et al., 2001; Rattan, 2019). In believing that the fundamental character of a person cannot change, when confronted with misbehavior or wrongdoing, people with stronger fixed mindsets are less inclined to support efforts with an explicit change goal, such as rehabilitative or restorative efforts (Moss et al., 2019; Peleg-Koriat et al., 2020). Instead, they lean toward punitive approaches, as other measures appear futile.

In contrast, stronger belief in the changeable nature of people and their attributes entail a corresponding interpretation of behavior as something that can be shaped and developed, which is essential to rehabilitative decisions (Moss et al., 2019). People with stronger growth mindsets are also more likely to see wrongdoing as a challenge to approach, rather than an immutable trait that could never change (Chiu, 1997), and as being caused in-part by external factors, rather than only internal attributes (Tam et al., 2013). Accordingly, growth mindsets predict more support for policies focused on learning, helping, and changing behavior. In regard to criminal legal-related outcomes, specifically, growth mindsets are associated with greater support for restorative or alternative practices to addressing crime over punishment (McKinsey et al., 2022; Moss et al., 2019; Peleg-Koriat et al., 2020), less punitive goals of sentencing, less support for the death penalty (Tam et al., 2013), and greater support for ex-offender re-entry from incarceration into their community (Rade et al., 2017). Thus, my first hypothesis is as follows:

***Hypothesis 1:** Perceiver growth mindsets will predict weaker punishment-oriented opinions and stronger reconstruction-oriented opinions.*

Race & Criminal Legal-Related Public Opinion

A person's race plays a paramount role in their trajectory throughout the criminal legal system. Indeed, whereas Black people represent just 13% of the U.S. general population, they account for nearly 40% of the country's prison population (Federal Bureau of Prisons, 2021; U.S. Census Bureau, 2021). Of most relevance to the proposed research are racially disparate outcomes at the sentencing stage of criminal legal processing (Johnson & DiPietro, 2012; Spohn, 2001; Ulmer et al., 2016). A review of 40 studies of sentencing outcomes at the federal and state level conducted during the 1980s and 1990s revealed that Black and Hispanic/Latinx people, particularly those who were young, male, or unemployed, were more likely to be incarcerated

compared to their White counterparts, even after controlling for crime seriousness and prior criminal record (Spohn, 2001). A more recent analysis of 159,206 misdemeanor and 26,069 felony cases accepted for prosecution in the New York County District Attorney's office between 2010-2011 found Black and Latinx people were more likely to be detained, receive a custodial plea offer, and be incarcerated compared to similarly situated White people (Kutateladze et al., 2014). Likewise, a meta-analysis of 34 simulation studies ($N = 7,387$ participants) examining the influence of race on sentencing found an overall effect of racial bias in both verdict and sentencing length decisions (Mitchell et al., 2005). A much smaller body of research, alternatively, supports the "disparity correction hypothesis," or the circumstance in which people make criminal legal decisions in favor of Black and Brown people (Kleider et al., 2012; Spohn et al., 1998).

Critical race theory (CRT) posits that American law was originally, and continues to be, structured to maintain white privilege and racial hierarchy (Capers, 2014; Valdez et al., 2002; Crenshaw, 2011). In this regard, racism is built into the legal, and other, systems, institutions, and culture (Delgado & Stefancic, 2017). CRT helps us understand the predictability of racially disparate outcomes by emphasizing the structural nature of racism; however, more relevant to the current research are theories that help explain individual-level engagement in racialized thinking in the criminal legal context. For instance, the racial animus model states that racial bias is one of the most salient factors predicting public punitiveness, largely due to white Americans' depictions of a typical offender (Unnever et al., 2005; Unnever et al., 2008; Unnever & Cullen, 2010). Indeed, stereotypes of Black and Brown people, particularly young Black men, as dangerous, unintelligent, hostile, criminal, and aggressive pervade U.S. culture (Schlesinger, 2007; Williams & Mohammed, 2013). These negative beliefs shape the way people perceive

circumstances and make causal attributions about misbehavior, resulting in more punitive decision-making directed at the stereotyped individual (Okonofua et al., 2016). Other theories also point to the importance of racialized stereotyping in sentencing, as well as inform when engagement in stereotyping is most likely to occur. Focal concerns theory posits that when decision-makers (judges or jurors) lack important information about a case or defendant—ambiguity that is inherent to the judicial decision-making process—they turn to stereotypes of race, sex, and age, to guide their decisions (Hartley, 2014; Steffensmeier et al., 1998). According to liberation theory (see Kalven et al., 1966), such ambiguity most often occurs in less serious cases due to a lack of common legal factors (e.g., criminal history) and less established sentencing norms, leading to greater discretion and thus, greater opportunity for racial discrimination (Spohn & Cederblom, 1991).

Experimental research provides evidence for the influence of racialized stereotypes within the criminal legal context. For instance, in two studies, police officers and juvenile probation officers were randomly assigned to be subliminally exposed to either words stereotypical to the category “Black” (e.g., dreadlocks, homeboy) or to words that were racially neutral, then were presented with vignettes about an adolescent who committed a crime (Graham & Lowery, 2004). Participants in the racially primed conditions reported more negative trait ratings, greater culpability, higher expectations of recidivism, and recommended harsher punishment compared to those in the race neutral condition. Another experimental vignette-based study with a convenience sample of 500 Canadian adults found that the “Black offender” (manipulated by racialized name and nationality in the vignette) was rated as significantly more dangerous than the “White offender” and received a harsher sentence (Singh & Sprott, 2017). Stereotypes tend to influence criminal legal-related outcomes most when the stereotypes are

made salient by the type of crime with which the person is charged (i.e., harsher punishment for defendants charged with a crime stereotypic to their race; Gordon et al., 1987; Jones & Kaplan, 2003; Schlesinger, 2007). In sum, research suggests that the race of the person charged for a crime, which can trigger engagement in racialized stereotyping, contributes to disparate criminal legal-related outcomes. As such, my second hypothesis is the following:

***Hypothesis 2:** People assigned to the vignette with a Black person charged, compared to people in other race conditions,¹ will exhibit stronger punishment-oriented opinions and weaker reconstruction-oriented opinions.*

Mindsets & Race Interaction Effect

As described above, racialized stereotyping is a factor contributing to racially disparate sentencing, signaling that strategies that reduce stereotyping can help address racial disparities. A subset of mindset research focusing on intergroup relations shows that mindsets influence engagement in stereotyping, thereby suggesting that growth mindsets may serve as a buffer against racially disparate displays of punitiveness. Mindsets influence the formation, endorsement, and maintenance of stereotypes (Levy et al., 1999; Levy & Dweck, 1999; Plaks, 2001; Rattan & Georgeac, 2017). As previously mentioned, people with stronger fixed mindsets rely on limited information to gain meaningful insight into a person's character and future behavior, resulting in greater reliance on initial judgments (Rattan & Georgeac 2017). As such, people with stronger fixed mindsets are quicker to generalize and label people (i.e., form stereotypes), and are more likely to endorse stereotypes as true (Chiu et al., 1997; Levy et al., 1998; Levy & Dweck, 1999), cling to stereotype-confirming information, and deflect stereotype-disconfirming information (Plaks et al., 2001). Conversely, belief in the malleable nature of

¹ Study 1 included three conditions – Black, White, no race – and Study 2 included two conditions – Black, White.

attributes promotes greater consideration of external factors to understand others and their behavior, and necessitates a commitment to continuous learning and assessment of others to reflect the perpetually shifting nature of attributes. People with stronger growth mindsets, therefore, are less likely to form stereotypes based on limited information and endorse the accuracy of stereotypes (Levy et al., 1998; Levy & Dweck, 1999; Chiu et al., 1997). They also exhibit greater openness to all types of information (stereotype consistent and inconsistent) to better understand others (Plaks et al., 2001). These patterns of differential engagement in stereotyping depending on mindsets occur across a range of stereotypes, including negative racial and ethnic stereotypes (Levy et al., 1998).

Translated to a criminal legal context, these patterns suggest that those with stronger fixed mindsets are more likely to direct attention to information supporting racialized stereotypes that associate Black and Brown people with crime and violence. For example, when presented with a case in which a Black person committed a violent crime, people with stronger fixed mindsets may hone in on information supporting the stereotype of Black people as dangerous, leading to endorsement of more punitive consequences. When presented with a case in which a White person committed a violent crime, people with fixed mindsets may deflect non-stereotypic information, resulting in support of less punitive measures. In contrast, people with stronger growth mindsets may be less likely to engage in stereotyping altogether, thereby buffering against racially biased decision-making and judgments. This integration of racial disparities research and mindset research brings me to my third hypothesis:

***Hypothesis 3:** Perceiver growth mindsets will interact with the race of person-charged to predict outcomes. Specifically, growth mindsets will buffer against racially disparate displays of punishment- and reconstruction-oriented opinions.*

Study 1

Study 1 served as an exploratory investigation of the relationships between perceiver mindsets, race of person charged, and criminal legal-related public opinion. Specifically, through an online experimental survey, I measured growth mindsets, randomly assigned participants to one of three race conditions (i.e., crime-related vignettes with race of person charged manipulated), and measured various criminal legal-related opinions, including different types of punitiveness and judgments of criminality.²

Methods

Participants

I recruited 304 participants using Prolific. To be eligible, participants had to be at least 18 years of age, living in the United States, proficient in English, and not an employee of the researcher's home university. I included a CAPTCHA (Completely Automated Public Turing test to tell Computers and Humans Apart) to prevent against bot responses (Chmielewski & Kucker, 2019) and two instructed response items to assess data quality (Brühlmann et al., 2020). I removed 11 people for not meeting eligibility requirements, eight people for completing less than 80% of the survey, and five people for completing the survey exceptionally fast, resulting in a final sample of 280. I conducted a prior power analysis using G*Power 3.1 and found that a minimum sample size of $N = 159$ would result in power of .80 to detect a small to medium interaction effect size ($f^2 = .05$; Perugini et al., 2018). I paid participants 1.40 USD for full participation in the study.

² I investigated only punishment-oriented opinions in Study 1.

Procedure, Measures, & Manipulations

All participants accessed the study materials using the Prolific interface. After providing informed consent and responding to the CAPTCHA, participants completed a perceiver mindset measure. I assessed *perceiver mindsets of people* using the domain-general Implicit Person Theory measure (Levy et al., 1998), which measures beliefs about the fixed versus malleable nature of human attributes using a 6-point scale (ranging from 1 = strongly disagree, to 6 = strongly agree; e.g., “People can do things differently, but the important parts of who they are can't really be changed”). I reverse scored four of the eight items, summed responses, and calculated mean scores, such that higher scores indicated stronger growth mindsets. Analysis revealed excellent reliability ($\alpha = .94$).

To manipulate race of person charged, I randomly assigned participants to one of three vignettes describing a low-level, stereotyped crime – robbery (scenario modified from Singh & Sprott, 2017 & Teverovskaya, 2010). According to prior research (Gordon et al., 1987; Jones & Kaplan, 2003; Schlesinger, 2007) and theory (i.e., focal concerns and liberation theory; Kalven et al., 1966; Spohn & Cederblom, 1991), exposure to this type of crime increases the likelihood of stereotyping and thus, exhibiting racial bias. The three vignettes were identical except for the racialized identity of the person who committed the crime (Black, White, no race). I manipulated race of the person charged by stating their race in the list of demographics provided in the vignette and by using a stereotypical name (“Darnell Johnson” for Black; “Scott Johnson” for White; names derived from Singh & Sprott, 2017). For the no race condition, I included no name or race in the vignette. Based on stereotypes that associate Blackness with crime (Schlesinger, 2007; Williams & Mohammed, 2013), I expected participants in the no race condition to assume

the person charged to be Black, and therefore, outcomes to align with the Black condition outcomes.

After reading the scenario, participants received a post-vignette survey to assess a range of criminal legal-related outcomes, all of which I categorized as *punishment-oriented opinions*. To assess case-specific punitiveness, I asked participants what they believed to be an appropriate *punishment level* for the person who committed the crime (ranging from 1 = minimum punishment provided by law, to 9 = maximum punishment provided by law; item derived from Jones & Kaplan, 2003). To assess general punitiveness, I asked participants about their *support for the death penalty* using two items (“In general, I approve of the death penalty” and “I generally favor the death penalty in cases where people are convicted of first-degree murder”) on a 7-point scale with higher scores indicating greater support for the death penalty (items derived from Tam et al., 2013). I summed and averaged responses from the two items to create one score for analyses. The measure had excellent reliability ($\alpha = .92$). To assess judgments of the person charged, I asked them to rate the person across three common indicators of criminality – *dangerousness*, *culpability*, and *expectation of recidivism* – on single item scales ranging from one (not at all dangerous/ blameworthy/likely to reoffend) to five (extremely dangerous/blameworthy/ likely to reoffend; items derived from Singh & Sprott).

