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Understanding Convicting and Sentencing Decision Biases: A Review of Psychological Perspectives on Judicial Decision-Making

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Abstract

This literature review aims to summarize the body of research on convicting and sentencing decision bias with a focus on the jury box. Disparities in the criminal justice system have long been recorded to largely impact individuals of color by influencing convictions, the length of sentencing, and the probability of probation as opposed to time served when compared to White individuals. The increasing volume of incarcerated minorities calls for an understanding of the judicial system to combat the implications. Studies show how Afrocentric features, trustworthiness of faces, and depiction of ethnicity and race can lead to longer sentences by highlighting cognitive shortcomings and the use of methods in the criminal justice system. With the inclusion of interventions, the influence that is shown on both implicit and explicit levels can be found to be harmful and due for advancement. By exploring cognitive and social mechanisms alongside the systematic drives of the criminal justice system, factors and sources of bias are identified to provide a review of the need for improvement on the impartiality and equity of convicting and sentencing decisions.

Keywords: decision making, bias, racial disparities, sentencing, criminal justice

Understanding Convicting and Sentencing Decision Biases:

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In the American criminal justice system, Black Americans are incarcerated at nearly 5 times the rate of White Americans, and Latinx Americans at 1.3 times the rate of White Americans (Nellis, 2021). Convictions are meant to declare the defendant's guilt or innocence of a crime; in criminal trials, juries are the ones who decide if there is enough evidence to convict a person. On the other hand, sentencing decisions after conviction are almost always left for judges to determine; however, juries can be involved in cases where capital punishment can be imposed, to propose alternative sentences to a judge's call, or in an advisory role to the judge's final decision. These two different trials consider information from the case presented, and while legal decisions are meant to be based on legally relevant factors, extralegal factors can influence outcomes. These extralegal factors can arise from a variety of environmental and demographic factors such as socioeconomic status (SES), race, ethnicity, sex, facial features, or gender and may manifest through ideologies or unconscious and conscious biases about the presented information (Carvacho & Droppelmann, 2022; Piquero & Davis, 2004). Examining the process during the critical sentencing decision stage in the criminal justice system can highlight the influences that can lead to disparate results.

Jurors are one of the many legal actors of the criminal justice system expected to hear and evaluate evidence to reach a fair verdict—with judges, law enforcement, prosecutors, and defendants also playing a role—yet biases can sneak into this process and may significantly affect judicial decisions. Where these biases arise can include cognitive vulnerabilities and shortcomings in methods implemented into institutions such as tools and presentation of

evidence. Complex information considered important to cases in the impartial process of the law may in turn be perceived as confusing and detrimental to producing disparate results in comprehension in areas of importance. In the criminal justice system context, a nuanced understanding of the underlying biases and sources is crucial for establishing a coherent and impartial structure for designing effective interventions. Moreover, addressing the need for change is not only crucial in promoting fairness in individual cases but also for fostering public trust in the justice system as a whole.

Types of Bias

Explicit Bias

Attitudes or beliefs that are at the conscious level, and are acted upon, are explicit biases (Perlin & McClain, 2009). In modern times, explicit bias can be seen to manifest in less severe but still harmful ways, attributing the decrease to some of the preliminary procedures. Voir dire or ‘jury selection’ controls for racial prejudice by providing a diverse jury; with a diverse jury being more amenable to discussing race-related issues, making fewer errors and inaccurate statements, and raising more evidence-based facts (Sommers, 2006). During this process, potential jurors are questioned to determine their suitability to perform in jury service. Many topics are used to discover potential biases, such as jurors’ views on race, how strongly these beliefs are held, the expertise of a juror that might sway other jurors, how comfortable individuals are talking about certain topics that might be important to the case, and activities that could point to bias that can include involvement in political parties, clubs, or other organizations (Grine & Coward, 2014).