Lastly, I assessed potential covariates, which comprised participant characteristics, including *age* (measured continuously), *gender* (woman, man, non-binary, prefer not to answer), *race/ethnicity* (nine response options collapsed to six for analysis: Asian; Black or African American; Hispanic, Latinx, or Spanish origin; White; multiracial; other or prefer not to answer), *education* (nine response options collapsed to three for analysis: less than college degree, college degree or vocational training, more than college degree), and *political orientation* (measured

using an 11-point scale ranging from 1 = extremely liberal to 11 = extremely conservative; Kroh, 2007). The university's IRB approved all study procedures prior to recruitment and data collection.

Results

Sample Characteristics & Randomization

Table 1 displays descriptive statistics for sample characteristics. Most participants were White and women, and just over half had more than a high school education. On average, their age was 35.74 ($SD = 13.70$, range = 19 - 83), and the mean political orientation score was 4.16 ($SD = 2.69$, range = 1 - 11), falling between slightly liberal and leaning liberal. Fisher's exact test and one-way ANOVAs revealed successful randomization across conditions except for race/ethnicity, $p = .009$,³ and age, $F(2, 277) = 7.53$, $p < .001$, $\eta_p^2 = .052$ (see Table 1). Thus, I controlled for these two variables in subsequent analyses.

Covariates

Bivariate analyses revealed covariates of each criminal legal-related outcome. As age and political conservatism increased, so did recommended punishment level ($r_s \geq .18$, $p_s \leq .003$), support for the death penalty ($r_s \geq .14$, $p_s \leq .024$), perceived culpability ($r_s \geq .20$, $p_s < .001$), expectation of recidivism ($r_s \geq .12$, $p_s \leq .044$), and perceived dangerousness (only political conservatism; $r = .31$, $p < .001$). Additionally, people with more than a college degree, compared to other education levels, exhibited significantly less support for the death penalty, $F(2, 277) = 5.65$, $p = .004$, $\eta_p^2 = .039$, and multiracial people were less likely to perceive the person charged as culpable compared to White people, $F(5, 274) = 2.67$, $p = .022$, $\eta_p^2 = .047$. I ran later models with and without identified covariates for each outcome (i.e., age and political orientation for

³ Fisher's exact test was used in place of chi-squared because cells contained expected counts less than five.

models predicting punishment level and expectation of recidivism; age, political orientation, and education for death penalty support; age, political orientation, and race for culpability; political orientation for dangerousness).

Hypotheses

#1: Mindsets & Criminal Legal-Related Public Opinion. Bivariate correlations revealed that stronger growth mindsets predicted less general support for the death penalty ($p = .005$) and lower expectations of recidivism ($p = .003$), but they did not predict the other three outcomes. As such, results partially supported my first hypothesis (see Table 2). These analyses also revealed significant associations between all criminal legal-related outcomes ($ps < .001$).

#2: Race & Criminal Legal-Related Public Opinion. A one-way multivariate analysis of variance (MANOVA) revealed an overall multivariate main effect of race condition on the five criminal legal-related outcomes, Pillai's Trace = .08, $F(10, 546) = 2.41$, $p = .008$, $\eta_p^2 = .042$. At the univariate level, results showed a significant main effect of condition on all outcomes except for death penalty support in the opposite direction from my second hypothesis. Specifically, people assigned to the vignette with a Black person charged, compared to a White person charged or the vignette with no race mentioned, recommended a lower punishment level ($p = .002$), perceived the person charged as less dangerous ($p = .001$), less culpable ($p = .003$), and less likely to recidivate ($p = .002$; see Table 3). Analyses revealed no significant differences between groups on support for the death penalty, though this may be due to limited power attributable to the effect size, which was smaller than those observed for the other outcome variables (see Table 3). When controlling for covariates (i.e., age, political orientation, race, education) the multivariate effect became non-significant ($p = .079$), but the univariate effects remained significant.

#3: Mindsets & Race Interaction Effect. To test my third hypothesis, I ran separate interaction models with perceiver mindsets and race condition as the predictors and each criminal legal-related opinion as outcomes using Hayes PROCESS macro v.4.1, model 1 (Hayes, 2017). Due to the multi-categorical nature of the condition variable, PROCESS automatically dummy coded and tested the pathways in two parts (e.g., with the Black condition as the reference, the comparisons included Black versus White, and Black versus no race). I ran the models with both the Black and no race conditions as references to obtain comparisons between all conditions.

Contrary to my third hypothesis, though not surprising given the above race-related finding, PROCESS model 1 analyses revealed no significant interaction effects of race condition and mindsets on any of the outcomes. That is, the relationship between the Black and White race conditions did not differ depending on growth mindset score when predicting punishment level, $p = .647$, death penalty support, $p = .628$, perceived dangerousness, $p = .823$, perceived culpability, $p = .783$, or expectation of recidivism, $p = .271$. Likewise, the relationship between the Black and no race conditions did not depend on growth mindset score ($ps \geq .636$) nor the relationship between the White and no race conditions ($ps \geq .300$) for any of the outcomes. The pattern of results remained the same after I controlled for covariates.

Study 1 Discussion

Stronger growth mindsets predicted some weaker punishment-oriented opinions (i.e., less support for the death penalty and lower expectations of recidivism), thereby partially supporting my first hypothesis. Overall, this finding aligns with prior research suggesting growth mindset interventions have promise as a strategy to reduce punitiveness (McKinsey et al., 2022; Moss et

al., 2019; Peleg-Koriat et al., 2020; Rade et al., 2017, 2018; Tam et al., 2013), meriting continued investigation in the subsequent study.

Results did not, however, support my first or third hypotheses. Participants in the Black condition, compared to the White or no race conditions, recommended a lower punishment level and perceived the person charged as less dangerous, less culpable, and less likely to recidivate. Because the beliefs reported by participants in the no race condition did not significantly differ from those in the White condition, it appears participants in the no race condition did not assume the person charged be Black when missing race-related information, countering the prediction that engagement in stereotyping would lead to an automatic racialized depiction of the target.

The results contradict numerous experimental studies demonstrating racial bias toward Black people in displays of punitiveness and judgments of criminality (see Graham & Lowery, 2004; Mitchell et al., 2005; Singh & Sprott, 2017). Further, the findings do not reflect real world racial biases and disparities disadvantaging Black people that we know are prevalent within the criminal legal system (e.g., Kutateladze et al., 2014; Spohn, 2001). I provide two possible explanations for this finding. First, when people are aware, or suspect, that a survey is investigating a sensitive topic, such as racism, their responses may be influenced by social desirability bias, or the desire to make oneself “look good” when answering survey questions (Krumpal, 2013). As such, if participants suspected I was examining the influence of race in the study, those assigned to the Black condition may have been especially cognizant of not appearing racist, tailoring their responses accordingly. In other words, the survey results may reflect inauthentic responses from participants as I did not control for response bias in this study.

A second possible explanation is that the study sample, overall, was authentically not biased toward Black people, at least in the context of this online study. The current sociopolitical

climate of the United States and some prior research support this explanation. The murders of George Floyd, Breonna Taylor, and other Black people by police in 2020, reignited a movement against racism in the country broadly, and within the criminal legal system specifically (Burch et al., 2021; Payne, 2021). As part of this movement, many Americans, particularly liberal White Americans (which comprised the majority of Study 1's sample), have increased their expression of racially liberal attitudes and policy preferences (Goldberg, 2022; Perry et al., 2021). Such a shift is in part driven by increased availability of racial equalitarian media messaging over the past couple of years, which in turn increased feelings of white shame and guilt (Goldberg, 2022). Organizations around the country have also revamped their diversity, equity, and inclusion (DEI) efforts by increasing availability of and commitment to providing DEI trainings to their employees (Traliant, WBR Insight, 2021). While there is certainly debate over the helpfulness/harmfulness of white shame and guilt (Grzanka et al., 2020; Goldberg, 2022) and the effectiveness of such trainings (see Dobbin & Kalev, 2016; Lai et al., 2014), some research indicates that racial attitudes are shifting (Goldberg, 2022) and that trainings can reduce bias (e.g., Devine et al., 2012; Lai et al., 2014; Sekaquaptewa et al., 2019). As such, although Study 1 results likely do reflect a degree of social desirability bias, they may also demonstrate liberal Americans' increased intentions (whether effective or not) to combat racial injustice, specifically within the criminal legal context by exhibiting more leniency and less punitiveness toward Black people who are charged for crimes.

As mentioned in the Introduction, some prior research has also shown this “disparity correction” (i.e., criminal legal outcomes in favor of Black and Brown people). For instance, one Florida-based study revealed that Latino people with prior nonviolent felonies were sentenced more leniently than White people with prior nonviolent felonies (Spohn et al., 1998).

Additionally, an online experimental study with a sample of 180 undergraduate students from Georgia State University produced mixed evidence of both disparity correction and racial bias effects, providing clues as to who exhibits which tendencies when (Kleider et al., 2012). This study examined the influence of working memory capacity (WMC), cognitive load, racial prejudice, and defendant race (Black, White) on verdict decisions in fictitious criminal cases where evidence was ambiguous. A three-way interaction effect revealed that participants with low WMC and high prejudice were harsher on the Black defendant when under cognitive load, and that participants with high WMC and low prejudice were harsher on the White defendant when not under cognitive load. These results suggest that 1) level of prejudice matters – low levels may translate to bias in favor of Black persons and/or against White persons whereas high levels may translate to bias in favor of White persons and/or against Black persons, and 2) cognitive resource availability influences criminal legal-related decision-making. Other research examining the impact of cognitive or memory load in criminal legal-related contexts similarly shows that load, which encourages engagement in cognitively efficient processes such as stereotyping, increases likelihood of racial bias in police officer decision-making and mock jury decision-making (see Kleider-Offutt, et al., 2016 for a review). As such, Study 1 participants may have been less likely to engage in racialized stereotyping as no part of the study design aimed to induce cognitive load.

While these explanations speak to the unexpected effect of condition I found in Study 1, study results do not reflect the racial disparities we see at-large on a national- and system-level. Further, because the findings did not reflect anti-Black racial bias, the growth mindsets buffering hypothesis was not relevant, thereby limiting the potential implications drawn from Study 1. Findings must also be considered in light of a couple measure-related limitations. First, I

assessed all but one outcome using a single-item measure (i.e., punishment level, perceived dangerousness, perceived culpability, expectation of recidivism). Although single-item assessments can be acceptable modes of measurement for some constructs and domains, they are generally discouraged due to the limited ability to test their reliability and validity (see Fisher et al., 2015). Second, I only assessed punishment-oriented opinions; however, prior research suggests that perceiver mindsets are also associated with attitudes related to change, growth, and healing, such as support for rehabilitation (Moss et al., 2019). As such, Study 1 may present a limited view of how mindsets are related to criminal legal-related public opinion. In Study 2, I sought to address some of these limitations and to produce decision-making circumstances that would evoke expression of racial bias before again testing my three hypotheses.

Study 2

For Study 2, I adjusted the study design in several ways to increase the odds of replicating real-world racial bias, to address Study 1 limitations, and to extend my investigation of the potential buffering role of growth mindsets. I made five main design adjustments: 1) I recruited a sample that was likely to exhibit racial bias; 2) I put participants under cognitive load; 3) I included only two race conditions (Black, White) to increase power for detecting effects and to narrow potential interpretations of results; 4) I tested social desirability bias as a covariate; and 5) I assessed both punishment- and reconstruction-oriented opinions.

Methods

Below, I describe Study 2 methods, focusing on the differences between Study 1 and 2.

Participants

Some prior research suggests that only participants who are racially prejudiced fall back on racial stereotypes and therefore, exhibit racial bias when making judgments and decisions in

experimental criminal-legal related contexts (Kleider et al., 2012). As such, for Study 2, I recruited a sample that was likely to exhibit such bias—people with higher levels of prejudice.

Prescreen Survey. I identified these people by conducting a prescreen survey on Prolific that included a commonly used measure of racial prejudice, the symbolic racism scale (Henry & Sears, 2002). The measure consists of eight items (e.g., “It’s really a matter of some people not trying hard enough; if Blacks would only try harder they could be just as well off as Whites.”) on a 3- or 4- point scale, depending on the item. As in Henry & Sears (2002), to compensate for the difference in scale ranges, I recoded each of the items on a zero to one scale with higher scores representing greater prejudice. Reliability was excellent ($\alpha = .92$). Using Prolific’s prescreen tool, I recruited 255 people who identified as liberals, 255 moderates, and 255 conservatives. Of the 765 people recruited, I eliminated four responses because the participants did not meet eligibility requirements, resulting in a sample of 761. The median racism score was .35, with 396 participants scoring above the median, 45 liberals (11.4%), 126 moderates (31.8%), and 225 conservatives (56.8%). I included those 396 participants on the “allow list” for Study 2 (i.e., they were the only Prolific workers able to access Study 2).

Study 2 Sample. Of those 396 Prolific workers, 316 participated in Study 2. I removed eight people for not meeting eligibility requirements, nine people for completing less than 80% of the survey, four people for not passing attention checks, and one person for not passing a manipulation check, resulting in a final sample of 294. I paid participants 1.70 USD for full participation in the study.

Procedure, Measures, & Manipulations

As in Study 1, participants accessed the study materials using the Prolific interface, provided informed consent, responded to the CAPTCHA, and completed the domain-general Implicit Person Theory measure (Levy et al., 1998) to assess *perceiver mindsets* ($\alpha = .96$).

To induce cognitive load, I presented participants with text explaining that most of the following pages were time-limited and that they would be presented with a timer counting down the seconds before Qualtrics would auto-advance to the next page. I included the timer on the pages presenting the vignette and all outcome measures. I conducted an iterative process to determine how many seconds to allow for each page, first piloting the pages without a timer among 15 people to identify average time spent on each page, then adding the timers and piloting again among 15 people who reported how easy or difficult it was to complete each page. The amount of time allowed for each page in the final survey reflected an amount in which pilot testers were able to respond to all questions while still reporting some degree of time pressure. Providing less time for a participant to process information is one way to induce cognitive load in an experimental study (e.g., Dijksterhuis & van Knippenberg, 1995; van Knippenberg, 1999). Another way is by providing more information to process at the same time as another task (e.g., Goldinger et al., 2003; Kleider et al., 2012; Phillips et al., 2008). To confidently achieve the goal of inducing cognitive load in Study 2, I relied on both techniques (see the second cognitive load manipulation below).

To manipulate race of person charged, I randomly assigned participants to one of two robbery scenarios (White, Black). I included only two conditions to increase power available to detect small effects and to narrow potential interpretations of results. The vignettes were identical to those used in Study 1, except that participants had limited time to read them.

As a second cognitive load manipulation, I presented participants with four bi-syllabic nonwords (e.g., flozick) and allowed them 20 seconds to commit them to memory. I asked participants to recall the non-words after responding to all outcome measures (memory load task derived from Goldinger et al., 2003 & Kleider et al., 2012).

All participants then received the post-vignette survey to assess criminal legal-related opinions (time-limited responses). I included the same measures as Study 1 to assess *punishment level* (i.e., case-specific punitiveness) and *support for the death penalty* (i.e., general punitiveness; $\alpha = .93$). The only judgment of criminality I focused on in Study 2 was *expectation of recidivism* because it was the only one significantly correlated with growth mindsets in Study 1. I replaced the single-item measure used in Study 1 with a measure including four items on a 7-point scale (ranging from 1 = strongly agree, to 7 = strongly disagree). I modified the measure used in Tam and colleagues (2013) to reflect recidivism expectation of the person charged in the vignette, instead of all offenders (e.g., “Darnell/Scott is very likely to commit crimes again and again.”). I reverse scored items, summed responses, and calculated mean scores, such that higher scores indicated greater expectation of recidivism.⁴ Reliability was excellent ($\alpha = .94$).

I additionally assessed case-specific justice goals by asking participants to rate the importance of five considerations in their choice of sentence for the person charged in the vignette on a 5-point scale (ranging from 1 = very unimportant, to 5 = very important; e.g., ““Making Darnell/Scott pay for his crimes;” measure derived from Silver & Berryessa, 2021). Each consideration maps onto what Strelan and colleagues (2011) referred to as the five goals of justice (also known as sentencing goals; McKee & Feather, 2008)– retribution, deterrence, incapacitation, rehabilitation, and restoration. Strelan and colleagues (2011) grouped the first

⁴ Because missingness was low and most likely due to time limitations, I relied on pairwise deletion to deal with missing data when creating these, and other, composite scores.

three goals together due to their retributive nature and the second two together due to their restorative nature. To confirm this grouping, I conducted factor analysis with oblimin rotation finding two underlying factors with eigenvalues over one that explained 65.61% of item variance. As suspected, the first factor, accounting for 34.77% of the variance, comprised of the items describing retribution, deterrence, and incapacitation; item loadings were greater than .55. The second factor, accounting for 30.85% of the variance, comprised the items describing rehabilitation and restoration; item loadings were greater than .90. I summed and calculated mean scores of the items for each construct, labeling the first as *punishment goals* and the second as *reconstructive goals*, with higher scores representing greater support for each goal type. I considered support for punishment goals, punishment level, support for the death penalty, and expectation of recidivism as *punishment-oriented opinions* and support for reconstructive goals as *reconstruction-oriented opinions*.

I asked two questions to check for successful cognitive load manipulation. The first asked how much time pressure participants experienced when reading the scenario or answering the timed questions (5-point scale ranging from 1 = none at all, to 5 = a great deal) and the second asked how difficult it was for them to remember and recall the four non-words (5-point scale ranging from 1 = extremely easy, to 5 = extremely difficult). I assessed each item individually given cognitive load can be induced either by experiencing time pressure when processing information or by processing/retaining multiple pieces of information simultaneously. As such, I regarded the manipulation as successful if the participant expressed any degree of either time-pressure or difficulty (i.e., a score of above one for at least one of the measures).

Lastly, I assessed for potential covariates. I examined participant characteristics, including *age*, *gender*, *race/ethnicity*, *education*, and *political orientation* (same measures as

those included in Study 1), as well as *social desirability bias* using the 13-item version of the Marlowe-Crowne Social Desirability Scale (Reynolds, 1982). The university's IRB approved all study procedures prior to recruitment and data collection.

Results

Sample Characteristics & Randomization

Table 4 displays descriptive statistics for sample characteristics. The large majority of participants were White, over half had more than a high school education, and, unlike Study 1, over half were men. Their average age was 43.89 ($SD = 13.84$, range = 20 – 93), slightly older than the Study 1 sample, and their mean political score was 7.52 ($SD = 2.36$, range = 1 – 11), falling between slightly conservative and leaning conservative. As such, Study 2 sample was substantially more conservative than Study 1's, thereby supporting prior research showing strong correlations between conservatism and racial prejudice (Behler et al., 2021). Chi-squared and one-way ANOVAs revealed successful randomization across conditions except for political orientation, $F(1, 192) = 9.33$, $p = .002$, $\eta_p^2 = .031$, which I controlled for in later analyses.

Cognitive Load Manipulation Checks

On average, participants reported a time pressure level of 2.64 ($SD = 1.20$), falling between a little and a moderate amount, and a memory/recall difficulty level of 4.21 ($SD = 0.97$), falling between somewhat and extremely difficult. These means suggest participants were under some degree of cognitive load while reading the scenario and responding to outcome measures. One-way ANOVAs revealed no differences in time pressure or difficulty levels across conditions ($ps \geq .226$). I removed one participant from the sample who reported no degree of time pressure or difficulty.

Covariates

Bivariate analyses revealed significant associations between three criminal legal-related outcomes and covariates. As age and conservatism increased, so did support for the death penalty ($r_s \geq .15$, $p_s \leq .012$). Support for punishment goals also increased with conservatism ($r = .13$, $p = .024$). Women exhibited significantly greater support for reconstructive goals compared to men, $F(1, 292) = 6.77$, $p = .010$, $\eta_p^2 = .023$. I found no significant associations between social desirability bias and any of the outcomes ($p_s \geq .084$). I ran later models with and without identified covariates (i.e., age and political orientation for the models predicting death penalty support; political orientation for punishment goals; gender for reconstructive goals).

Hypotheses

#1: Mindsets & Criminal Legal-Related Public Opinion. Bivariate correlations revealed that growth mindsets were significantly correlated to all criminal legal-related outcomes, except for punishment level, in expected directions; thus, supporting my first hypothesis. Stronger growth mindsets predicted less support for the death penalty ($p = .004$) and punishment goals ($p < .001$), lower expectation of recidivism ($p < .001$), and greater support for reconstructive goals ($p < .001$; see Table 5). Analyses also revealed that all outcomes were significantly correlated with one another ($p_s \leq .002$), except for punishment goals with reconstructive goals ($p = .174$).

#2: Race & Criminal Legal-Related Public Opinion. A one-way MANOVA testing the effect of condition on the four punishment-oriented opinions revealed a significant multivariate effect of condition on outcomes, Pillai's Trace = .07, $F(4, 286) = 5.52$, $p < .001$, $\eta_p^2 = .072$. Univariate analyses revealed small to medium effects ($\eta_p^2 \leq .05$) in the hypothesized direction – people assigned to the vignette with a Black person charged, compared to a White person

charged, recommended a higher punishment level ($p = .002$), exhibited greater support for the death penalty ($p = .010$) and punishment goals ($p < .001$), and perceived the person charged as more likely to recidivate ($p < .001$; see Table 5). When controlling for covariates (i.e., age, political orientation), the effect of condition on death penalty support was no longer significant ($p = .068$), but all other significant results remained the same. A one-way ANOVA testing the effect of condition on support of reconstructive goals revealed no significant main effect, $p = .105$; however, power to detect this smaller effect may have been limited (see Table 6).

#3: Mindsets & Race Interaction Effect. Similar to Study 1 results, PROCESS model 1 analyses revealed no significant interaction effects of growth mindsets and condition when predicting any of the outcomes ($ps \geq .189$); thereby, failing to support my third hypothesis. The pattern of results remained the same when controlling for covariates.

Study 2 Discussion

Evidence partially supported my first hypothesis. Stronger growth mindsets predicted stronger reconstruction-oriented opinions and weaker punishment-oriented opinions; however, mindsets did not predict punishment level. Results also partially supported my second hypothesis by showing that the race of person charged was associated with punishment-oriented opinions, but not reconstruction-oriented opinions, among people who exhibited above-median racial prejudice and who were under cognitive load. This finding of racially disparate displays of punitiveness in the direction that disadvantages Black people/advantages White people aligns with prior experimental and real-world observational data showing racial bias and disparities in the criminal legal context (Jannetta et al., 2016; Kahn & Martin, 2016; Kovera, 2019; Mitchell, 2005). Lastly, results did not support my third hypothesis—growth mindsets did not interact with race of person charged in predicting criminal legal-related outcomes.

General Discussion

In recognizing the relevance of criminal legal-related public opinion to mass incarceration, I conducted two online experimental studies exploring the unique and interdependent effects of perceiver mindsets and race of person charged on criminal legal-related public opinion. My first hypothesis served to replicate work showing the potential for growth mindsets to act as a buffer against overly harsh criminal legal-related public opinion; my second hypothesis served to replicate race effects found in the real world; and my third hypothesis served to test growth mindsets as a buffer against racially disparate displays of criminal legal-related public opinion. Below, I review the two studies' findings, discuss their implications and connections to extant literature, and propose future research directions.

Findings, Implications, & Future Research Directions

Across the two studies, stronger growth mindsets were correlated with some weaker punishment-oriented opinions and stronger reconstruction-oriented opinions. This finding aligns with prior research demonstrating that individuals with stronger growth mindsets, compared to fixed mindsets, are less punitive, exhibit more support of alternative forms of justice, and hold more positive perceptions of people who are justice-involved (McKinsey et al., 2022; Moss et al., 2019; Peleg-Koriat et al., 2020; Rade et al., 2017, 2018; Tam et al., 2013). As such, the finding provides even more support for the promotion of growth mindsets as one of many methods for shifting public opinion in ways that will ultimately lessen U.S. society's reliance on carceral punishment. Future research must investigate efficient and effective methods for delivering growth mindsets interventions to the greater public. Research on the scalability of growth mindset interventions tends to be limited to the academic domain with a focus on

adolescents and children (e.g., Ganimian, 2020; Paunesku et al., 2015). Therefore, there is a need to expand such investigations to include adult populations in the public domain.