Explicit bias has been perpetuated systematically throughout history specifically when looking at areas where harsher sentences were sought concerning Black individuals. For example, in North Carolina Black individuals were often subject to death for committing the same crimes as White people who did not face capital punishment (Kotch & Mosteller, 2010). This type of outspoken behavior could continue to be seen for decades via depictions of Black people through racial slurs and stereotypical depictions in regular media. These biases still exist yet the social norm makes it so they are not as freely broadcasted in most contexts (de Lima, et al., 2019; McDonald & Crandall, 2015). During a trial, having a history of previous criminal offenses has been demonstrated to raise the probability of being found guilty in a court of law by using it as evidence for the current crime (Cassidy & Rydberg, 2017; Vigorita, 2001). This consideration of offender status has been seen as an aggravating factor in criminal cases, often including prior convictions, yet good deeds are not as heavily weighed, leaving a gap for bias to sneak in (Hessick, 2008). In data, existing stereotypes can be reinforced in the way they are presented. For example, a study taking place in Canada, took a further look at social attitudes toward sentencing; finding that the public view often disapproved of the sentences given to criminal offenders, labeling them as too lenient (Doob & Roberts, 1984). When testing for how information was obtained, it appeared that sentencing information from mass media such as newspapers might lead to the belief of court leniency in comparison to well-informed articles such as court documents, producing attitudes that did not favor harsher sentences. Vague information leaves a large gap for human interpretation to misattribute the content, when put in a legal context where life and death may be at stake it can be detrimental.

Social contexts can also have an impact on how juries make decisions. With evolving

procedures showing promising results on race neutrality, jury decisions have been on the stand for speculation. Social pressure within the jury box, for example, can influence the amount of self-doubt and attention toward a stimulus (Tesser et al., 1983). Closely related is social desirability, viewed as the belief or expectation that social approval can be satisfied by engaging in culturally and situationally sanctioned behaviors (Marlowe & Crow, 1961). This idea of acting or responding in a way to be liked by others around you can impact decision-making and, in a jury, lack the impartiality needed for a just trial. Participants may be more likely to engage in this behavior when there is a perceived uncertainty or a threat. When participants were made aware of there being an observation of racial bias in their responses, the phenomenon of social desirability was shown to influence participants by lessening the conviction of Black defendants, yet mock jurors were more willing to convict Black defendants when they were able to establish credibility for being non-racist (Salerno et al., 2023). Public outcry or a call for punishment by the victim can also put pressure to consider a level of punishment that is deemed acceptable. As this pressure continues to lead to a performance that is desirable to an evolving society, there continue to be glimpses of these discriminatory beliefs and behaviors that lead to stereotypes and ignorance, known as -isms; with some examples consisting of racism, sexism, ageism, lookism, etc. (Jun, 2024).

Implicit Bias

Unconscious and often unrecognized biases, called *implicit* biases, can shape decision making behavior. Convicting and sentencing decisions might be influenced by biases outside of conscious awareness from personal experiences, societal norms, or cultural messages. Some of the principal actors in the criminal justice system, such as the jury, rely on quick impressions that

build upon more deliberate decisions (Brehmer, 1994; Gigerenzer & Goldstein, 1996). Those certain memories or associations, although more accessible, tend to be unfavorable and can be in direct opposition to our conscious beliefs or good intent (Saunders & Midgette, 2023). Negative effects of bias can be seen more towards stereotyped subgroups, often portrayed with studies focusing on race and ethnicity. Racial bias focused on Black and White individuals can frequently lead to racial disparities in judicial decisions, such as juries depicting Black defendants as more dangerous or culpable (Rattan, et al., 2012). A study by Sommers & Marotta (2014) found that people support more severe punishment for Black youth relative to white youth, stating:

After having read about a Black versus White juvenile offender, they reported perceiving juveniles as more similar to adults and expressed greater support for charging juveniles as adults. Similarly, perceptions of the “innocence of children” are stronger for White than Black youth. (Sommers & Marotta, 2014, p. 106)

Implicit bias on race might not also be connected to the treatment of personal out-group members. Mitchell and colleagues (2005) found a small but statistical significance of racial bias, in which the results focused on juror verdicts demonstrated “...that participants were more likely to render guilt judgments for other-race defendants than for defendants of their own race.”. Similarly, the results for sentencing judgments held significance demonstrating longer sentences being rendered for other-race defendants.