I also examined the independent effect of race of person charged on criminal legal-related public opinion. The two studies showed opposite effects. Study 1, for which I relied on convenience sampling and obtained a mostly liberal sample, revealed a disparity correction effect such that people exhibited weaker punishment-oriented opinions toward the Black person charged compared to the White person and the person with no race indicated. In contrast, Study 2, which included a sample of higher prejudiced people under cognitive load, revealed stronger punishment-oriented opinions directed toward the Black person charged compared to the White person charged.

Taken together, these findings align with some prior experimental research indicating that racial prejudice and cognitive resource availability are relevant factors in predicting racially disparate criminal legal-related outcomes (Kleider et al., 2012; Kleider-Offutt, et al., 2016). Namely, those with higher levels of prejudice who are under cognitive load exhibit bias in favor of White people and those with low levels of prejudice exhibit bias in favor of Black people (i.e., a disparity correction effect). Though seemingly obvious, and explicable to a certain degree (see Study 1 Discussion), this finding does not corroborate decades of observational data showing stark racial disparities within the criminal legal system at-large (Kovera, 2019; Kutateladze et al., 2014; Mitchell et al., 2005; Spohn, 2001). That is, if only a portion of the public exhibits racially biased criminal legal-related opinions, then we would perhaps not expect to see such glaring and reliable real-world disparities. I offer several explanations to help clarify how real-world racial disparities persist, even when some research, including Study 1, demonstrates a disparity correction.

First, experimental studies are vastly different from real-world circumstances. As Cesario (2022) argues, experimental studies of bias ask untrained decision-makers to make judgments of a target under simplified decision landscapes, rendering results of such studies meaningless in relation to real-world disparities. Indeed, participants in Study 1 were not only largely liberal, thus likely less prejudiced,⁵ but also not under cognitive load. Cognitive load is an ecologically valid manipulation given decision-makers in real criminal legal contexts (e.g., judges, jury members) are often tasked with weighing a large amount of information to inform their decisions and are often under some type of pressure (e.g., time pressure, recall pressure, pressure to make the “correct” decision; Albonetti, 1991; Salerno & Diamond, 2010). As such, the conditions I imposed on participants in Study 2 may have more accurately captured the complexity of actual decision-making landscapes, and thus, produced effects closer to those found in the real-world. This finding supports prior research showing that overload of cognitive capacity undermines legal-related decision-making capabilities (Kleider et al., 2016), and therefore, efforts to reduce cognitive load may help reduce racially prejudiced decision-making. Second, and relatedly, just because someone holds weaker punishment- and stronger reconstructive-oriented opinions, does not mean they will act on them (e.g., voting for less punitive candidates or policy measures). Indeed, attitudes and beliefs are related to behavior, but not equivalent (Fazio & Zanna, 1981), including in the case of racial attitudes (Leach et al., 2006; Swim & Miller, 1999).

Third, racial bias is only a part of what explains racial disparities. As CRT highlights, racism is woven into the fabric of our criminal legal system (Delgado & Stefancic, 2017), meaning reducing individual-level engagement in racist behavior and thinking, will never be

⁵ Although I did not measure prejudice in Study 1, given strong correlations between political orientation and prejudice (see prescreen survey results and Behler et al., 2021), because the sample was more liberal, I also assume they were less prejudiced.

enough to address disparities; it must be paired with system-level change (Kovera, 2019). It is likely a combination of these reasons offered, and others, that help explain why criminal legal-related racial disparities persist so prominently, even when some research, including the present, shows disparity correction effects. Further research into factors that produce disparity correction effects in real-world settings and the relevance of experimental bias research to real-world disparities is warranted.

Lastly, I examined the interaction effect of mindsets and race to test whether displays of racial bias depended on growth mindset strength. Whereas growth mindsets showed promise in buffering against harsh criminal legal-related public opinion in general, they did not show such promise in buffering against racially disparate displays of criminal legal-related public opinion. I was able to test this potential buffering effect (i.e., interaction effect) most accurately in Study 2 after successfully replicating anti-Black bias. Results, however, revealed no significant interaction effects suggesting that growth mindsets and, by extension, growth mindset interventions are not ideal methods for reducing racial bias. This finding conflicts with prior research showing growth mindsets are associated with reduced engagement in stereotyping (Levy et al., 1998; Levy & Dweck, 1999; Plaks, 2001; Rattan & Georgeac, 2017), which in turn suggests they can reduce displays of racial prejudice. Other research provides guidance on strategies, tools, and interventions that may better achieve this goal. For instance, interventions that highlight counter stereotypical exemplars (Dasgupta & Greenwald, 2001; Lai et al., 2016), emphasize autonomy, and tap into internal motivations to reduce prejudice (Legault et al., 2011) can help reduce implicit racial bias.

Given the overlapping nature of public punitiveness and racial bias in the criminal legal context, future research should focus on identification and development of interventions that

address both of these issues. That is, interventions that can reduce general punitiveness and racially disparate displays of punitiveness simultaneously would be the most worthwhile in their potential to address two of the most prominent issues that afflict the U.S. criminal legal system. Because a solid foundation of research, including the present research, demonstrates the associations between stronger growth mindsets and less punitiveness, an intervention that blends the essential elements of growth mindset interventions (see Rege et al., 2020, Yeager et al., 2016) and elements of successful anti-bias/racism interventions would be a good place to start. Indeed, interventions that leverage multiple mechanisms to increase their impact tend to be the most successful (Lai et al., 2016).

Limitations

One limitation of the present research is the difficulty in teasing out the factors contributing to the race effects. Because I aimed to replicate anti-Black racial bias in Study 2, I implemented multiple methods to make this more likely; namely, I recruited above-median prejudiced people and I put all participants under cognitive load. As such, it is difficult to distinguish between the roles of prejudice level and cognitive load in producing the racially biased responses. That said, the purpose of Study 2 was not to identify factors that result in racially biased responding, but rather, I aimed to evoke racially biased responding so that I can test growth mindsets as a buffer. Additionally, as noted in the above discussion, the online experimental nature of the present research limits our ability to generalize findings to real-world contexts. Future work should aim to better understand disparity correction effects in the real-world and the influence of growth mindsets in real criminal legal-related contexts (i.e., with real criminal cases and real people). Furthermore, although I examined a range of criminal legal-related opinions as outcomes (i.e., different forms of punitiveness, judgments of criminality, justice goals), I did not investigate the

ways in which these opinions are related to one another; thereby, limiting our understanding of the implications attached to each outcome. Exploration of judgments of criminality as mediating mechanisms between growth mindsets and punitiveness and investigation of the relationship between justice goals and punitiveness would greatly contribute to the current literature in the field (see Fousiani & Prooijen, 2019; Lau et al., 2009; Tam et al., 2013; Templeton & Hartnagel, 2012).

Conclusion

Understanding predictors of criminal legal-related public opinion is an essential step in addressing mass incarceration. The present studies exploring both the unique and interdependent effects of perceiver growth mindsets and race of person charged on criminal legal-related opinions demonstrated the potential for growth mindsets to buffer against public punitiveness overall, but not against racially disparate displays of punitiveness. As such, future work should aim to integrate growth mindset interventions and effective anti-bias/racism interventions to shift public support away from carceral modes of justice while simultaneously working to eliminate racial disparities in the criminal legal context.

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Table 1.*Study 1 Sample Characteristics and Condition Comparisons*

	Overall (<i>n</i> = 280)	Conditions			Comparison <i>p</i>
		No Race (<i>n</i> = 94)	White (<i>n</i> = 93)	Black (<i>n</i> = 93)	
	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	
Categorical Variables					
Race/ethnicity					.009
Asian	18 (6.4)	3 (3.2)	8 (8.6)	7 (7.5)	
Black or African American	17 (6.1)	11 (11.7)	5 (5.4)	1 (1.1)	
Hispanic, Latinx, or Spanish Origin	14 (5.0)	3 (3.2)	7 (7.5)	4 (4.3)	
White	201 (71.8)	70 (74.5)	66 (71.0)	65 (69.9)	
Multiracial	25 (8.9)	7 (7.4)	4 (4.3)	14 (15.1)	
Other or prefer not to answer	5 (1.8)	0 (0.0)	3 (3.2)	2 (2.2)	
Gender					.168
Woman	190 (67.9)	67 (71.3)	65 (69.9)	58 (62.4)	
Man	81 (28.9)	26 (27.7)	24 (25.8)	31 (33.3)	
Non-binary	6 (2.1)	1 (1.1)	1 (1.1)	4 (4.3)	
Prefer not to answer	3 (1.1)	0 (0.0)	3 (3.2)	0 (0.0)	
Education					.248
Less than college degree	120 (42.9)	33 (35.1)	40 (43.0)	47 (50.5)	
College degree or vocational training	103 (36.8)	37 (39.4)	34 (36.6)	32 (34.3)	
More than college degree	57 (20.4)	24 (25.5)	19 (20.4)	14 (15.1)	
Continuous Variables					
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>p</i>
Age	35.74 (13.70)	40.10 (14.61)	33.29 (13.23)	33.77 (12.22)	< .001
Political Orientation	4.16 (2.69)	4.24 (2.74)	4.52 (2.67)	3.71 (2.61)	.114

Note. *p* values refer to the significance level of the fisher's exact tests, in place of chi-square analyses, when comparisons contained expected cell counts less than *n* = 5.

Table 2.*Study 1 Intercorrelations of Growth Mindsets and Outcome Measures*

Measures	1	2	3	4	5
Study 1					
1. Growth mindset	--				
2. Punishment level	-.08	--			
3. Death penalty support	-.17*	.39*	--		
4. Dangerousness	-.09	.49*	.32*	--	
5. Culpability	-.05	.33*	.24*	.34*	--
6. Expectation of recidivism	-.18*	.46*	.40*	.54*	.40*

Note. * $p < .01$.

Table 3.*Study 1 MANOVA Univariate Results Comparing Outcome Measures Across Conditions*

	Overall (<i>n</i> = 280)	Conditions			Comparison			Observed Power
		No Race (<i>n</i> = 94)	White (<i>n</i> = 93)	Black (<i>n</i> = 93)	<i>F</i>	<i>p</i>	η_p^2	
Punishment-Oriented Opinions	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>				
Punishment level	4.44 (1.95)	4.72 (1.99) _a	4.75 (2.04) _a	3.86 (1.68) _b	6.54	.002	.05	.91
Death penalty support	3.35 (1.91)	3.43 (1.92) _a	3.52 (1.89) _a	3.12 (1.91) _a	1.17	.311	.01	.26
Dangerousness	2.49 (0.71)	2.55 (0.71) _a	2.65 (0.69) _a	2.28 (0.70) _b	6.74	.001	.05	.92
Culpability	4.06 (0.86)	4.22 (0.75) _a	4.14 (0.86) _a	3.82 (0.93) _b	6.11	.003	.04	.89
Expectation of recidivism	2.88 (0.81)	3.00 (0.82) _a	3.00 (0.90) _a	2.65 (0.65) _b	6.37	.002	.04	.90

Table 4.*Study 2 Sample Characteristics and Condition Comparisons*

	Overall (<i>n</i> = 294) <i>n</i> (%)	Conditions		Comparison <i>p</i>
		White (<i>n</i> = 147) <i>n</i> (%)	Black (<i>n</i> = 147) <i>n</i> (%)	
Categorical Variables				
Race/ethnicity				.877
Asian	15 (5.1)	9 (6.1)	6 (4.1)	
Black or African American	4 (1.4)	3 (2.0)	1 (0.7)	
Hispanic, Latinx, or Spanish Origin	7 (2.4)	3 (2.0)	4 (2.7)	
White	244 (83.0)	121 (82.3)	123 (83.7)	
Multiracial	19 (6.5)	9 (1.4)	10 (6.8)	
Other or prefer not to answer	5 (1.7)	2 (0.7)	3 (1.0)	
Gender				.726
Woman	139 (47.3)	71 (48.3)	68 (47.3)	
Man	155 (52.7)	76 (51.7)	79 (53.7)	
Other or prefer not to answer	0 (0.0)	0 (0.0)	0 (0.0)	
Education				.650
Less than college degree	109 (37.1)	51 (34.7)	58 (39.5)	
College degree or vocational training	139 (47.3)	71 (48.3)	68 (46.3)	
More than college degree	46 (15.6)	25 (17.0)	21 (14.3)	
Continuous Variables				
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>p</i>
Age	43.89 (13.84)	44.18 (14.23)	43.60 (13.49)	.718
Political Orientation	7.52 (2.36)	7.11 (2.45)	7.94 (2.20)	.002

Notes. *p* values refer to the significance level of the fisher's exact tests, in place of chi-square analyses, when comparisons contained expected cell counts less than *n* = 5.

Table 5.*Study 2 Intercorrelations of Growth Mindsets and Outcome Measures*

Measures	1	2	3	4	5
Study 1					
1. Growth mindset	--				
2. Punishment level	-.11	--			
3. Death penalty support	-.17*	.24**	--		
4. Punishment goals support	-.24**	.37**	.37**	--	
5. Expectation of recidivism	-.31**	.39**	.26**	.37**	--
6. Reconstructive goals support	.27**	-.18*	-.21**	-.08	-.35**

Note. * $p < .01$., ** $p < .001$.

Table 6.*Study 2 Univariate Results Comparing Outcome Measures Across Conditions*

	Conditions			Comparisons			Observed Power
	Overall (<i>n</i> = 280)	White (<i>n</i> = 93)	Black (<i>n</i> = 93)	<i>F</i>	<i>p</i>	η_p^2	
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)				
Punishment-Oriented Opinions							
Punishment level	5.71 (1.72)	5.41 (1.66)	6.02 (1.74)	9.39	.002	.03	.86
Death penalty support	4.98 (1.76)	4.72 (1.81)	5.25 (1.67)	6.78	.010	.02	.74
Death penalty support*	4.98 (1.76)	4.72 (1.81)	5.25 (1.67)	3.37	.068	.01	.45
Punishment goals support	4.12 (0.55)	4.01 (0.53)	4.24 (0.55)	12.74	<.001	.05	.95
Expectation of recidivism	4.59 (1.10)	4.36 (1.08)	4.82 (1.08)	13.52	<.001	.04	.96
Reconstruction-Oriented Opinions							
Reconstructive goals support	3.80 (0.97)	3.89 (0.91)	3.71 (1.03)	2.64	.105	.01	.37

Notes. * denotes test with covariates included. Punishment-oriented belief comparisons reflect the MANOVA univariate results; Reconstruction-oriented belief comparisons reflect ANOVA results.

APPENDICES

Appendix A

Measures

Perceiver Mindsets

Domain-general Implicit Person Theory Measure (Levy et al., 1998)

Please indicate how much you agree or disagree with the following statements.

(scale ranging from 1 = strongly disagree, to 6 = strongly agree)

1. The kind of person someone is, is something basic about them, and it can't be changed very much.
2. People can do things differently, but the important parts of who they are can't really be changed.
3. Everyone is a certain kind of person, and there is not much that they can do to really change that.
4. As much as I hate to admit it, you can't teach an old dog new tricks. People can't really change their deepest attributes.
5. Everyone, no matter who they are, can significantly change their basic characteristics.
6. People can substantially change the kind of person they are.
7. No matter what kind of a person someone is, they can always change very much.
8. People can change even their most basic qualities.

Case-specific Punitiveness

Punishment Level (Jones & Kaplan, 2003)

On a scale from **1 = minimum punishment** provided by law to **9 = maximum punishment** provided by law, what do you believe would be an appropriate level of punishment for Scott, the person who committed the crime?

General Punitiveness

Support for the Death Penalty (Tam et al., 2013)

Please indicate how much you identify with the following statements.

(scale ranging from 1 = strongly disapprove/ do not favor, to 7 = strongly approve/favor)

1. In general, I approve of the death penalty.
2. I generally favor the death penalty in cases where people are convicted of first-degree murder.

Judgments of Criminality

Dangerousness

How dangerous do you believe the person to be?

(Scale ranging from 1 = not at all dangerous, to 5 = extremely dangerous)

Culpability

How culpable do you believe the person to be?

(scale ranging from 1 = not at all culpable to 4 = extremely culpable)

Expectation of recidivism (Study 1)

How likely do you think it is that the person will reoffend?

(scale ranging from 1 = very unlikely to reoffend to 4 = very likely to reoffend)

Expectation of recidivism (Study 2; Tam et al., 2013)

Please indicate how much you agree or disagree with the following statements.

(scale ranging from 1 = strongly disagree, to 7 = strongly agree)

1. Scott/Darnell will commit crimes again, even if he is punished.
2. Scott/Darnell is very likely to commit crimes more than once.

3. Scott is a habitual offender, repeatedly committing crimes.
4. Scott is very likely to commit crimes again and again.

Justice Goals (Silver & Berryessa, 2021)

Please rate the importance of each of the following considerations in your choice of a sentence for Scott/Darnell.

(scale ranging from 1 = Very unimportant, to 5 = Very important)

1. Making Scott/Darnell pay for his crimes.
2. Keeping Scott from committing any more crimes by removing him from society.
3. Discouraging Scott or other from committing similar crimes by showing that crimes like Scott's get punished.
4. Helping Scott to turn his life around and stop committing crimes.
5. Giving Scott a chance to reconcile with the convenience store owner and the community more broadly.

Covariates

Participant Characteristics

This final section will ask you some questions about yourself.

1. What is your year of birth?
2. How liberal or conservative do you tend to be in general? (scale ranging from 1 = extremely liberal to 11 = extremely conservative)
3. What race/ethnicity categories best describe you? (please mark all that apply)
 - a. American Indian or Alaska Native
 - b. Asian
 - c. Black or African American
 - d. Hispanic, Latino, or Spanish Origin

- e. Middle Eastern or North African
 - f. Native Hawaiian of Other Pacific Islander
 - g. White
 - h. Same other race, ethnicity, or origin (please specify): ____
 - i. I prefer not to answer
4. What best describes your highest level of education?
- a. Some high school
 - b. High school graduate
 - c. Some college
 - d. College graduate
 - e. Vocational training
 - f. Some graduate coursework
 - g. Masters degree
 - h. PhD, MD, JD, or other terminal degree
 - i. I prefer not to answer
5. How would you describe your current gender identity?
- a. Woman (cis or trans)
 - b. Man (cis or trans)
 - c. Non-binary
 - d. Another identity (please specify): ____

Social Desirability Bias (only Study 2)

Marlowe-Crowne Social Desirability Scale (Reynolds, 1982)

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you.

1. It is sometimes hard for me to go on with my work if I am not encouraged.
2. I sometimes feel resentful when I don't get my way.
3. On a few occasions, I have given up doing something because I thought too little of my ability.
4. There have been times when I felt like rebelling against people in authority even though I knew they were right.
5. No matter who I'm talking to, I'm always a good listener.
6. There have been occasions when I took advantage of someone.
7. I'm always willing to admit it when I make a mistake.
8. I sometimes try to get even, rather than forgive and forget.
9. I am always courteous, even to people who are disagreeable.
10. I have never been irked when people expressed ideas very different from my own.
11. There have been times when I am quite jealous of the good fortune of others.
12. I am sometimes irritated by people who ask favors of me.
13. I have never deliberately said something that hurt someone's feelings.

Appendix B

Race Manipulations – Crime Vignettes

Black Person Charged

Name: Darnell Johnson

Date of Birth: May 19, 1978

Race: Black

Height: 6 feet 0 inches

Weight: 170 lbs

Place of Birth: NYC, NY

Sentencing Judge: Honorable Judge Matthews

No Photo
Available

Charges:

Offender is charged with robbery.

Plea:

Offender pled guilty.

Case Details:

At 10 p.m., Darnell Johnson entered a convenience store and demanded all the money from the cash register. The teller gave him all the money and he left the store. He was picked up by police down the street from the convenience store and all the money was recovered. At his sentencing hearing, it was emphasized that this was a serious offense. Darnell's lawyer emphasized that no one was injured in the offense.

White Person Charged

Name: Scott Johnson

Date of Birth: May 19, 1978

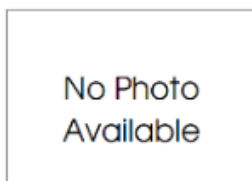
Race: White

Height: 6 feet 0 inches

Weight: 170 lbs

Place of Birth: NYC, NY

Sentencing Judge: Honorable Judge Matthews

**Charges:**

Offender is charged with robbery.

Plea:

Offender pled guilty.

Case Details:

At 10 p.m., Scott Johnson entered a convenience store and demanded all the money from the cash register. The teller gave him all the money and he left the store. He was picked up by police down the street from the convenience store and all the money was recovered. At his sentencing hearing, it was emphasized that this was a serious offense. Scott's lawyer emphasized that no one was injured in the offense.

No Race Indicated (Only Study 1)

Offender Date of Birth: May 19, 1978

Height: 6 feet 0 inches

Weight: 170 lbs

Place of Birth: NYC, NY

Sentencing Judge: Honorable Judge Matthews

No Photo
Available

Charges:

Offender is charged with robbery.

Plea:

Offender pled guilty.

Case Details:

At 10 p.m., the offender entered a convenience store and demanded all the money from the cash register. The teller gave him all the money and he left the store. He was picked up by police down the street from the convenience store and all the money was recovered. At his sentencing hearing, it was emphasized that this was a serious offense. The offender's lawyer emphasized that no one was injured in the offense.

Appendix C

Exploratory Measures & Results (Only included in Study 1)

Mindsets of Empathic Ability

Theories of Empathy Scale (Schumann et al., 2014)

Please indicate how much you agree or disagree with the following statements.

(scale ranging from 1 = strongly disagree, to 6 = strongly agree)

1. A person's level of empathy is something very basic about them, and it can't be changed much.
2. Whether a person is empathic or not is deeply ingrained in their personality. It cannot be changed very much.
3. People can't really change how much empathy they tend to feel for others. Some people are very empathic and some aren't and they can't change that much.
4. No matter who somebody is, they can always change how empathic a person they are.
5. People can always change how much empathy they generally feel for others.
6. Anybody can change how empathic a person they are.

Motivation to Respond without Prejudice (Plant & Devine, 1998)

The following questions concern various reasons or motivations people might have for trying to respond in nonprejudiced ways toward Black people. All your responses will be completely confidential. We are simply trying to get an idea of the types of motivations that people, in general, have for responding in nonprejudiced ways. Please give your response according to the scale below.

(scale ranging from 1 = strongly disagree, to 9 = strongly agree)

1. Because of today's politically correct standards, I try to appear nonprejudiced toward Black people.
2. I try to hide any negative thoughts about Black people in order to avoid negative reactions from others.
3. I attempt to act in nonprejudiced ways toward Black people because it is personally important to me.
4. I am personally motivated by my beliefs to be nonprejudiced toward Black people.
5. According to my personal values, using stereotypes about Black people is OK.
6. If I acted prejudiced toward Black people, I would be concerned that others would be angry with me.
7. I attempt to appear nonprejudiced toward Black people in order to avoid disapproval from others.
8. Because of my personal values, I believe that using stereotypes about Black people is wrong.
9. I try to act non-prejudiced toward Black people because of pressure from others.
10. Being nonprejudiced toward Black people is important to me self-concept.

Results

Bivariate analyses revealed significant associations between empathic mindsets and death penalty support as well as between internal motivation to avoid prejudice and death penalty support (see Supplemental Table 1). The exploratory measures did not significantly correlate with any other primary outcomes.

I ran the moderation model predicting death penalty support controlling for motivation to avoid prejudice and the pattern of results remained the same as reported in main text. I also ran all moderation models testing empathic mindsets, instead of growth mindsets, as moderators and found the same pattern of results (i.e., significant conditional effect of race, no significant interaction effect).

Supplemental Table 1.