The disparities in connection to the criminal justice system are not limited to what ethnicity a person identifies with, holding ground on what a person could be categorized as too. People whose facial features are seen to be more Afrocentric are assumed to have stereotypical traits that are more commonly attributed to Black individuals, including a combination of darker

skin and eye colors, wider nose, thicker lips, and coarse or curly hair (Eberhardt et al., 2006). When looking at randomly selected male inmates from the Florida Department of Corrections database, those who were assigned as having more Afrocentric features tended to have longer sentences despite the inmates being from the same racial group and having equivalent criminal histories (Blair et al., 2004). Being categorized as more Afrocentric, or 1 standard deviation above the race group an inmate belonged to, would have a difference in the sentencing length of around 7 to 8 months longer than other individuals. The depictions of Afrocentrism in a person's facial features are a type of stereotyping that is not able to be controlled effectively, even by individuals who are alert of there being biases toward people of color, noting that these features can be identified on an individual despite their race. Closely related, when looking at the population who are labeled as being of Hispanic ethnicity, there is a large variety of cultures, languages, appearances, and nationalities that can fall under this term. Hispanic individuals have a higher likelihood of being sentenced to prison than jail or probation in comparison to White individuals. Additionally, those who are misperceived as White but self-identify as Hispanic receive sentences more similar to White individuals than Hispanics. (Girvan & Marek, 2023). Reliance on conferring information through social categorization and stereotyping can lead to biased judgments. This type of thinking simplifies complex information by grouping individuals into categories that are predefined and overlook nuanced aspects of a person.

Unfair treatment and systematic inequalities that arise due to explicit and implicit biases can lead to a vicious cycle where biases reinforce themselves and erode faith in the fairness of the criminal justice system. Explicit and implicit appearance-based judgments, for example, can have immediate consequences for individuals facing legal consequences and impact equality before the law. Physiognomy is the idea that facial features show qualities of mind or character (Brandt, 1980; Hassin, 2000; Zebrowitz, 1997). This phenomenon entails knowing whether

someone is trustworthy or not is something that can be seen by looking at their physical characteristics. This phenomenon can occur either explicitly or implicitly when faces are automatically stereotyped. When putting this in the context of sentencing decisions, a conclusion made from trait impressions due to facial features is problematic due to the overgeneralizing and effortless influence that it has on concluding thoughts. Jaeger and colleagues (2020) created a series of computer-generated face prototypes of both untrustworthy and trustworthy individuals based on previously characterized features. They found that legal sentencing decisions had a higher rate of a verdict being guilty by 8.03 percentage points higher when the untrustworthy defendant prototype was used, specifically stating that:

People who more strongly believe that trustworthiness is reflected in facial features rely more on their counterpart's perceived trustworthiness when deciding whom to trust.

Thus, reliance on trait impressions may be driven by beliefs in the diagnostic value of facial appearance for judging an individual's personality. (Jaeger et al., 2020, p. 2)

Sources of Bias in the Criminal Justice System

Cognitive Factors

When cognitive resources are compromised due to aspects such as fatigue, processes such as stereotypes can lead to the tendency to look for information that is consistent with existing beliefs; this decision-making process, known as confirmation bias, mainly takes place with implicit biases and can result in any other information being disregarded (Nickerson, 1998). Working memory supports the active maintenance of information when performing a cognitive task, in which an overloading or 'cognitive load' has been found to lead to fewer available cognitive resources (Kleider-Offutt et al., 2016; Rosen & Engle, 1998; Unsworth, et al., 2004). An increase in cognitive load through fatigue, stress, or overwhelmingness, reduces the

ability of individuals to think critically or make objective decisions, then defaulting to mental shortcuts.

Human performance is highly needed for completing everyday tasks. Heuristics are a strategy process that ignores part of the information with the goal of making decisions more quickly (Gigerenzer & Gaissamaier, 2011). The mapping model assumes that the psychological process consists of categorization in which people make a judgment about an object, assign it to a category, and then use the weight of the value premise as an estimate (Sherman & Corty, 1984). Legal decisions happen in an environment that is complex and requires careful consideration under a given amount of time; because these decisions need to be free from outside influence, a lack of feedback can therefore be filled in using heuristics. Von Helversen and Rieskamp (2009) found that a cognitive heuristic provided a better explanation for the sentencing process, in which recommendations of prosecutors to judges were well described by the mapping model, demonstrating that sentencing recommendations rely on a categorization of cases based on the cases' characteristics. These findings are consistent with other research that explores the reliance on heuristics on individuals with a larger cognitive overload and an increase in the amount of pressure on tasks.

The criminal justice system consists of multiple steps that attempt to ensure justness, including institutional hierarchies having notable decision-making power. The primary actors of the system include the judge, jury, prosecutors, defense attorneys, and probation officers. These people are often experts in their field with a strenuous amount of training behind them and an expected performance to reflect that; their biasability, however, is not immune to informed bias (Dror, 2016). When looking at sentencing decisions, judges were found to follow suggestions made by people close to the hierarchy such as prosecutors and probation officers, but when

decision-makers believed they could not rely on previous decisions it led to compensation by use of cognitive heuristics (Von Helversen & Rieskamp, 2009). Discretion can become more prominent with overload from hundreds of cases creating a clear path for bias to creep in, but with each case holding different merit it becomes more difficult to prevent individual perception from turning into bias. “Public administration researchers have also argued that community supervision officers (as well as law enforcement officers) need a high level of discretion because circumstances are too idiosyncratic to always warrant standardized guidelines” (Saunders & Midgette, 2023). We can apply this same idea to jurors having to intake a large amount of information on a case and decide what parts should be focused on the most to make a verdict, as well if other types of information are brought in like expert testimonies, eyewitnesses, and physical or digital evidence.

Methodological Factors

Court procedures that govern legal proceedings include jury selection, trial, sentencing, motion hearings, and instructions given to the jury. Juries are meant to represent the voice of the general population. When looking at racial biases in juror decision-making when a continuous measure of guilt was employed instead of a guilty or not guilty choice, more prominent racial bias in Black participants than White participants showed when there was a lack of jury instructions prior to a verdict decision (Mitchell et al., 2005). The instructions provided to juror members at the end of the trial can become cumbersome with the technical language and rules to follow after receiving a case’s information (Baguley, et al., 2017; Greene & Bornstein, 2000). Ambiguity and a lack of feedback might make legal decisions harder for individuals for whom a court setting is unfamiliar, relying highly on asking for clarification of instructions. Mock jurors

have been found to have low comprehension and application of instructions, and similar confidence in correct and incorrect answers (Gordon Rose & Ogloff, 2001). By having a gap between standardized instructions and comprehension, jurors rely on other factors for information.

Risk of recidivism, legal insanity, and fitness to stand trial rely on the use of tools by professionals to assess people for court hearings, but how guilty is not a simple thing science can present. Neuroscience technology methods and tools used for evidence in criminal courtrooms that are commonly thought to be objective can hold bias from the reliance on actuarial data that can be racially disproportionate even if it is to a lesser extent due to the overrepresentation of White individuals in sample sizes. EEG systems, for example, are used to measure electrical activity in the brain but when used with phenotypes commonly attributed to Black individuals, such as thick, curly, or coarse hair, researchers have a harder time collecting data since the obstructions of the electrodes to the scalp decrease the quality of the data (Choy, 2021; Etienne, 2020). The lack of accommodation for hair type can not only lead to poor quality data when trying to collect from a broader population set but also uncomfortable, emotionally taxing experiences and at worst, misdiagnosis in medical settings. Similarly, fNIRS, which uses near infrared light through the skin to monitor brain activity, shows lower reliability and validity in individuals with greater melanin concentration due to the absorption of light (Doherty, 2023; Kwasa, 2023; Perkins et al., 2023). Tools and methods in legal settings can be used to influence life-long decisions; disparities in trusted neuroscience technology can ultimately establish or dispute claims lacking diversity in methodology to be relied upon.

Presenting scientific and technological data in court also presumes jury members to be familiar with terms and be able to weigh the evidence rightfully. For example, when DNA first began being used as evidence the public was wary of how much trust to give scientists to convict

a person, yet in modern times it has become one of the most concrete pieces of evidence to be presented, but misconceptions in this type of data are still common. Having mock jurors take part in watching a DNA tutorial as part of expert evidence in a mock trial case showed an improved comprehension of DNA identification (Goodman-Delahunty & Hewson, 2010).

Interpreting information as factual causation rather than association can sway the jury's opinion; take, for instance, a psychologist presenting information on hyperactivity in a region of the brain associated with antisocial behavior yet leaving out information on other areas of the brain that might show more significance. Expert witnesses in criminal cases are often hired by prosecutors or defense and each side might call their own expert witnesses to report on the same data. It is up to jurors to decide which expert they deem the more credible. Expert witnesses can persuade jurors with the complexity of their testimony, leaving an overvaluing effect and an everlasting change on verdicts (Cooper, Bennett, & Sukel, 1996; Greene & Cahill, 2012; Vidmar & Schuller, 1989). The mention of instrumentation that might sound more complex and thorough has the potential for confusion to arise when knowing which evidence is worthy of consideration. Having the court hold responsibility for informing the jurors on the background of experts, evidence in the form of data, physical items, or information, and implications can allow for a verdict with merit and free of confusion.