Study 1 Intercorrelations of Primary & Exploratory Measures

Measures	1	2	3	4	5	6	7	8
1. Growth mindset	--							
2. Empathic mindsets	.58***	--						
3. External motivation	-.19**	-.21***	--					
4. Internal motivation	.06	.03	.15*	--				
5. Punishment level	-.08	-.06	.05	-.08	--			
6. Death penalty support	-.17**	-.13*	.09	-.19**	.39***	--		
7. Dangerousness	-.09	-.07	.07	-.10	.49***	.32***	--	
8. Culpability	-.05	.01	.05	-.09	.33***	.24***	.34***	--
9. Expectation of recidivism	-.18**	-.10	.05	-.11	.46***	.40***	.54***	.40***

Note. * $p < .05$, ** $p < .01$, *** $p < .001$; External/Internal motivation = external/internal motivation to avoid prejudice.

Appendix D

Dissertation Proposal

Introduction

Unprecedented U.S. incarceration rates (National Research Council, 2014; Wozniak, 2016) as well as research demonstrating the minimal effectiveness of retribution and incarceration in reducing recidivism (Andrews & Bonta, 2010; Loeffler & Nagin, 2021) underscore the need to decrease reliance on carceral punishment in our country. Public punitiveness is one factor contributing significantly to such reliance, signaling the need to both better understand punitiveness and shift public support away from punitive modes of justice. This research aims to better understand the unique and interdependent impact of two factors related to public punitiveness – defendant race and mindsets.

Racial disparities at every stage of criminal legal processing—from arrest to sentencing to probation (The Sentencing Project, 2008)—indicate the immense role that race plays in influencing a defendant’s trajectory throughout the criminal legal system. At the sentencing stage, specifically, a vast body of research demonstrates that minoritized individuals are more likely to receive carceral punishments compared to their White counterparts, even after controlling for case characteristics (Johnson & DiPietro, 2012; Spohn, 2001; Ulmer et al., 2016). These disparities are due, at least in part, to race-based thinking of judicial decision-makers and the greater public, such as endorsement of racialized criminal stereotypes (e.g., seeing Black men as criminals and dangerous; Schlesinger, 2005; Singh & Sprott, 2017). Research also shows that a person’s beliefs about the malleable (growth mindset) or static (fixed mindset) nature of human attributes impact the extent to which they support either punishment or restorative responses to wrongdoing (McKinsey et al., 2022; Moss et al., 2019; Peleg-Koriat et al., 2020; Tam et al.,

2013), as well as their engagement in racialized stereotyping (Levy et al., 1999; Levy & Dweck, 1999; Plaks, 2001; Rattan & Georgeac, 2017). Drawing from this scholarship on racial disparities and mindsets, I propose a two-part investigation aimed at better understanding the impacts of race and mindsets on punitiveness. Specifically, I plan to conduct two online studies investigating defendant race and mindsets as both unique and interdependent predictors of case-specific punitiveness (i.e., sentencing preference) and general punitiveness (i.e., support for the death penalty).

Mass Incarceration & Public Punitiveness

Despite making up around 5% of the world's population, the United States' carceral system holds nearly 25% of the world's prison population (ACLU, n.d.). Five to 10 times higher than rates in Western Europe and other democracies, the U.S. incarceration rate rose steadily from 1973 to 2009 (NRC, 2014). Although the rate has slightly declined since 2009, the United States continues to be home to a globally unmatched incarcerated population, with now more two million people behind bars (Gramlich, 2021). These extreme rates and numbers reflect efforts of the 70s, 80s, and 90s to expand the use of incarceration and other punitive campaigns (e.g., "three strikes and you're out," the "War on Drugs") to address rising crime rates in the United States. Such efforts represented and further disseminated the belief that carceral punishment is the key to controlling crime and violence (NRC, 2014). While the campaigns succeeded in instilling a retributive political and social climate in the country, it did not equally succeed in its intended outcome—increased incarceration rates did not result in corresponding decreased crime rates. Instead, crime rates fluctuated greatly over the years indicating little to no association between use of incarceration and crime (NRC, 2014).

Even with ample evidence against the effectiveness of punishment in addressing criminalized and violent behavior (Andrews & Bonta, 2006, 2010; Pogarsky & Piquero, 2003), the American public continues to exhibit strikingly high levels of punitiveness. Punitiveness refers to the support of harsh and retribution-oriented punishment toward criminal offenders, which can be operationalized as case-specific punitiveness (e.g., case-specific sentencing) or general punitiveness (e.g., general support for the death penalty; Chiricos et al., 2004; Tam et al., 2013). Increasing levels of public punitiveness is one factor contributing significantly to mass incarceration in the United States (Enns, 2016; Muenster & Throne, 2016). Specifically, the public's preference for punishment influences policymakers, which indirectly influences criminal legal-related policy (Tonry, 2004; Mandracchia et al., 2013). To demonstrate, one study measured public support for being "tough-on-crime" from 1953 to 2012 and found that increasing punitiveness was a significant determinant of incarceration rates overtime and that shifts in public punitiveness preceded shifts in congressional attention to criminal justice issues, even after controlling for factors such as crime rate, illegal drug use, and political party in power (Enns, 2014). Evidence suggests that public opinion also influences judicial decision-making both indirectly (i.e., through the judicial selection process; Calvin et al., 2011) and directly (i.e., through judges' responsiveness to public mood; McGuire & Stimson, 2004). In short, a punitive public typically translates to a punitive judicial system. Taken together, this research suggests that, to address injustices of mass incarceration attributable to over reliance on carceral punishment, public punitiveness must be better understood and shifted.

Factors Related to Punitiveness

Decades of research has focused on identifying the factors that are associated with or predict punitiveness. This research points to a range of different types of factors, from personal

characteristics of the perceiver (e.g., education level, gender, age, race), to case characteristics (e.g., crime type, personal characteristics of the defendant), to belief systems (e.g., religion, political orientation, mindsets). In regard to personal characteristics, higher age and lower educational attainment positively correlate with general punitiveness (Payne et al., 2004; Sidanius et al., 2006). Additionally, men and people of color (compared to White people) tend to report more positive attitudes toward people who are justice-involved (Hirschfield & Piquero, 2010; Leverentz, 2011; Rade et al., 2016; Willis et al., 2013). Some case characteristics that impact the degree to which a perceiver endorses punishment include the severity and type of case, the ambiguity surrounding the case, and characteristics of the person who committed the crime, such as their race (Kalven et al., 1966; Hartley, 2014; Horstman et al., 2019).

In addition to demographics and case-related predictors, psychological components can also be important factors. Namely, belief systems or ideologies that help us interpret the world, influence people's views on how to best address wrongdoing and "wrongdoers." For instance, conservative political orientation and affiliation with the Christian religion are associated with more negative views of people who are justice-involved (Park, 2009; Rade, Desmarais, & Mitchell, 2016), which is likely related to their stronger belief in a "just world" (i.e., the notion that people get what they deserve and deserve what they get; Furnham, 2003; Hafer & Bègue, 2005). Mindsets, or views regarding the static versus malleable nature of human capacities, is another such set of beliefs that impacts a person's proclivity toward punitive judgments and decision-making (Moss et al., 2019; Peleg-Koriat et al., 2020; Rade et al., 2017, 2018).

Proposed Research

In this research, I focus on two of the above-mentioned factors related to public punitiveness: defendant race and mindsets. Despite there already being abundant evidence of the

impact of race—and more specifically, racial bias—on punitiveness, continued investigation is warranted given the extreme racial disparities that remain within every stage of criminal legal processing (The Sentencing Project, 2008), as well as the heightened awareness of racial injustice in the criminal legal context over the past couple years (Burch et al., 2021). A growing body of research also demonstrates the role that mindsets play in shaping a person’s level of punitiveness; namely, those with stronger belief in the malleable nature of human attributes (i.e., growth mindsets) as opposed to the static nature of human attributes (i.e., fixed mindsets) tend to be less punitive (Moss et al., 2019; Peleg-Koriat et al., 2020; Rade et al., 2017, 2018). While prior research has thoroughly examined these factors individually, no research, to my knowledge, has focused on their interaction. As such, I plan to conduct two online, vignette-based experimental studies to examine if defendant race and mindsets are both unique and interdependent predictors of case-specific punitiveness (i.e., sentencing preference) and general punitiveness (i.e., support for the death penalty). In Study 1, I will measure mindsets and manipulate defendant race using a crime-related vignette, and in Study 2, I will manipulate mindsets and defendant race. These studies will test the following hypotheses:

- (1) People assigned to the vignette with a Black defendant, compared to a White defendant, will exhibit harsher sentencing preferences (case-specific punitiveness) and greater general support for the death penalty (general punitiveness; main effects);
- (2) Growth mindsets will predict less harsh sentencing preferences (case-specific punitiveness) and less general support for the death penalty (general punitiveness; main effects);
- (3) Growth mindsets will buffer against racially disparate levels of case-specific and general punitiveness (interaction effects).

In the sections that follow, I review the literature supporting the hypothesized main effects of race and mindsets and then discuss the hypothesized interaction of these two variables.

Race & Punitiveness

A person's race plays a paramount role in their trajectory throughout the criminal legal system. Indeed, while Black people represent just 13% of the general population, they account for nearly 40% of the country's prison population (Federal Bureau of Prisons, 2021; U.S. Census Bureau, 2021). Of high relevance to the proposed research are racially disparate outcomes within the sentencing stage of criminal legal processing. A review of 40 studies—eight studies of sentence outcomes at the federal level and 32 at the state level nationwide—conducted during the 1980s and 1990s revealed that Black and Hispanic/Latinx people, particularly those who were young, male, or unemployed, were more likely to be incarcerated compared to their White counterparts, even after controlling for crime seriousness and prior criminal record (Spohn, 2001). A more recent analysis of 159,206 misdemeanor and 26,069 felonies accepted for prosecution in the New York County District Attorney's office between 2010-2011 found Black and Latinx people were more likely to be detained, receive a custodial plea offer, and be incarcerated compared to similarly situated White people (Kutateladze et al., 2014). Likewise, a meta-analysis of 34 simulation studies representing the responses of 7,387 participants examining the influence of race on sentencing found an overall effect for racial bias in both verdict and sentencing length decisions (Mitchell et al., 2005).

Racialized stereotyping greatly contributes to these racially disparate criminal legal outcomes (Jones & Kaplan, 2003; Schlesinger, 2007; The Sentencing Project, 2008). Stereotypes of Black and Brown people, particularly young Black men, as dangerous, unintelligent, hostile, criminal, and aggressive continue to pervade U.S. culture (Schlesinger, 2007; Smith et al., 2013;

Williams & Mohammed, 2013). These negative beliefs can shape the way circumstances are perceived and causal attributions about misbehavior are made, resulting in more punitive decision-making directed at the stereotyped individual (Okonofua et al., 2016).

Experimental research provides evidence for the presence and influence of such racialized stereotypes within the criminal legal context. For instance, in two studies, police officers and juvenile probation officers were randomly assigned to be subliminally exposed to either words stereotypical to the category “Black” (e.g., dreadlocks, homeboy) or to words that were racially neutral, then were presented with vignettes about an adolescent who committed a crime (Graham & Lowery, 2004). Participants in the racially primed conditions reported more negative trait ratings, greater culpability, higher expectations of recidivism, and recommended harsher punishment compared to those in the race neutral condition. Another experimental vignette-based study with a convenience sample of 500 Canadian adults found that the “Black offender” (manipulated by racialized name and nationality in the vignette) was rated as significantly more dangerous than the “White offender” and received a harsher sentence (Singh & Sprott, 2017).

Stereotypes influence criminal legal-related outcomes most when the stereotypes are made salient by either the type of crime the person is charged with or the concerns most relevant to the case (Gordon et al., 1987; Jones & Kaplan, 2003; Schlesinger, 2007). In an experimental study with a sample of 360 European American adult students using a between-subjects factorial design, crime type and defendant race interacted to predict verdict (guilty vs. innocent) and attributes of defendant (e.g., blame; Jones & Kaplan, 2003). Specifically, defendants charged with a crime stereotypic to their race (i.e., a White person charged with embezzlement; a Black person charged with grand-theft auto) received harsher punishment and more negative attributes

compared to defendants charged with a race-incongruent crime. That said, race still had an overall effect on punishment such that Black defendants were punished more severely than White defendants.

These stereotypes that so often associate Black and Brown people with crime form the foundation of the racial-animus model. This model states that racial intolerance and bias are some of the most salient factors predicting public punitiveness (Unnever et al., 2005; Unnever et al., 2008; Unnever & Cullen, 2010). In other words, Americans, particularly White Americans, view crime through a racialized lens, such that public support for harsh punishments and severe crime-control policies is inseparable from racial bias. Other theories also point to the importance of racialized stereotyping in sentencing, as well as inform when engagement in such stereotyping is most likely to occur. Focal concerns theory posits that when decision-makers (judges or jurors) lack important information about a case or defendant—ambiguity that is inherent to the judicial decision-making process—they turn to “perceptual shorthands,” or stereotypes based on race, sex, and age, to guide their decisions. According to liberation theory (see Kalven et al., 1966), such ambiguity surrounding a case most often occurs in less serious cases due to a lack of common legal factors (e.g., criminal history) and less established sentencing norms, leading to greater discretion on the part of decision-makers and thus, greater opportunity for racial discrimination (Spohn & Cederblom, 1991).

In sum, both empirical research and theory suggest that a defendant’s race, which can trigger engagement in racialized stereotyping, greatly contributes to disparate criminal legal-related outcomes. As such, my first hypothesis is the following:

People assigned to the vignette with a Black defendant, compared to a White defendant, will exhibit higher perceived criminality of defendant and more punitive sentencing outcomes.

Mindsets & Punitiveness

The second predictor of punitiveness that I am focusing on is mindsets. As previously mentioned, mindsets are beliefs that provide information about, or help us “make sense” of, the social world around us (Molden & Dweck, 2006; Usó-Doménech & Nescolarde-Selva, 2016). Mindset theory differentiates between two ends of a continuum—at one end, fixed mindsets, or the belief that human attributes, abilities, and behavior are static; and at the other end, growth mindsets, or the belief that human attributes, abilities, and behavior are malleable and thus can be shaped and cultivated (Dweck & Yeager, 2019). Mindset researchers initially focused on mindsets about oneself (e.g., views on one’s own intelligence; Bandura, 1983), finding that beliefs about the stability of a given attribute impact a range of outcomes, such as motivation, self-regulatory responses to setbacks, and goal creation and achievement (Biddle et al., 2003; Burnette et al., 2013). Attention was later expanded to examine mindsets of others. That is, researchers began to explore whether people view others as capable of change or not, and if so, what the consequences are of those views (Dweck et al., 1995; Levy et al., 2001).

This new angle of research revealed that mindsets of others (hereinafter referred to as “person mindsets”) play an important role in the formation and endorsement of judgments, which can in turn impact punitive decision-making (Dweck et al., 1995; Dweck & Yeager, 2019; Levy et al., 2001; Plaks, 2017; Rattan & Georgeac, 2017). Specifically, individuals with stronger growth mindsets are less punitive and more likely to support alternative forms of justice than those with stronger fixed mindsets (Moss et al., 2019; Peleg-Koriat et al., 2020; Rade et al.,

2017, 2018). Individuals who hold stronger fixed mindsets rely more heavily on small samples of information when making trait judgments of others, believe that these traits represent stable and central aspects of who a person is, and tend to base inferences about future behavior on these traits (Babad et al., 1999; Chiu et al., 1997; Levy & Dweck, 1999; Levy et al., 1998; Plaks et al., 2001; Rattan, 2019). In believing that the fundamental character of a person cannot change, when confronted with misbehavior or wrongdoing, people with stronger fixed mindsets are less inclined to support efforts with an explicit change goal, such as rehabilitative or restorative efforts (Moss et al., 2019; Peleg-Koriat et al., 2020). Instead, they lean toward punitive approaches as other measures appear futile.

In contrast, stronger belief in the changeable nature of people and their attributes entail a corresponding interpretation of behavior as something that can be shaped and developed, which is essential to rehabilitative decisions (Moss et al., 2019). People with stronger growth mindsets are also more likely to see wrongdoing as a challenge to approach, rather than an immutable trait that could never change (Chiu, 1997), and as being caused in-part by external factors, rather than only internal attributes (Tam et al., 2013). Accordingly, growth mindsets predict more support for policies focused on learning, helping, and changing behavior. Research examining criminal legal-related outcomes, specifically, has found growth mindsets to be associated with greater support for restorative practices to addressing crime over punishment (Moss et al., 2018; Peleg-Koriat et al., 2020), less punitive goals of sentencing, less support for the death penalty (Tam et al., 2013), and greater support for ex-offender re-entry from incarceration into their community (Rade et al., 2017).

Moving beyond associations, growth mindset interventions—interventions aimed at fostering malleability beliefs—can also *change* people’s criminal legal-related views, such as

their attitudes toward persons who were formerly incarcerated (Rade et al., 2018) and support for alternatives to incarceration (McKinsey et al., 2022; Peleg-Koriat et al., 2020). Taken together, this prior research suggests that promotion of growth mindsets can be one method to reduce public punitiveness and boost support for alternative, restorative, and rehabilitative approaches to criminalized behavior. Thus, my second hypothesis is as follows:

Growth mindsets will predict less harsh sentencing preferences (case-specific punitiveness) and less general support for the death penalty (general punitiveness).

Can Mindsets Serve as a Buffer?

As demonstrated above, prior research presents a relatively straightforward story of how defendant race affects punitiveness—Black and Brown defendants receive more punitive measures compared to White defendants— and how person mindsets affect punitiveness—people with growth mindsets exhibit less punitiveness. The extant research does not, however, explore the interdependent nature of these two factors in predicting punitiveness. Below, I explain the potential nuance in this interactive relationship, as well as how racial disparities research and mindset research intersect in ways that suggest growth mindsets can serve as a buffer against racially disparate displays of punitiveness.

To review, racialized stereotyping is a major factor contributing to racially disparate sentencing, signaling that tools or strategies that reduce stereotyping can help address racial disparities. A subset of mindset research focuses on intergroup relations, and specifically stereotyping. Research finds that, although mindsets are not associated with differences in stereotype content knowledge (i.e., fixed and growth mindsets equally predict knowledge about cultural and racialized stereotypes), they do influence the formation, endorsement, and maintenance of stereotypes (Levy et al., 1999; Levy & Dweck, 1999; Plaks, 2001; Rattan &

Georgeac, 2017). As previously mentioned, people with stronger fixed mindsets rely on limited information to gain meaningful insight into a person's character and future behavior, resulting in greater adherence to and reliance on initial judgments (Rattan & Georgeac, 2017). As such, people with stronger fixed mindsets are quicker to generalize and label groups and people (i.e., form stereotypes) and to feel satisfied doing so (Levy et al., 1998; Levy & Dweck, 1999). They are also more likely to endorse stereotypes as true (Chiu et al., 1997; Levy et al., 1998), to cling to stereotype-confirming information, and to deflect stereotype-disconfirming information (Plaks et al., 2001).

Conversely, belief in the malleable nature of attributes promotes greater consideration of external factors to understand others and their behavior, as well as necessitates a commitment to continuous learning and assessment of others to reflect the continuously shifting nature of attributes. People with stronger growth mindsets, therefore, are less likely to form stereotypes based on limited information and to endorse the accuracy of stereotypes (Levy et al., 1998; Levy & Dweck, 1999; Chiu et al., 1997). They tend to exhibit greater openness to all information (stereotype consistent and inconsistent) that is helpful in building understanding of another person (i.e., individualizing information; Plaks et al., 2001). These patterns of differential engagement in stereotyping depending on mindsets are present across a range of stereotypes, including negative racial and ethnic stereotypes (Levy et al., 1998).

Translated to a criminal legal context, these patterns suggest that those with stronger fixed mindsets are more likely to endorse and direct attention to information supporting racialized stereotypes associating Black and Brown people with crime and violence. For example, when presented with a case in which a Black person has committed a violent crime, people with stronger fixed mindsets may hone in on information supporting the stereotype of

Black people being dangerous, leading to endorsement of more punitive consequences. When presented with a case in which a White person committed a violent crime, people with fixed mindsets may deflect non-stereotypic information, resulting in support of less punitive measures. In contrast, people with stronger growth mindsets would be less likely to engage with stereotyping altogether, thereby potentially buffering against racially bias decision-making. In other words, while stronger fixed mindsets may overall lead to greater punitiveness, they may also exacerbate racially disparate outcomes. Conversely, stronger growth mindsets may lead to smaller racial disparities in outcomes while also reducing punitiveness overall. This integration of racial disparities research and mindset research brings me to my third hypothesis:

Growth mindsets will buffer against racially disparate levels of case-specific and general punitiveness.

Methods

To test the three proposed hypotheses, I will conduct two online, vignette-based experimental studies to test defendant race and mindsets as both unique and interdependent predictors of case-specific punitiveness (i.e., sentencing preference) and general punitiveness (i.e., support for the death penalty).

Study 1

Study 1 will serve as an exploratory investigation of the relationships between defendant race, mindsets, and different types of punitiveness.

Participants

For Study 1, I will recruit 200 participants using Prolific. Prolific is an online survey recruitment platform created explicitly for researchers (as opposed to other platforms, such as Amazon Mechanical Turk) that implements clear guidelines regarding the treatment of study

participants, offers a research-oriented and user-friendly interface, and verifies participants to reduce the chances of poor quality or bot responses (Palan & Schitter, 2018). Participants must be at least 18 years of age, living in the United States, and proficient in English. I conducted a prior power analysis using G*Power 3.1 (statistical test set as Linear multiple regression: Fixed model, R^2 increase) and found that a minimum sample size of $N = 159$ will result in power of .80 to detect a small to medium interaction effect size ($f^2 = .05$; see Perugini et al., 2018 for more information on power analysis for moderation designs). I will pay participants 1.00 USD for full participation in the study.

To ensure valid and reliable responses, I will include several response validity indicators in the study. Following the consent form, I will include a CAPTCHA (Completely Automated Public Turing test to tell Computers and Humans Apart) to prevent against bot responses (Chmielewski & Kucker, 2019). I will also include two instructed response items to assess data quality (Brühlmann et al., 2020). I will exclude data from any participants who fail these checks and who complete less than 80% of the survey.

Procedure, Measures, & Manipulations

All participants will access the study materials using the online recruitment platform. After providing informed consent and responding to the CAPTCHA, participants will complete the following person mindset measure:

Mindsets. I will assess *person mindsets* using the domain-general Implicit Person Theory measure, which measures beliefs about the fixed versus malleable nature of human attributes using a 6-point scale (ranging from 1 = strongly disagree, to 6 = strongly agree; Levy et al., 1998; see Appendix A).

Next, to manipulate defendant race, participants will be randomly presented with one of two vignettes describing an armed robbery by a person with a criminal record:

Race Manipulation. The two vignettes will be identical except for the racialized identity of the offender (Black or White). The scenario will describe an armed robbery involving a defendant with a criminal record. This scenario is based on vignettes used in two prior experimental studies on racial bias (Singh & Sprott, 2017; Teverovskaya, 2010), one of which showed wide variability in reactions to the scenario involving a defendant with a criminal record as opposed to no criminal record (Singh & Sprott, 2017; see Appendix B).

After reading the scenario, all participants will receive a post-vignette survey to assess the following measures and potential covariates:

Case-Specific Punitiveness. To assess case-specific punitiveness, I will ask about *sentencing preference* in response to the vignette, then map those responses onto a single scale (derived from Singh & Sprott, 2017). I will ask if they recommend a prison sentence or a community-based sentence. If they indicate a prison sentence, I will ask for how long. If they prefer a community-based sentence, I will ask them to indicate which types (e.g., fine, community service order). I will create a 4-point scale (1 = one community-based sentence, 2 = more than one community-based sentence, 3 = less than 3 years in prison, 4 = more than 3 years in prison) with higher numbers reflecting more punitive preferences (see Appendix A).

General Punitiveness. To assess general punitiveness, I will ask participants about their *support for the death penalty* using two items (“In general, I approve of the death penalty” and “I generally favor the death penalty in cases where people are convicted of

first-degree murder”) on a 7-point scale with higher scores indicating greater support. I will sum and average responses from the two items to create one score for analysis.

Because support for the death penalty is the harshest, most retribution-oriented punishment, this measure is commonly used to capture general punitiveness (Chiricos et al., 2004; Sargent, 2004; Tam et al., 2013; Unnever & Cullen, 2010; see Appendix A).

Covariates. Potential covariates will include *participant characteristics* (i.e., age, gender, race/ethnicity, education, political orientation) and *interpersonal contact* with justice-involved persons (measured using a 14-item Level-of-Contact; Rade et al., 2018; see Appendix A).