Intervention and Strategies toward Reducing Bias in the Criminal Justice System

Several studies have investigated different methods that promote a reduction of biases to ensure fair court processes by recognizing and addressing the root issues. Saunders and Midgette (2023) looked at discretion finding that decisions based on incomplete information were more likely to be influenced by implicit bias. Reducing ambiguity in jury instructions is a possible

way to close this gap. The reevaluation of legal language has been looked at with the intent to provide proper legal standards by which a verdict should be reached. A revision of judges' instructions to a mock jury showed a preference for the versions that were made simple and clear (Severance et al., 1984). Another consideration in improving the understanding of instructions in judicial decisions is the implementation of flow charts indicating criteria for elements in specific types of scenarios and cases that are unfamiliar to jury members allowing them to have better application in decision-making (Semmler & Brewer, 2011). By directly using available information, we can better ensure that understanding across all jurors lies at a similar level. When looking at the presentation of evidence by other legal actors such as experts who present evidence in cases, the addition of interventions can indirectly improve outcomes on information comprehension. While codes of conduct limit the expressibility of experts and require direct and specific wording, implementing procedures that are focused on the education of the whole court can improve the trust of the public in legal proceedings. A higher usage of bars, graphs, charts, and other visual information can be used to describe data in ways that do not overwhelm juries (Chin, Roque, McFadden, 2020; Hans & Saks, 2018).

Educating on the kinds of associations that lead to harmful biases through the use of bias training might mitigate potential jurors. Jaeger and colleagues (2020) looked at facial features being associated with specific traits. Before being given the task of identifying convicted felons from faces, participants were separated into one of two interventions: one intervention used exposure to educational text about personality impressions, and the other used confrontation on low identification of felons alongside educational text. Both groups resulted in a reduced belief that facial features reflect personality but neither reduced the reliance on facial untrustworthiness

in sentencing decisions. Eliminating the explicit use of facial trustworthiness judgments, as well as abolishing a relationship between facial trustworthiness and trial outcomes, criminal sentencing recommendations, and implicit perceptions can be done through similar methods (Cohn et al., 2009; Hong et al., 2023). This use of making race salient, however, has shown mixed results in the reduction of race-related bias. The idea that jurors are made aware and respond by wanting to act in a socially desirable way by the group around them could have the opposite effect by creating an environment that is cognitively taxing and results in unwanted bias (Peter-Hagene, 2019). Research focusing on applicability in real-world settings has been a hurdle in this area of research. Cognitive bias, while proven more difficult to deal with, can be a key step to introducing further understanding of what makes a jury vulnerable and the context surrounding it.

Implications and Conclusion

The criminal justice system has evolved largely with improvements in laws and systematic procedures, yet the shortcomings of human cognition in the context of bias are still reflected in the results of convicting and sentencing decisions. As observed by the 2023 report on demographic differences in federal sentencing by the United States Sentencing Commission, Black males received sentences 13.4 percent longer, and Hispanic males received sentences 11.2 percent longer than White males, as well as a 23.4 percent lower likelihood of Black males receiving a probationary sentence and 26.6 percent for Hispanic males compared to White males (USCC, 2023). Race, ethnicity, and facial structure are highlighted as key extralegal influences on sentencing length and results. Taking a comprehensive approach through recognizing these disparities is a step forward toward a more equitable system for all individuals. Additionally,

methods and cognitive fallbacks should be thought about as an issue of justice that needs further attention on how it is approached from the policy side and human aspects.

The different approaches studied concerning limiting discretion have shown significant evidence of decision-making behavior becoming more favorable to relevant information as opposed to implicit or explicit perceptions that lead to stereotypes. In contrast, how we approach the advancement of the decision-making of criminal justice actors is notably a focus on a crucial part of the system but does not account for the need to address the other systematic and institutional steps leading to convictions or sentencing. The significance of the presence of instructions for decisions on verdicts should be heavily weighed. The legal system however is often resistant to rapid changes, highlighting how adjustments to fairer and more consistent convicting and sentencing processes require further framework to applicable interventions. Further interventions should be studied outside a lab context to get a thorough understanding of how judicial processes might facilitate these biases. One aspect that is often not accounted for is the time that jurors are expected to serve for one trial; this can vary from a couple of days to months depending on the type and complexity of the case. Additionally, multidisciplinary collaborations between researchers, practitioners, and policymakers can provide a crucial and wide range of comprehensive frameworks.

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