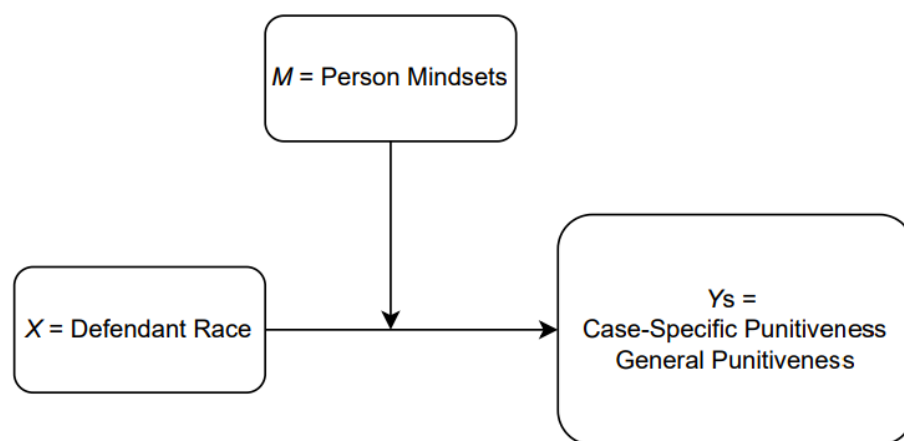
As a probe for suspiciousness, I will ask participants to write what they believe the study is about in an open-ended response field. Given the heightened awareness of racial bias and injustice in the criminal legal context over the past couple years, some participants may suspect I am investigating racial disparities and thus, tailor their responses accordingly (i.e., exhibiting social desirability bias). If participants accurately guess the research hypotheses regarding the influence of defendant race, I will flag their response and run analyses with and without their data. Due to the lack of well-validated, standardized suspicion-assessment procedures (Chester & Lasko, 2021), I will not remove these responses permanently, but instead run analyses with and without them, assessing differences in findings. Finally, participants will be debriefed and thanked for their participation. All measures are included in Appendix A and vignettes in Appendix B.

Analytical Plan

I will first compute descriptive statistics for all variables (i.e., frequencies/percentages for nominal data and means/standard deviations for continuous data). Second, I will conduct analyses to test for associations between the dependent variables and covariates, using one-way

ANOVAs and bivariate correlations, as appropriate. Subsequent analyses will be run with and without significant covariates. Third, I will conduct bivariate correlations to check for multicollinearity of independent variables, as well as between all outcomes of interest. Lastly, I will run two separate interaction models to predict each outcome (i.e., case-specific punitiveness and general punitiveness) using Hayes PROCESS macro, Model 1 (see Figure 1; Hayes, 2017). I will run all analyses with and without responses of participants who accurately guessed the research hypotheses in their probe for suspiciousness response. All analyses will be conducted using SPSS v.27 (IBM, Armonk, NY).

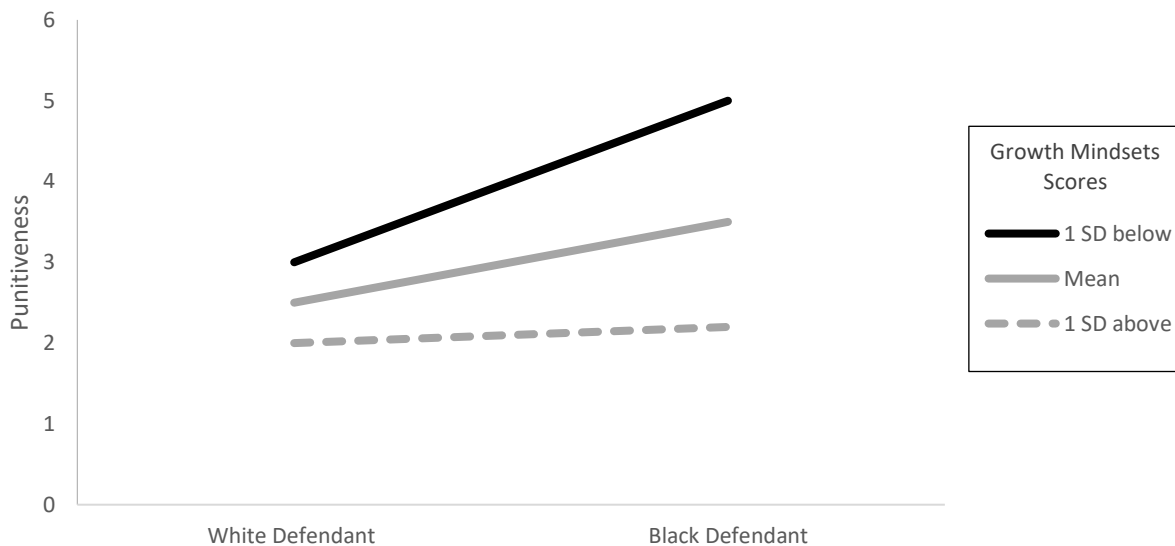
Figure 1. Conceptual model showing interaction effect of defendant race (X) and person mindsets (M) on punitiveness (Ys).



Based on my hypotheses, I would expect to see three effects: (1) a main effect of defendant race such that participants assigned to the vignette with the White defendant will overall exhibit lower levels of punitiveness; (2) a main effect of mindsets such that participants with above average growth mindset scores will exhibit lower levels of punitiveness; and (3) an

interaction effect such that the racial disparities are significantly reduced, or eliminated, for those with above average growth mindset scores (see Figure 2).

Figure 2. Hypothesized main effects and interaction effect of race (dichotomous) and person mindsets (continuous) on punitiveness (hypothesized pattern consistent for both types of punitiveness).



Study 2

In Study 2, I will seek to replicate and extend the findings of Study 1 by manipulating mindsets in addition to defendant race. This 2x2 factorial design will be preregistered on the Open Science Foundation website.

Participants

For Study 2, I will recruit 375 participants using an online survey recruitment platform, such as Prolific. Participants must be at least 18 years of age, living in the United States, and proficient in English. A priori power analysis conducted using G*Power 3.1 (statistical test set as

ANCOVA: Fixed effects, main effects, and interactions) showed that a minimum sample size of $N = 351$ will result in power of .80 to detect a small to medium interaction effect ($f = .15$). I will pay participants 2.00 USD for full participation in the study. As with Study 1, I will include a CAPTCHA and several instructed response items to ensure reliability and validity of responses.

Procedures, Measures, & Manipulations

The procedures in Study 2 will closely mirror those in Study 1. However, instead of completing a mindset measure, participants in Study 2 will be randomly assigned to one of two mindset conditions: 1) growth mindset manipulation, or 2) control (attention matched filler task).

Growth Mindset Manipulation. As with previous implicit theory research (e.g., Burnette, 2010; Chiu et al., 1997; Hong et al. 1999; Rade et al., 2018), the manipulation will include a one-page *Psychology Today*-type article that describes the malleable nature of human behavior. It will reject the view of human nature as fixed and instead highlight the perspective that human behavior and potential can be cultivated and developed overtime. The article will cite scientific research and quote reputable sources, as well as use examples portraying the malleability of criminal behavior. After reading the article, participants will be asked to complete a brief reading comprehension task. They will also be asked to generate an example of a time when their own behavior drastically changed course for the better and the circumstances that made that change possible. This question is considered a “saying-is-believing” exercise, which is a well-defined attitude change tactic (see Aronson, 1999; Aronson et al., 2002; Walton & Cohen, 2011).

Control. Participants will read a one-page article about how technology can be used to make jails safer and more efficient. They will be asked reading comprehension questions and to generate an example of when technology helped them in their life.

Following engagement in the mindset manipulation or control, all participants will be randomly assigned to one of the two vignettes describing an armed robbery (same vignettes as in Study 1). As such, there will be four study conditions: 1) growth mindset manipulation, White defendant; 2) growth mindset manipulation, Black defendant; 3) control condition, White defendant; and 4) control condition, Black defendant. Participants will then be presented with a growth mindset measure as a manipulation check as well as the measures of case-specific punitiveness (i.e., sentencing preference) and general punitiveness (i.e., support for the death penalty), and potential covariates. Participants will respond to the probe for suspiciousness and then thanked for their participation. All measures are included in Appendix A.

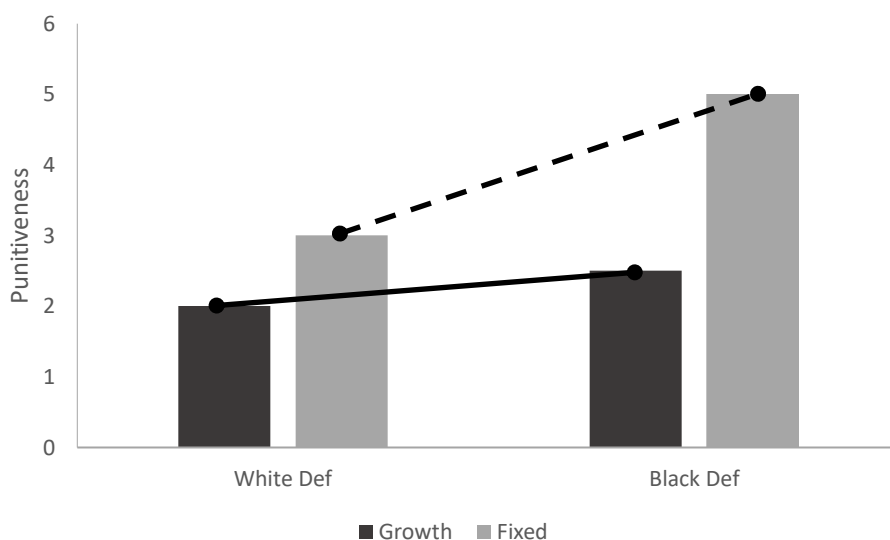
Analytical Plan

As with Study 1, I will compute descriptive statistics for all variables (i.e., frequencies/percentages for nominal data and means/standard deviations for continuous data), then conduct analyses to test for associations between the dependent variables and covariates, retaining significant covariates in subsequent models. I will conduct bivariate correlations to check for associations between outcomes of interest with particular attention to the intercorrelations between the two punitiveness measures, which I will later include in a multivariate analysis of covariance. To check the mindset manipulation, I will run a t-test to compare the growth mindset scores of the mindset manipulation group to the control group. Lastly, I will conduct a two-way multivariate analysis of covariance (MANCOVA) to test for differences in case-specific punitiveness and general punitiveness based on defendant race and mindset condition. All analyses will be conducted using SPSS v.27 (IBM, Armonk, NY).

Based on my hypotheses, I would expect to find main effects of both defendant race (participants who received the vignette with the Black defendant exhibiting greater punitiveness)

and mindset condition (participants in the growth mindset exhibiting less punitiveness) and an interaction effect such that the racial disparities are significantly reduced, or eliminated, for the growth mindset condition (see Figure 3). In other words, we would see a *buffering effect* showing that the growth mindset condition reduces the effect of defendant race on punitiveness (see McCabe et al., 2018).

Figure 3. Hypothesized outcome of 2x2 analysis of covariance testing main effects and interaction effect of defendant race and condition on punitiveness (hypothesized pattern consistent for both types of punitiveness) controlling for covariates.



Implications

Potential implications of the proposed research are expansive. First, the findings from the two studies will contribute to scholarship by aiming to replicate and extend prior research on race, mindsets, and public punitiveness. Specifically, I aim to replicate the unique effects of defendant race and mindsets on punitiveness—effects that are well-supported by previous studies. That said, given the evolving nature of public opinion toward criminal legal system

issues, particularly the role of race in these issues, continued research on such topics is merited. Further, these studies represent as extension of prior research by being the first to test the interaction effect of defendant race and mindsets on punitiveness, thereby, seeking a more granular and nuanced understanding of how these factors relate to one another.

Beyond contributing to these various lines of research, the proposed studies have potential to provide meaningful insight on how to address public punitiveness and racial disparities in the criminal legal context. Namely, results showing that growth mindsets can act as a buffer against overly harsh and racially disparate displays of punitiveness would support the promotion of growth mindset as one way to begin to begin to shift public attitudes in ways that are essential to achieving system-level change. Following this research, which aims to establish effects, a next step will be exploring feasible, accessible, and affordable methods of promoting growth mindsets on a large scale (e.g., through single session interventions, public education campaigns, parenting education, etc.).